



WESTERN AUSTRALIA.

REPORT
OF THE
DEPARTMENT OF MINES
FOR THE YEAR
1906.

1907.

WESTERN AUSTRALIA

REPORT

OF THE

DEPARTMENT OF MINES

FOR THE YEAR

1906.



Cat. No. 622. We

Acc. No.

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

PERTH:

BY AUTHORITY: FRED. WM. SIMPSON, GOVERNMENT PRINTER.

1907.



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

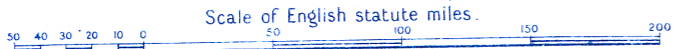
1907

MAP OF WESTERN AUSTRALIA

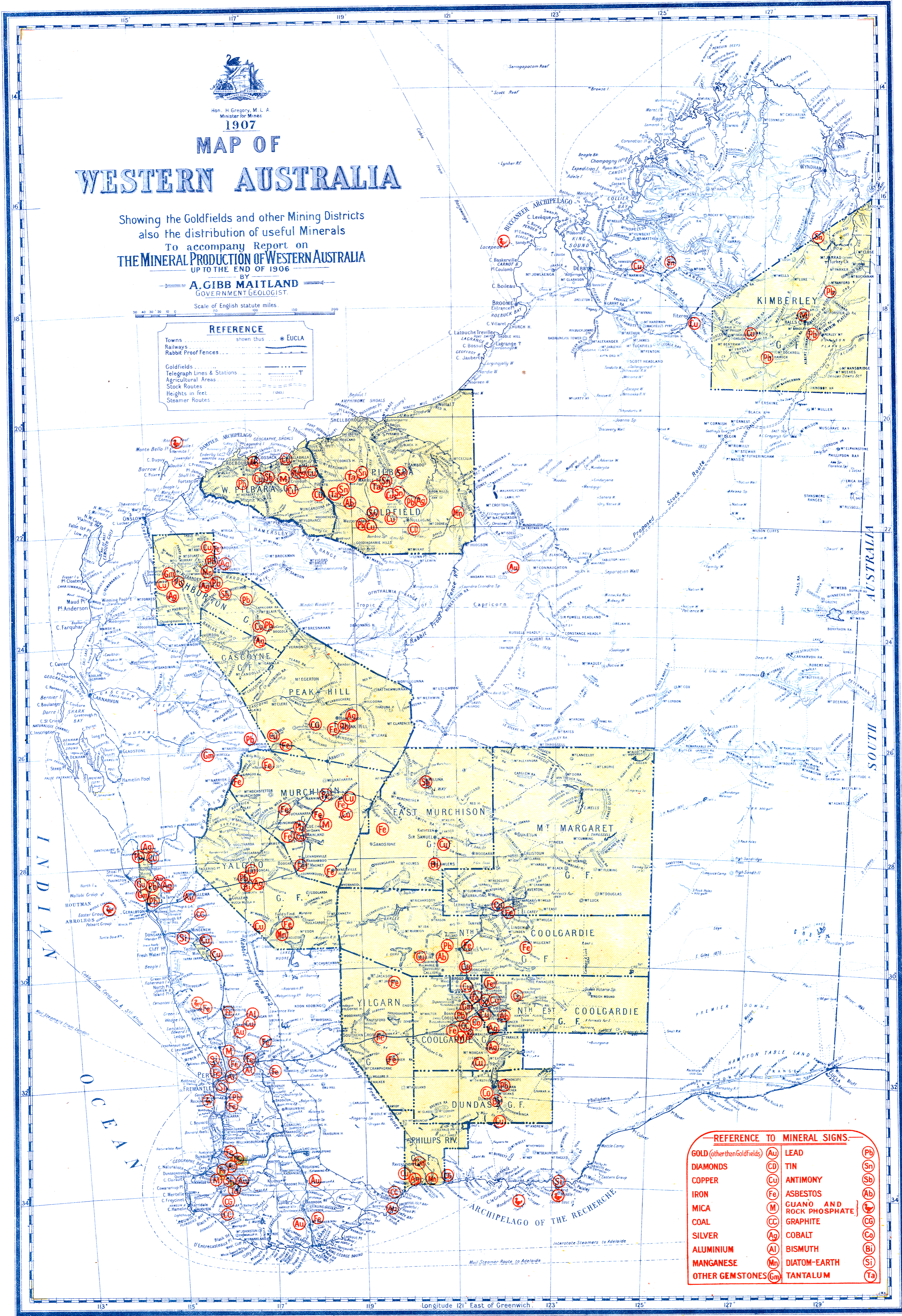
Showing the Goldfields and other Mining Districts
also the distribution of useful Minerals
To accompany Report on
THE MINERAL PRODUCTION OF WESTERN AUSTRALIA
UP TO THE END OF 1906

BY
A. GIBB MAITLAND
GOVERNMENT GEOLOGIST.

Scale of English statute miles.



REFERENCE	
Towns	shown thus
Railways	—
Rabbit Proof Fences	—
Coldfields	—
Telegraph Lines & Stations	—
Agricultural Areas	—
Stock Routes	—
Heights in feet	(1905)
Steamer Routes	—



REFERENCE TO MINERAL SIGNS.			
GOLD (other than Goldfields)	(Au)	LEAD	(Pb)
DIAMONDS	(Cd)	TIN	(Sn)
COPPER	(Cu)	ANTIMONY	(Sb)
IRON	(Fe)	ASBESTOS	(Ab)
MICA	(M)	GUANO AND ROCK PHOSPHATE	(G)
COAL	(C)	GRAPHITE	(Gg)
SILVER	(Ag)	COBALT	(Co)
ALUMINIUM	(Al)	BISMUTH	(Bi)
MANGANESE	(Mn)	DIATOM-EARTH	(Si)
OTHER GEMSTONES	(Gm)	TANTALUM	(Ta)



ANNUAL REPORT OF THE DEPARTMENT OF MINES, WESTERN AUSTRALIA, 1906.

TABLE OF CONTENTS.

DIVISION I.

	PAGE
PART I.—GENERAL REMARKS—	
Summary by the Under Secretary for Mines	2
General Remarks	2
Output of Gold during 1906	2
Value of Tin produced	3
Output of Coal	3
Copper Ore produced	3
Other Minerals	4
PART II.—MINERALS RAISED—	
Quantity and Value of Minerals produced, 1905-6	4
Gold Exported and Gold Received at Royal Mint	4
Number of Gold-producing Mines	5
Increase or Decrease in output of certain large producing Mines	6
Gold Ore raised and average per man employed	7
Output of Gold from the other States of Australia and New Zealand	7
Dividends paid by Mining Companies during 1905-6	8
Minerals other than Gold	9
Coal raised, value, number of men employed, and output per man	10
PART III.—	
Number and Acreage of Leases held for Mining	10
Number and Acreage of Gold Mining Leases for five years ending 31st December, 1906	11
Number and Acreage of Mineral Leases for five years ending 31st December, 1906	12
Number and Acreage of Mineral Leases, showing Minerals for which they are worked	13
Claims and Authorised Holdings existing on 31st December, 1906	14
Miners' Rights issued during 1905-6	15
Number and Acreage of Miners' Homestead Leases	15
PART IV.—MEN EMPLOYED—	
Average Number of Men engaged in Mining	16
Men engaged in Mining different Minerals	16
Number of Men employed on Gold Mines in different Goldfields	17
Number of Alluvial Gold Workers	17
Arbitration Court Awards	18
PART V.—ACCIDENTS—	
Men killed and Injured during 1905-6	19
Deaths from Accidents at Mines	19
Death Rate per thousand men employed, and per thousand tons of gold ore raised	20
PART VI.—STATE AID TO MINING—	
State Batteries	20
Water Supply	21
Geological Survey	21
Assistance under the Mining Development Act	21
State Smelting Works	21

	PAGE
PART VII.—REMARKS ON THE GOLDFIELDS AND MINING DISTRICTS, AND SUMMARIES OF WARDENS' AND OTHER OFFICERS' REPORTS—	
Ashburton Goldfield	22
Broad Arrow Goldfield .. .	22
Collie Mining District... ..	22
Coolgardie Goldfield	22
Donnybrook Goldfield... ..	22
Dundas Goldfield	22
East Coolgardie Goldfield	22
East Murchison Goldfield	22
Gascoyne Goldfield	22
Greenbushes Mining District	23
Kimberley Goldfield	23
Mount Margaret Goldfield	23
Murchison Goldfield	23
Northampton and Yandanooka Mining Districts... ..	23
North Coolgardie Goldfield	23
North-East Coolgardie Goldfield	23
Peak Hill Goldfield	23
Phillips River Goldfield	24
Pilbara Goldfield	24
West Pilbara Goldfield	24
Yalgoo Goldfield	24
Yilgarn Goldfield	24
Value of Mining Machinery, Stamps, and Mills	25
PART VIII.—EXISTING LEGISLATION	
	26
PART IX.—INSPECTION OF MACHINERY	
	26
Certificates granted to Engine-drivers under Machinery Act	
	26
PART X.—SCHOOL OF MINES	
	26
PART XI.—DEPARTMENTAL	
	27
Revenue for years 1905-6	27
Revenue collected under Mining Act and Expenditure in Administration for 1905-6	27
Revenue collected by Department under control of Minister for Mines, 1905-6	28
Correspondence	31
Surveys	32
DIVISION II.	
Report by State Mining Engineer	33
Report of the Board of Examiners for Colliery Managers' and Underground Managers' Certificates under "The Coal Mines Regulation Act, 1902."	109
DIVISION III.	
Report by the Superintendent of State Batteries	113
Revenue and Expenditure	115
Expenditure from Consolidated Revenue Vote and Loan Funds on erection of State Batteries, and totals since inception	115
Tons crushed, gold yield, and average value per ton for year 1906	116
State Cyanide and Slimes Plants for 1906, showing tons treated, yield, and value	116
Tons crushed, Gold Yield, average per ton, and value since inception to December, 1906	117
Costs per ton for 1906	117
Profit and Loss Account of each Battery and Cyanide Plant for year	118
Statement of receipts and expenditure for year	119

DIVISION IV.

	PAGE
Report of Engineer for Mines Water Supply ...	122

DIVISION V.

Report of Government Geologist ...	137
------------------------------------	-----

DIVISION VI.

SCHOOL OF MINES— Report of the Director ...	168
--	-----

DIVISION VII.

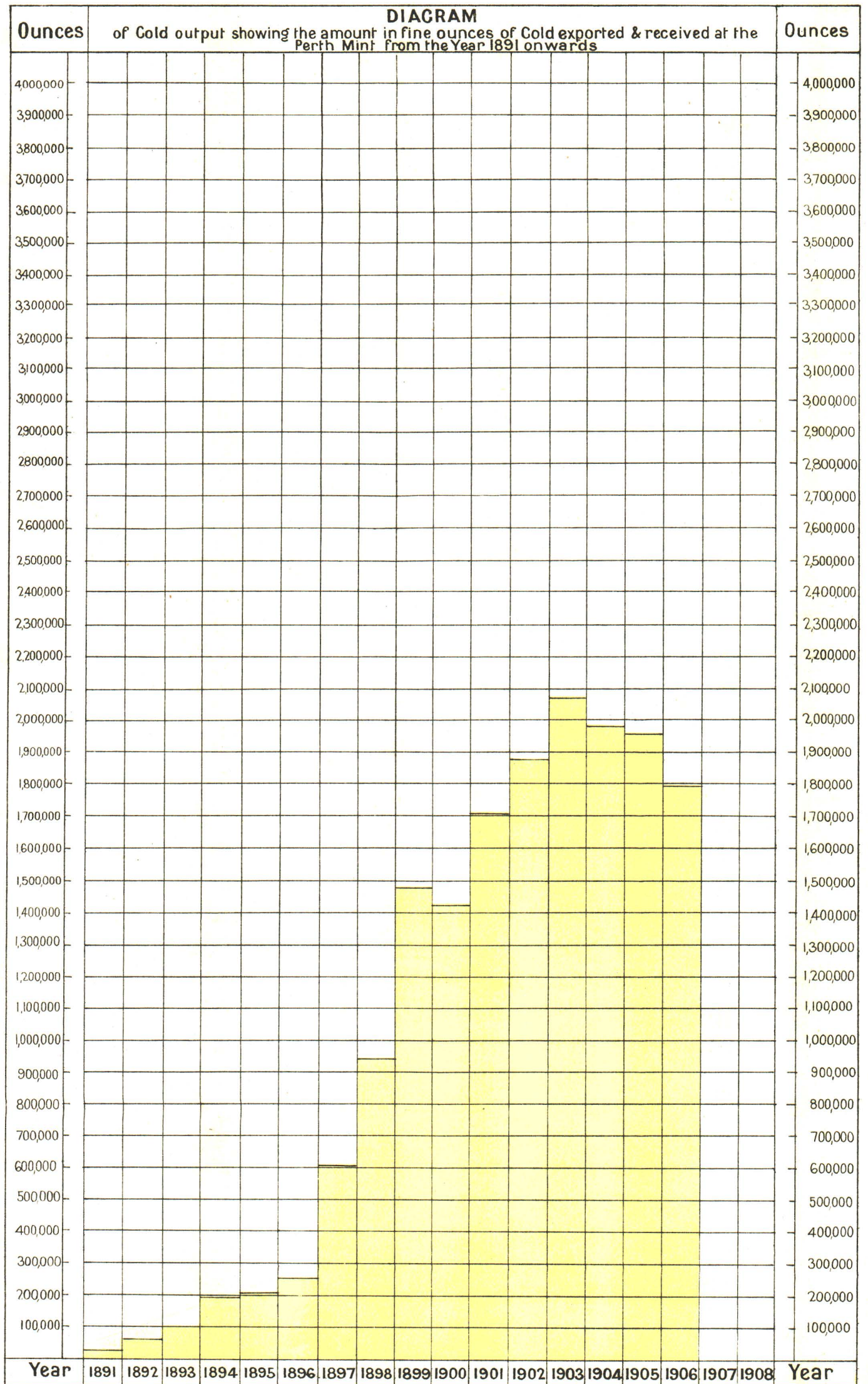
Report of the Chief Inspector of Machinery ...	170
--	-----

DIVISION VIII.

Report of the Chief Inspector of Explosives and Government Analyst ...	180
--	-----

APPENDIX.

Mining Statistics ...	187
-----------------------	-----



COMMONWEALTH OF AUSTRALIA.

STATE OF WESTERN AUSTRALIA.

*Report of the Department of Mines for the State of Western Australia
for the Year 1906.*

To the Hon. the Minister for Mines.

SIR,

I have the honour to submit the Annual Report of the Department for the year 1906, with summaries of reports from the Wardens and other officers, together with various comparative tables furnishing statistics relating to the mining industry of the State.

Reports from the officers controlling the various Sub-Departments are also submitted.

I have, etc.,

H. S. KING,

Under Secretary for Mines.

Department of Mines, Perth, 31st March, 1907.

DIVISION I.

Summary by the Under Secretary for Mines.

- PART I.—GENERAL REMARKS.
 II.—MINERALS RAISED.
 III.—LEASES AND OTHER HOLDINGS UNDER THE VARIOUS ACTS RELATING TO MINING.
 IV.—MEN EMPLOYED.
 V.—ACCIDENTS.
 VI.—STATE AID TO MINING.
 VII.—REMARKS ON THE GOLDFIELDS AND MINERAL DISTRICTS AND SUMMARIES OF WARDENS' AND OTHER OFFICERS' REPORTS.
 VIII.—EXISTING LEGISLATION.
 IX.—INSPECTION OF MACHINERY.
 X.—SCHOOL OF MINES.
 XI.—DEPARTMENTAL.

PART I.—GENERAL REMARKS.

Minerals to the value of £7,975,647 were produced in this State during the year 1906. Compared with the previous year the production has fallen off to the extent of £580,194, the principal decrease being in the gold yield.

Gold to the value of £7,622,749, 95½ per cent. of the total mineral production, has been won, while the output of tin is valued at £157,644, and that of copper at £50,357. The high price of these metals prevailing during the year has given a stimulus to their production, which promises to still further increase during the coming year.

£1,993,698 have been paid in dividends by gold mining companies during the year; a slightly smaller sum than in 1905, when £2,167,639 were distributed.

The total recorded mineral production to the end of 1906 is £72,988,096. Gold to the value of £70,793,660 has been produced, and dividends amounting to £15,737,165 have been paid.

GOLD.

The output of gold for the year is 1,794,547ozs. fine, which is less by 160,769ozs. than for the year 1905.

The returns from the majority of the goldfields show decreased productions, although in several cases substantial increases appear, and it may be pointed out that in nearly every case the reduced output may be accounted for by the diminished production from a very few mines, and in several cases the decrease for the goldfield may be accounted for by the smaller output from one mine only, thus going to show that mining as a whole is on a sound footing.

A decreased output can never be contemplated with equanimity, but when it can be shown that it is not caused by a general failure of mining operations, but rather by fluctuations in the production of some of the larger mines which are caused in all probability from prudence rather than necessity, and with a view to prolonging their life by treating larger quantities of lower grade ore, it may be regarded without much apprehension.

The value per ton of ore treated during 1906 was 50.54 shillings as against 58.51 shillings in 1905, the tonnage treated in 1906 being 234,827 tons in excess of that for the previous year. The value per ton of ore in East Coolgardie is 56.54 shillings, and considering its refractory nature, the dividends paid during the year, amounting to £1,587,536, show what can be accomplished by up-to-date methods of mining and treatment, and encourage the hope that similar methods applied to the many low-grade but less refractory deposits in the State will be crowned with similar success.

The average number of men engaged in all classes of mining during the year was 19,429, as against 19,342 in 1905. Exclusive of alluvial gold miners the number of men working on all classes of mines was 18,111, the increase as compared with the year 1905 being 319.

The area leased for mining is 56,541 acres, and although this shows a decrease of 2,225 acres as compared with the area held during 1905, it is readily accounted for by the number of prospecting areas held. The liberalisation of the mining regulations has induced prospectors to take up prospecting areas where they formerly applied for leases, and at a low estimate fully 11,000 acres are held in this way, an increase of quite 4,500 acres over the area held under a similar tenure in 1905.

In the Pilbara goldfields gold mining has been quiet, many of the miners having refrained from vigorous work in anticipation of being able to work more profitably on the construction of a railway, and many having turned their attention to tin and copper mining, which has become very attractive owing to the high price of those metals. Although the area held under gold mining lease has remained practically stationary, that held under mineral lease has substantially increased, and the output of tin is the highest yet recorded.

In the Murchison field, despite the decreased gold production, which is more than accounted for by the decline in the yield of the Great Fingall, a considerable amount of activity has been displayed. Several new localities have been prospected with promising results. Special mention may be made of Meekatharra, which remains a most promising centre, and with the ample water supply recently completed should show much improved results. Copper is being mined near Gabanintha, and a reverberatory furnace erected. At Boogardie, considerable work has been done during the year, and the outlook is promising.

In the East Murchison goldfield the Black Range district has been the most active. There are 46 head of stamps working as against 26 in 1905, and the coming year should see a number of new plants erected. The construction of the railway now projected should do much to assist this district, and the telegraph line from Mount Magnet now in course of construction should prove a great convenience.

In the Mount Margaret goldfield as a whole there is no reason to doubt the future of the mining in-

dustry. The outputs of several of the larger mines have decreased, but the number of producing mines, except in the Malcolm district, where mining is very quiet, has slightly increased. At the Anaconda copper mine systematic development work has been done with satisfactory results. During the year at Malcolm the Government gave substantial assistance to a local company to unwater and re-equip the North Star mine which was years ago worked with some success by an English company and subsequently abandoned; although the results so far have been encouraging it is early to speak of the probable future of the mine.

Although there has been a marked decrease in the output of the North Coolgardie goldfield, this is in the main accounted for by the reduced production in several of the larger mines; at the same time there has been a serious falling off in all districts in the number of producing mines. Nevertheless, several of the privately-owned mines are showing good returns, and increased activity is being shown in some of the newer centres, and several long abandoned mines are being reworked.

The Broad Arrow goldfield shows a slight improvement in its output for the year, and although in several mines development has been continued with a fair amount of success no very marked progress can be recorded. A good deal of work has been done on the alluvial leads.

On the North-East Coolgardie goldfield a good deal of depression exists, and the number of men employed has decreased, although this is partly owing to the alteration of the boundaries of the Bulong district, Mount Monger having been thrown into the East Coolgardie field.

The output of the East Coolgardie goldfield, as reported to the Department, shows a small decrease of 7,836ozs., but the dividends paid during 1906 were £3,255 in excess of those for the previous year. The grade of ore treated during 1906 has fallen from 65.5 shillings, its value during 1905, to 56.54 shillings, the tonnage treated being 1,478,918 tons for 1906, against 1,288,954 tons in 1905. The larger mines are being systematically developed, the deepest point at which payable ore has been struck being 2,050 feet in the Great Boulder Proprietary.

The output of the Coolgardie goldfield for the year is slightly in excess of that for 1905, the totals being 63,664ozs. fine, and 64,030ozs., respectively. Prospecting has proceeded with fair results at Higginsville, in the Southern part of this field, and a battery water supply being assured and a battery erected, good results are anticipated.

Although the gold production of the Dundas field shows a decrease of 5,526ozs. as compared with the previous year, mining generally is in a satisfactory state. At Princess Royal an amalgamation of several properties has been effected, and development is being proceeded with, not only in this centre but in many portions of the field. It is considered that the connection by railway to Coolgardie, to be proceeded with shortly, will do much to advance the prosperity of the goldfield.

The Yilgarn goldfield has somewhat improved its position during the year and mining is being vigorously carried on in several of the outside centres, although near Southern Cross no great activity has prevailed. The yield for the year is in excess of that for 1905 by 4,255ozs., fine.

On the Phillips River field comparatively little gold mining is being carried on, the gold output for the year being 2,780ozs., as against 2,563ozs. in 1905; the principal mines are worked for copper, and the ore carries a little gold.

TIN.

The tin output for the year as reported to the Department is valued at £157,644, being the highest so far recorded, and exceeding that for 1905 by £70,804.

The high price obtainable for this metal has enabled properties previously unpayable to be worked, and has caused new mines to be opened up, and is leading to the installation of better treatment plants and improved methods.

The only localities producing tin are the Pilbara and the Greenbushes fields, the former situated in the North-West of the State and the latter in the South. In both, the output for the year is a record one.

At Greenbushes the average number of men employed was 393, exceeding the number for 1905 by 185, and in Pilbara 497 as against 271 in the previous year. Several dredging leases have been taken up on this field, and plant for working on a large scale is being installed.

At Wodgina and the surrounding district in the Pilbara field, lode tin has been discovered, and several deposits are being developed. So far no treatment plants have been erected, and but little tin has been produced. Moolyella and Cooglegong are the largest tin-producing centres in the Pilbara fields, the output of tin for the former being valued at £57,133, and for the latter £16,284, during the year.

TANTALITE.

There being very little demand for this mineral, but little has been mined during the year, the 15 tons reported having come from Wodgina, in the Pilbara goldfield.

COAL.

The output of the Collie field shows an increase of 22,391 tons as compared with that for the year 1905. No new collieries have been opened up, the visible supply being far in excess of the demand. The Railway Department used 110,308 tons, as against 92,921 tons in 1905.

The number of men employed decreased by 44, but the output per man employed above and underground increased from 363 tons in 1905 to 488 tons; this is doubtless owing to the introduction of coal-cutting machines and improved appliances.

Boring operations were resumed on the Geraldton-Cue railway line, near the crossing of the Greenough River, and a seam of inferior coal was located at about 120 feet. Further bores will be put down, and it is hoped that they will prove the existence of an extensive deposit which will prove of inestimable value to the Murchison goldfield.

COPPER.

The output of copper for the year was valued at £50,337, being £34,071 in excess of that for the previous year. The high price of copper induced a considerable amount of prospecting, and the year 1907 should show a considerably increased output.

Although no smelting was done in the Phillips River goldfield until towards the latter end of the year, a considerable amount of development work was done, the principal company operating being the Phillips River Gold and Copper Co., which took over the principal copper mines and equipped them with machinery. This company also purchased the State Smelting Works, one of the conditions of sale being that copper ore be bought from prospectors on similar terms to those in force when the smelter was under Government control.

The Anaconda mine, in the Mount Margaret goldfield, has been a considerable producer of copper.

Development and prospecting work is also being done in the North Coolgardie, Yalgoo, Murchison, Ashburton, and West Pilbara goldfields, and in West Kimberley, where rich finds were reported late in the year, and although inspection of the areas

first occupied rather discounted the original reports, there seems every reason to suppose that a rich mineral belt has been discovered which should well repay expenditure in prospecting and development.

OTHER MINERALS.

Silver was obtained as a by-product to the value of £37,612, being less by £6,666 than for the year 1905.

Limestone and ironstone to the value of £1,691 and £512 respectively, were produced, but account has only been taken of that used in connection with smelting operations.

Deposits of phosphatic rock have been located in the Dandarragan district, but no development work has been done, and little so far can be said as to the value of the deposit.

PART II.—MINERALS RAISED.

TABLE 1.

Quantity and Value of all the Minerals produced during 1905 and 1906.

Description of Minerals.	1905.		1906.		Increase or Decrease for Year compared with 1905.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
1. Black Tin (raised), statute tons	1,079	£ 86,840	1,495	157,644	+ 416	+ 70,804
2. Coal (raised) do.	127,364	55,312	149,755	57,998	+ 22,391	+ 2,686
3. Copper Ore (raised) do.	2,389	16,266	7,430	50,337	+ 5,041	+ 34,071
4. Gold (export and mint), fine ounces	1,955,316	8,305,654	1,794,547	7,622,749	- 160,769	- 682,905
5. Ironstone (raised), statute tons	3,213	1,285	1,280	512	- 1,933	- 773
6. Limestone (raised) do.	9,145	1,220	9,472	1,691	+ 327	+ 471
7. *Pig Lead (exported) do.	2,730	34,471	2,681	44,460	- 49	+ 9,989
8. Silver (exported), fine ounces	359,744	44,278	282,145	37,612	- 77,599	- 6,666
9. Tantalite (raised), statute tons	73	10,515	15	2,644	- 58	- 7,871
Total Values ... ..	...	8,555,841	...	7,975,647	...	- 580,194

* Contained in bullion from the Fremantle Smelters, Ltd.

The above table shows that the total value of minerals raised has fallen from £8,555,841 in 1905, to £7,975,647 in 1906, a shrinkage of £580,194. In

every important mineral except gold the output has increased, the value of the tin output being greater by £70,000 than in the previous year.

TABLE 2.

Summary of Gold Exported and received at the Perth Branch of the Royal Mint during 1905 and 1906, compared with the yields reported to the Mines Department; also the percentage of the latter for the several Goldfields, and the average value of Gold per ton of ore treated.

Goldfield.	Export and Mint.		Reported Yield.					
	1905.	1906.	1905.	1906.	Percentage for each Goldfield.		Average Value of Gold per ton of Ore treated.	
					1905.	1906.	1905.	1906.
	fine ozs.	fine ozs.	fine ozs.	fine ozs.			shillings.	shillings.
1. Kimberley	546	648	496	166	'03	'01	151'66	...
2. Pilbara	13,402	4,956	11,474	5,712	'62	'33	162'87	177'11
3. West Pilbara	1,165	755	801	749	'04	'04	109'37	63'90
4. Ashburton	42	139	208	278	'01	'02	...	...
5. Gascoyne	21	79	...	...	...	...	...	...
6. Peak Hill	13,497	2,039	13,587	2,008	'74	'11	21'69	16'92
7. East Murchison	90,612	95,310	84,926	95,771	4'61	5'52	38'24	39'78
8. Murchison	224,398	189,109	206,735	182,396	11'23	10'50	73'39	51'46
9. Yalgoo	4,626	4,883	4,743	4,450	'26	'26	63'43	39'90
10. Mt. Margaret	188,153	158,892	188,712	166,259	10'25	9'57	48'04	39'34
11. North Coolgardie	146,809	109,031	148,771	110,957	8'08	6'39	54'13	42'88
12. Broad Arrow	15,904	18,087	18,584	21,511	1'01	1'24	61'23	50'35
13. North-East Coolgardie	42,407	32,534	52,947	44,573	2'88	2'57	53'86	55'25
14. East Coolgardie	1,092,358	1,067,193	997,193	989,357	54'18	56'98	65'50	56'54
15. Coolgardie	62,244	60,579	63,664	64,030	3'46	3'69	63'47	42'36
16. Yilgarn	25,291	25,571	19,292	23,547	1'05	1'36	34'16	30'78
17. Dundas	28,736	21,310	25,961	20,435	1'41	1'18	68'23	72'89
18. Phillips River	3,519	2,385	2,563	2,780	'14	'16	77'50	107'25
19. Donnybrook ... ..	...	...	...	...	...	...	...	...
State generally	1,586	1,047	...	1,316	...	'07	...	...
Totals and averages	1,955,316	1,794,547	1,840,657	1,736,295	100'00	100'00	58'51	50'54

COMPARATIVE STATISTICAL DIAGRAMS
 RELATING TO
OUTPUT AND VALUE OF GOLD AND OTHER MINERALS, LANDS LEASED FOR GOLD MINING
 IN WESTERN AUSTRALIA
 AND THE GOLD PRODUCTION OF AUSTRALASIA FOR THE YEAR 1906.

Fig. 1 Output of Gold From various Goldfields as reported to Mines Dept.

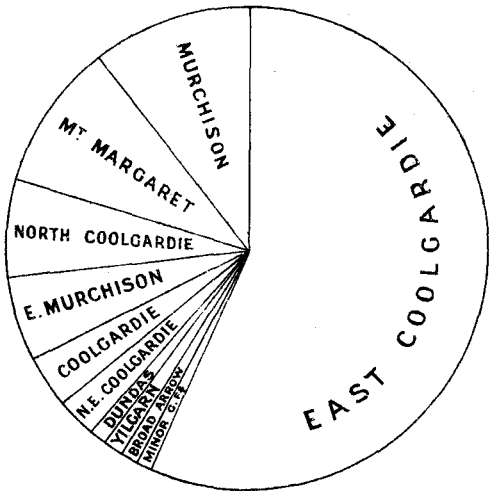


Fig. 2 Gold produced from various Goldfields as given by the Export and Mint Returns.

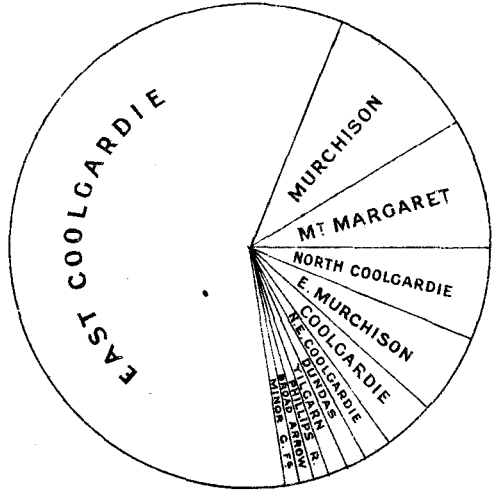


Fig. 3 Value of Gold and other Minerals.

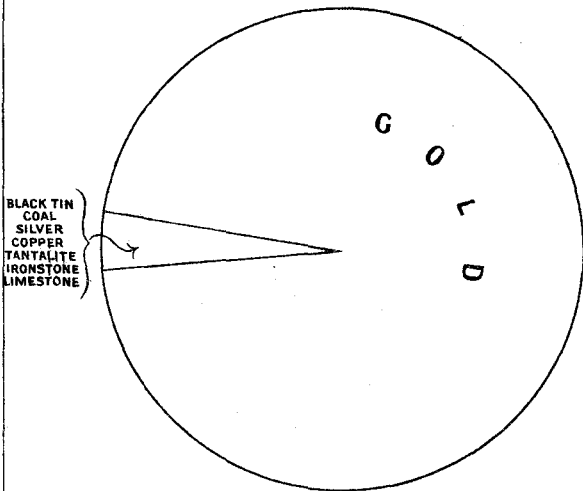


Fig. 4 Value of Minerals other than Gold.

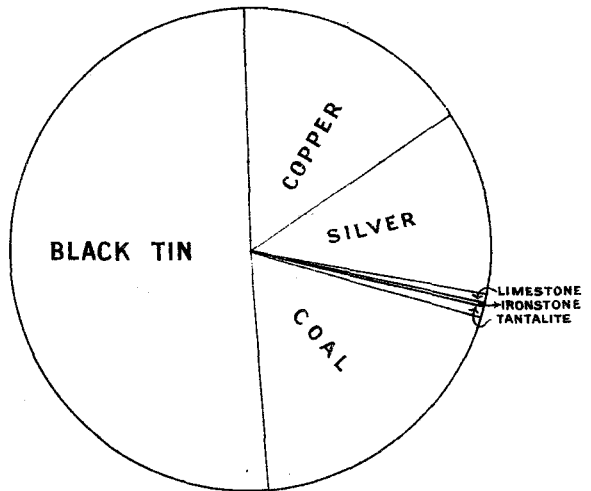


Fig. 5 Areas of Land leased for Goldmining on various Goldfields.

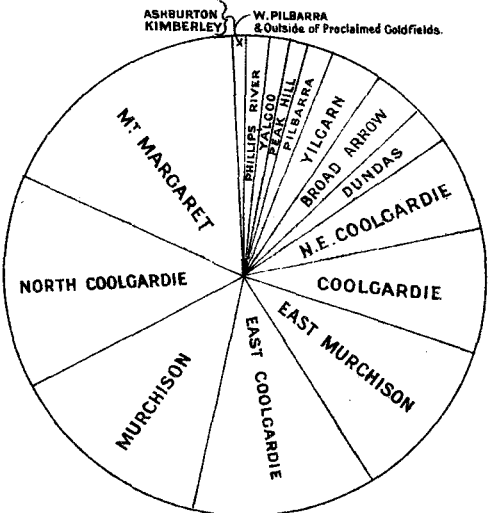
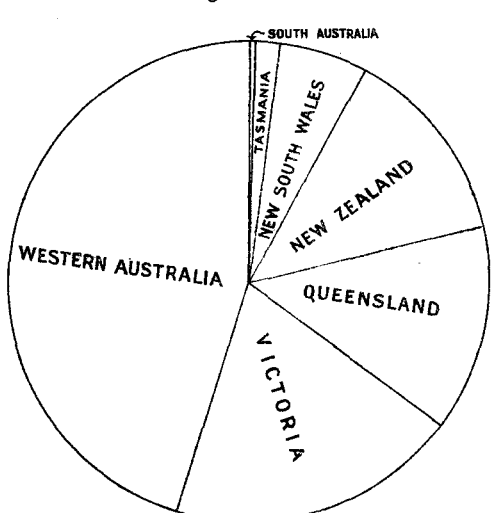


Fig. 6 Output of Gold in the States of Australia and the Colony of New Zealand.



Throughout this report in comparing the outputs of the various fields, the reported yields are referred to. When dealing with the total gold yield of the State the total as compiled from the Export and the Royal Mint figures is used, as alluvial and other gold not reported to the Department is embraced in this return. The report of the Royal Commission appointed to inquire into the alleged prevalence of gold stealing confirms my opinion expressed in the reports for 1899 and 1900, that much of the discrepancy between the yields reported by the mines and those deduced from the Export and the Mint

returns might be accounted for by the inclusion of stolen gold in the latter.

The yields of the Peak Hill goldfield and the other fields in the Northern part of the State have decreased during the year with the exception of the Ashburton field, which shows a trifling increase. The East Murchison, Broad Arrow, Coolgardie, Yilgarn, Dundas, and Phillips River goldfields show increased outputs, while those of the remaining fields have decreased.

The average value per ton of ore treated is 50.54 shillings, as against 58.51 shillings in 1903.

TABLE 3.

Number of Gold-producing Mines in the several Goldfields and Districts during 1905 and 1906.

Goldfield.	District.	1905.		1906.		Increase or Decrease.
		District.	Goldfield.	District.	Goldfield.	
Kimberley ...	...	...	1	...	1	=
Pilbara ...	Marble Bar ...	9	25	12	30	+ 5
	Nullagine ...	16		18		
West Pilbara ...	...	...	2	...	3	+ 1
Ashburton ...	...	...	...	...	...	...
Gascoyne ...	...	...	...	...	...	...
Peak Hill ...	...	...	10	...	8	- 2
East Murchison ...	Lawlers ...	66	128	52	107	- 21
	Black Range ...	62		55		
	Cue ...	59		54		
Murchison ...	Nannine ...	54	180	59	174	- 6
	Day Dawn ...	18		16		
	Mt. Magnet ...	49		45		
Yalgoo ...	...	...	7	...	13	+ 6
Mt. Margaret ...	Mt. Morgans ...	34	180	37	161	- 19
	Mt. Malcolm ...	75		45		
	Mt. Margaret ...	71		79		
North Coolgardie ...	Menzies ...	84	234	76	198	- 36
	Ularring ...	42		33		
	Niagara ...	51		35		
	Yerilla ...	57		54		
Broad Arrow ...	...	...	40	...	48	+ 8
North-East Coolgardie ...	Kanowna ...	44	92	50	85	- 7
	Bulong ...	44		29		
	Kurnalpi ...	4		6		
East Coolgardie ...	...	...	92	...	103	+ 11
Coolgardie ...	Coolgardie ...	81	114	86	123	+ 9
	Kunanalling ...	33		37		
Yilgarn ...	...	...	40	...	35	- 5
Dundas ...	...	...	40	...	39	- 1
Phillips River ...	...	...	14	...	23	+ 9
Donnybrook ...	...	...	...	...	...	...
Totals ...	...	...	1,199	...	1,151	- 48

The number of producing mines in the State is shown as 1,151, being 48 less than in 1905. The main decreases appear in the East Murchison gold-

field, in the North Coolgardie goldfield, and in the Malcolm district of the Mount Margaret goldfield.

TABLE 4.

Increase or Decrease in Output of certain producing Gold Mines in 1906, as compared with 1905.

Goldfield.	District.	Name of Mine.	Production.		Increase or Decrease for Year, compared with 1905.
			1905.	1906.	
Peak Hill		1. Peak Hill Goldfield, Ltd.	12,785.16	675.38	-12,109.78
East Murchison	Lawlers	2. Bellevue Proprietary, Ltd.	15,497.41	14,067.24	-1,430.17
Do.	do.	3. Gwalia Consolidated, Ltd.	6,770.90	5,330.07	-1,440.83
Do.	do.	4. Leinster leases	1,736.46	446.78	-1,289.68
Do.	do.	5. London and Western Australian Exploration Co., Ltd.	16,090.58	18,318.70	+2,228.12
Do.	do.	6. Vivien G.M. Co., Ltd.	8,300.19	8,327.81	+27.62
Do.	Black Range	7. Adelaide leases	7,408.82	14,076.02	+6,667.20
Murchison	Cue	8. Victory United G.M. Co., N.L.	2,533.16	3,578.77	+1,045.61
Do.	Nannine	9. Fenian	2,360.39	2,914.51	+554.12
Do.	do.	10. Ingliston Extended		4,547.46	+4,547.46
Do.	do.	11. Marmont	415.01	3,265.55	+2,850.54
Do.	do.	12. New Alliance	2,741.41	984.51	-1,756.90
Do.	do.	13. New Murchison King G.Ms.	922.00	2,093.64	+1,171.64
Do.	Day Dawn	14. Great Fingall Consolidated, Ltd.	159,774.97	121,163.20	-38,611.77
Do.	Mt. Magnet	15. Morning Star Quartz Co., N.L.	3,217.59	3,845.66	+628.07
Yalgoo		16. Monarch leases	299.58	557.00	+257.42
Do.		17. Phoenix G.Ms., Ltd.	2,036.80	595.63	-1,441.17
Do.		18. Royal Standard leases	2,121.81	2,496.25	+374.44
Mt. Margaret	Mt. Morgans	19. Princess Iris		2,970.49	+2,970.49
Do.	do.	20. Westralia Mt. Morgans G.Ms. Co., Ltd.	15,095.15	14,342.90	-752.25
Do.	Mt. Malcolm	21. Great Tower Hill G.Ms., Ltd.	1,095.94	17,683.47	+16,587.53
Do.	do.	22. Merton's Reward G.M. Co., Ltd.	12,765.51	3,801.15	-8,964.36
Do.	do.	23. Sons of Gwalia, Ltd.	63,618.42	55,772.39	-7,846.03
Do.	Mt. Margaret	24. Augusta	1,659.43	4,535.54	+2,876.11
Do.	do.	25. Craigbmore Proprietary, Ltd.	7,640.44	5,509.95	-2,130.49
Do.	do.	26. Ida H. G.M. Co., Ltd.	11,902.52	10,330.68	-1,571.84
Do.	do.	27. Lancefield G.M. Co., Ltd.	15,383.22	3,005.82	-12,377.40
North Coolgardie	Menzies	28. Menzies Consolidated G.Ms., Ltd.	10,134.44	9,478.39	-656.05
Do.	do.	29. Menzies Gold Mine lease (late Lady Shenton G.M., Ltd.)	3,872.82	3,722.65	-150.17
Do.	do.	30. Menzies Mining and Exploration Corporation, Ltd.	4,063.72	1,926.34	-2,137.38
Do.	do.	31. Queensland Menzies G.M. Co., N.L.	8,241.21	1,790.47	-6,450.74
Do.	Ularring	32. Golden Pole G.M. Co., Ltd.	25,960.86	11,796.08	-14,164.78
Do.	do.	33. Lady Gladys G.M. Co., N.L.	1,262.35	2,836.46	+1,574.11
Do.	do.	34. Westralia Waihi G.Ms., N.L.	5,073.68	3,922.52	-1,151.16
Do.	Niagara	35. Englishman's Cosmopolitan Proprietary, Ltd.	33,876.54	23,677.46	-10,199.08
Do.	do.	36. Hannan's Main Reef G.M. Co., Ltd.	152.87	4,021.34	+3,868.47
Do.	Yerilla	37. Neta leases	3,487.09	2,347.61	-1,139.48
Do.	do.	38. Lake View South (W.A.), Ltd.	429.37	1,578.88	+1,149.51
Do.	do.	39. Potosi Consolidated, Ltd.	7,240.28	1,046.22	-6,194.06
Broad Arrow		40. New Standard Exploration Co., Ltd.	6,817.02	7,027.69	+210.67
N.E. Coolgardie	Kanowna	41. Gentle Polly	1,086.71	3,195.41	+2,108.70
Do.	do.	42. North White Feather G.Ms., Ltd.	13,297.23	9,961.43	-3,335.80
Do.	do.	43. Queen Margaret G.M. Co., Ltd.	4,042.05	3,153.17	-888.88
Do.	do.	44. White Feather Main Reefs, Ltd.	6,551.78	541.39	-6,010.39
Do.	Bulong	45. Queen Margaret G.M. Co., Ltd.	3,850.90	2,925.97	-924.93
East Coolgardie		46. Associated G.Ms. of W.A., Ltd.	57,411.53	54,416.42	-2,995.11
Do.		47. Associated Northern Blocks (W.A.), Ltd.	43,853.10	43,010.10	-843.00
Do.		48. Brown Hill Consois leases	5,844.66	7,359.41	+1,514.75
Do.		49. Golden Horseshoe Estates Co., Ltd.	160,440.10	152,718.61	-7,721.49
Do.		50. Golden Ridge Proprietary leases	9,959.20	5,897.90	-4,061.30
Do.		51. Great Boulder Perseverance G.M. Co., Ltd.	105,836.47	80,645.57	-25,190.90
Do.		52. Great Boulder Proprietary G.Ms., Ltd.	128,305.91	130,542.23	+2,236.32
Do.		53. Hainault G.Ms., Ltd.	20,452.35	19,894.15	-558.20
Do.		54. Ivanhoe Gold Corporation, Ltd.	125,755.00	122,460.04	-3,294.96
Do.		55. Kalgurli G.Ms., Ltd.	59,598.00	90,645.10	+31,047.10
Do.		56. Lake View Consols, Ltd.	46,067.53	42,242.12	-3,825.41
Do.		57. Oroya-Brownhill Co., Ltd.	155,001.02	148,203.10	-6,797.92
Do.		58. South Kalgurli G.Ms., Ltd.	19,600.75	38,391.38	+18,790.63
Coolgardie	Coolgardie	59. Burbanks Birthday G.Ms., Ltd.	6,643.98	7,673.65	+1,029.67
Do.	do.	60. Burbanks Main Lode (1904), Ltd.	4,144.01	5,630.07	+1,486.06
Do.	do.	61. Redhill Westralia G.Ms., Ltd.	7,587.02	5,785.63	-1,801.39
Do.	do.	62. Westralia and East Extension Mines, Ltd.	13,680.38	14,875.74	+1,195.36
Do.	Kunanalling	63. Carbine	805.26	2,219.62	+1,414.36
Yilgarn		64. Greenmount Mines, N.L.	1,186.00	4,554.53	+3,368.53
Do.		65. British and Foreign Development Syndicate, Ltd.	5,343.61	3,961.19	-1,382.42
Do.		66. Transvaal	691.25	3,633.69	+2,942.44
Dundas		67. Cumberland G.M. Co., N.L.	7,059.08	7,295.50	+236.42
Do.		68. Lady Mary G.M. Co., N.L.	1,115.55	897.10	-218.45
Do.		69. Princess Royal G.M. Co., N.L.	12,174.93	5,108.41	-7,066.52
Phillips River		70. Two Boys	74.67	889.18	+814.51
Do.		71. Ravensthorpe G.M. Syndicate, N.L.	659.98	64.45	-595.53
			1,512,405.13	1,419,103.94	-93,301.19

Of the above 71 gold mines, 40 produced 118,273.98 fine ounces more than in 1905, being a net decrease of 93,301.19 fine ounces.

TABLE 5.

Averages of Gold Ore raised and treated, and Gold produced therefrom, per man employed on the several Goldfields of the State, during 1905 and 1906.

Goldfield.	1905.				1906.			
	Tons of Gold Ore raised and treated.		Fine Ounces of Gold produced therefrom.		Tons of Gold Ore raised and treated.		Fine Ounces of Gold produced therefrom.	
	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.
1. Kimberley	tons. 107·00	tons. 71·33	fine ozs. 191·02	fine ozs. 127·35	tons. ...	tons. ...	fine ozs. 17·00	fine ozs. 17·00
2. Pilbara	51·23	27·75	98·22	53·20	35·69	19·13	74·40	39·69
3. West Pilbara	37·14	21·67	47·82	27·89	133·25	66·63	100·25	50·13
4. Ashburton ... ..	...	...	...	...	...	...	...	...
5. Gascoyne ... ..	...	...	...	...	...	...	...	...
6. Peak Hill	715·86	299·29	182·76	76·41	325·05	134·92	64·73	26·87
7. East Murchison	328·79	160·99	148·00	72·46	315·27	150·59	147·62	70·51
8. Murchison	332·60	165·95	287·33	143·36	349·85	187·19	211·93	113·40
9. Yalgoo	102·32	55·17	76·41	41·19	168·77	92·67	79·25	43·51
10. Mt. Margaret	284·51	150·71	160·89	85·23	312·72	162·43	144·81	75·24
11. North Coolgardie	207·90	119·01	132·46	75·83	202·54	119·97	102·22	60·55
12. Broad Arrow	133·79	82·84	96·43	59·71	188·59	117·96	111·77	69·91
13. North-East Coolgardie	150·95	93·84	95·70	59·49	123·51	76·11	80·33	49·51
14. East Coolgardie	384·30	206·03	296·30	158·85	442·00	247·93	294·19	165·02
15. Coolgardie	154·13	92·95	78·86	47·56	151·63	94·37	75·61	47·06
16. Yilgarn	301·67	151·31	121·29	60·83	282·81	146·19	102·47	52·97
17. Dundas	122·60	73·00	98·47	58·63	121·26	71·57	104·04	61·40
18. Phillips River	79·13	44·67	72·19	40·75	35·52	20·77	44·84	26·23
19. Donnybrook ... ..	...	...	...	...	...	...	...	...
Total Averages	291·32	157·05	200·63	108·16	314·08	173·31	186·86	103·11

The average value of gold produced per man employed above and underground has fallen from £459 8s. in 1905, to £438 in 1906, but the average tonnage of ore raised has increased from 157.05 tons to 173.31.

The average tonnage of ore raised per man employed in the East Coolgardie field is very high, viz.: 248 tons, as also the average production per man, £701.

TABLE 6.

Output of Gold from the several States of Australia and the Colony of New Zealand during 1906.

State.	Output of Gold.	Value.	Percentage of Total Value of Output.
1. Western Australia	Fine ozs. 1,794,547	£ 7,622,749	45·03
2. Victoria	772,290	3,280,478	19·32
3. Queensland	544,636	2,313,464	13·66
4. New South Wales	253,987	1,078,866	6·37
5. Tasmania	60,023	254,963	1·56
6. South Australia and Northern Territory	25,592	108,707	·64
7. New Zealand	534,616	2,270,904	13·42
Total	3,985,691	16,930,131	100·00

TABLE 7.

Dividends paid by Western Australian Gold Mining Companies during 1905 and 1906.

(Compiled from information supplied by the Government Statistician's Office and the Chamber of Mines of W.A., Kalgoorlie.)

Goldfield.	Name of Company.	Par Value of Shares.	Paid up to	Nominal Capital.	No. of Shares issued.	1905.			1906.		
						No. of Dividends paid.	Total Amount paid.	Total for each Goldfield.	No. of Dividends paid.	Total Amount paid.	Total for each Goldfield.
		£ s. d.	£ s. d.	£			£	£		£	£
Dundas ...	Cumberland G.M. Co., N.L. ...	0 10 0	0 6 0	40,000	80,000	3	6,000	6,000	3	6,000	6,000
East Coolgardie ...	Associated Gold Mines of Western Australia, Ltd.	1 0 0	1 0 0	500,000	495,364	1	49,536	...	1	49,536	...
	Associated Northern Blocks (W.A.), Ltd. ...	1 0 0	1 0 0	350,000	350,000	2	87,500	...	2	87,500	...
	Golden Horseshoe Estates Co., Ltd. ...	5 0 0	5 0 0	1,500,000	300,000	3	270,000	...	3	240,000	...
	Golden Ridge G.M. Co., N.L. ...	1 0 0	0 16 0	31,200	30,900	1	1,545	...	...	...	...
	Great Boulder Perseverance G. Mining Co., Ltd.	1 0 0	1 0 0	1,500,000	1,400,000	3	122,500	...	2	105,000	...
	Great Boulder Proprietary G. Mines, Ltd.	0 2 0	0 2 0	175,000	1,750,000	4	284,375	...	4	262,500	...
	Hainault G. Mine, Ltd. ...	1 0 0	1 0 0	150,000	150,000	2	12,575	...	3	20,500	...
	Ivanhoe Gold Corporation, Ltd. ...	5 0 0	5 0 0	1,000,000	200,000	4	240,000	...	4	240,000	...
	Kalgurli Gold Mines, Ltd. ...	1 0 0	1 0 0	120,000	120,000	4	60,000	...	4	165,000	...
	Lake View Consols, Ltd. ...	1 0 0	...	350,000	350,000	1	17,500	...	1	17,500	...
	Oroya Brownhill Co., Ltd. ...	1 0 0	...	450,000	450,000	5	438,750	...	4	360,000	...
	South Kalgurli G. Mines, Ltd. ...	1 0 0	1 0 0	200,000	200,000	...	...	1,584,281	2	40,000	1,587,536
East Murchison ...	Black Range G.M. Co., N.L. ...	1 0 0	1 0 0	80,000	*72,500	4	8,438	8,438	12	22,312	22,312
Mount Margaret ...	Ida H. Gold Mining Co., Ltd. ...	0 5 0	0 5 0	60,000	216,000	4	13,500	...	2	5,400	...
	Mikado G.M. Co., Ltd. ...	5 0 6	5 0 0	15,000	1,035	4	46	...	...	...	...
	Sons of Gwalia, Ltd. ...	1 0 0	1 0 0	350,000	325,000	3	73,125	86,671	4	81,250	86,650
Murchison ...	Great Fingall Consolidated, Ltd. ...	0 10 0	0 10 0	125,000	250,000	4	387,500	387,500	4	275,000	275,000
North Coolgardie ...	Cosmopolitan Proprietary, Ltd. ...	1 0 0	1 0 0	400,000	400,000	1	20,000	...	1	10,000	...
	Golden Pole Gold Mines, Ltd. ...	0 2 0	0 2 0	20,000	200,000	9	60,000	...	1	5,000	...
	Lady Gladys G.M. Co., N.L. ...	0 5 0	0 5 0	24,000	96,000	...	...	80,000	1	1,200	16,200
North - East Coolgardie	North White Feather Gold Mines, Ltd. ...	0 10 0	0 10 0	200,000	399,850	1	9,996	...	...	...	...
	Queen Margaret G. Mining Co., Ltd. ...	1 0 0	1 0 0	100,000	95,050	1	4,753	14,749	...	...	...
		...	...	7,740,200	7,931,699	...	2,167,639	2,167,639	...	1,993,698	1,993,698

* Dividend of sixpence paid in September on 67,500 shares of 20s.; dividend of sixpence paid in October, and subsequently on 72,500 shares of 20s.

† Capital increased to £150,000 in August, 1906.

It will be seen from Table 7 that the East Coolgardie goldfield, whose mines are responsible for nearly 80 per cent. of the dividends paid by gold mining companies in the State, has, with its total of £1,587,536, slightly exceeded the amount paid during 1905.

The Black Range Co. at Black Range has paid £22,312, as against £8,438 in 1905.

In the Murchison goldfield the Great Fingall has paid £275,000, a decrease of £112,500 as compared with the dividends for 1905.

In the North Coolgardie goldfield the Lady Gladys G.M. Co. appears on the dividend list for the first time, a company having registered in 1903. This mine is supposed to have been previously worked at a profit for some years by its owners.

TABLE 8.
Quantity and Value of Minerals, other than Gold, reported to the Mines Department during 1906.

Goldfield, District, or Mineral Field.	Quantity.	Value.	Increase or Decrease for Year compared with 1905.	
			Quantity.	Value.
	tons.	£	tons.	£
BLACK TIN.				
Greenbushes Mineral Field	783.28	79,195	+ 139.76	+ 26,235
Pilbara Goldfield (Marble Bar District) ...	711.65	78,449	+ 275.91	+ 44,569
Total	1,494.93	157,644	+ 415.67	+ 70,804
TANTALITE.				
Greenbushes Mineral Field ... ..	...	...	— 2.34	— 1,590
Pilbara Goldfield (Marble Bar District) ...	14.65	2,644	— 56.30	— 6,281
Total	14.65	2,644	— 58.64	— 7,871
COPPER ORE.				
North Coolgardie Goldfield (Menzies District)	4.70	33	+ 4.70	+ 33
Mt. Margaret Goldfield (Mt. Morgans District)	4,361.05	21,934	4,301.05	+ 21,260
Murchison Goldfield (Nannine District) ...	133.50	2,816	+ 133.50	+ 2,816
Phillips River Goldfield	2,885.00	25,270	+ 555.96	+ 9,678
Yalgoo Goldfield	31.91	91	+ 31.91	+ 91
From State generally	13.50	193	+ 13.50	+ 193
Total	7,429.66	50,337	+ 5,040.62	+ 34,071
IRONSTONE.				
From State generally	1,279.87	512	— 1,932.73	— 773
LIMESTONE.				
From State generally	9,472.28	1,691	+ 327.68	+ 471

A substantial increase in the output of black tin will be noticed in both the Greenbushes and the Pilbara fields. This branch of mining gave employment to 411 men more than in 1905, the increase

of workers on the Greenbushes field amounting to 185 and on the Pilbara field to 226.

Only 14 $\frac{2}{3}$ tons of tantalite were raised in the Pilbara field, there being no sale for this mineral.

In nearly every copper-producing centre in the State an increased production of copper is shown, and the development work done during the year should, provided the price of copper is maintained at anything like its present figure, result in a very largely increased output during 1907.

TABLE 9.

Quantity of Coal raised during 1905 and 1906, 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.
Collie	1905	tons. 127,364	£ 55,312	90	261	tons. 488	tons. 363
	1906	149,755	57,998	71	236	635	488

The number of men employed in connection with collieries has decreased by 44 during the year 1906, while the coal produced has increased by 22,391 tons.

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, 1905 and 1906.

Description of Leases.	1905.		1906.	
	No.	Acreage.	No.	Acreage.
Gold mining leases on Crown land	2,447	32,273	2,181	29,370
" " " private property ... ..	...	...	...	...
Mineral leases on Crown land	226	26,443	271	27,121
" " private property	2	50	2	50
	2,675	58,766	2,454	56,541

The total number of leases held for mining has decreased by 221 as compared with the total for the year 1906, and the acreage by 2,225 acres.

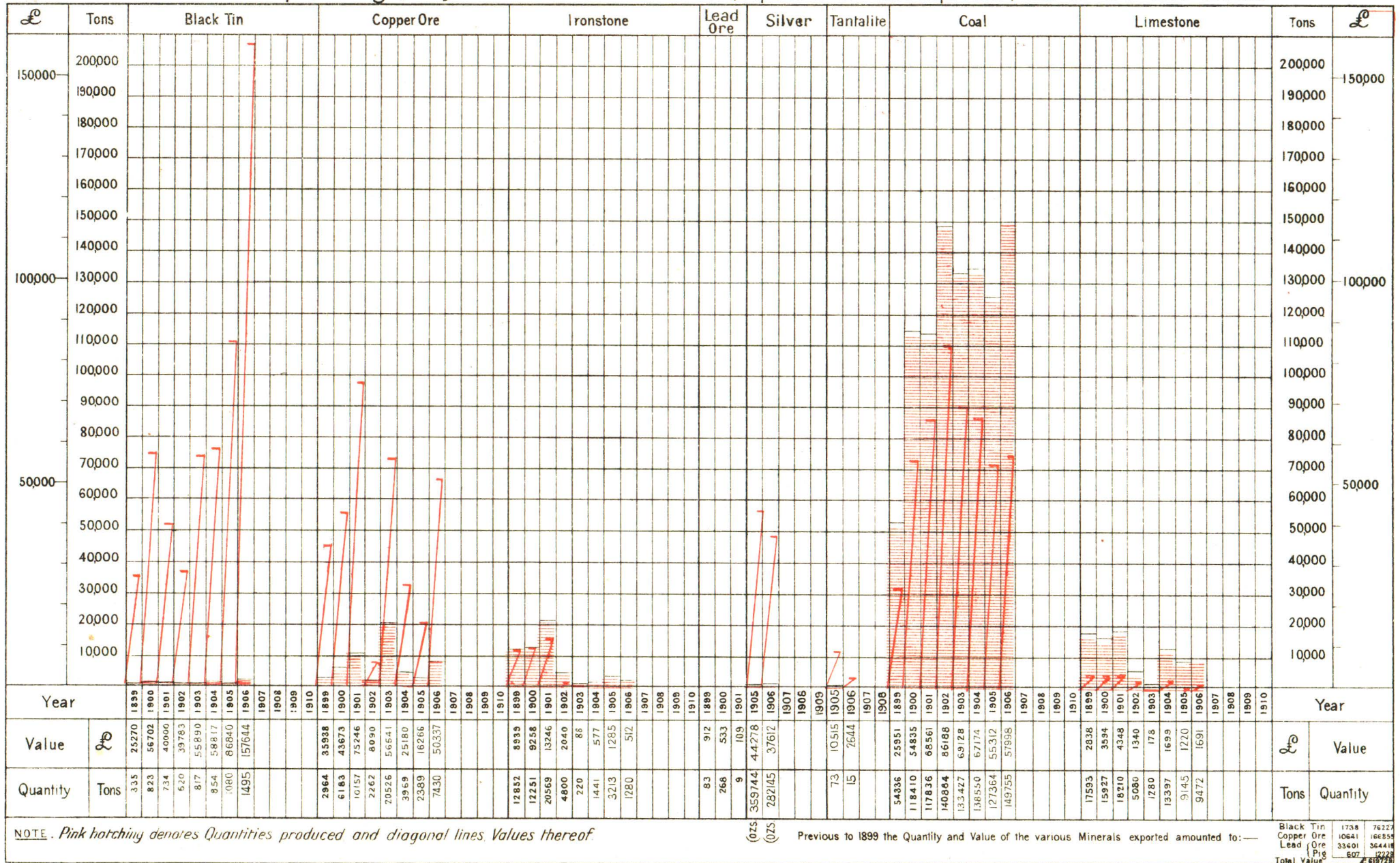
Leases for gold mining have decreased in number by 266, and in area by 2,903 acres, but this decline may in a great measure be accounted for by the fact that many more prospecting areas are now taken up than formerly, the conditions having been liberalised.

The acreage held under Mineral Lease has increased to the extent of 678 acres, there being 45 more leases in existence, principally held for tin and copper.

In several places prospecting is going on for gold and minerals on private property, but no further leases have been issued.

D I A C R A M

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



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	1738	76224
Copper Ore	10641	166854
Lead Ore	33601	364418
Fig	507	1723
Total Value		619729

TABLE II.

Number and Acreage of Gold Mining Leases in force each year for the Five Years ending the 31st December, 1906.

GOLDFIELDS.		DISTRICTS.		1902.		1903.		1904.		1905.		1906.		Percentage of Total Acreage.		Increase or Decrease for 1906 compared with 1905.		GOLDFIELDS.				
Name.	Proclaimed.	Name.	Proclaimed.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	1905.	1906.	Increase.	Decrease.					
Kimberley	20-5-86	...	...	3	19	3	19	2	13	2	13	2	13	'04	'04	...	...	Kimberley
Yilgarn	1-10-88	...	...	37	584	74	985	62	861	61	924	64	1,017	2'86	3'46	93	...	Yilgarn		
Pilbara	1-10-88	Marble Bar	6-11-96	28	256	27	258	20	204	22	267	19	204	1'83	1'78	...	65	Pilbara				
Ashburton	11-12-90	Nullagine	6-11-96	22	252	20	244	24	286	30	322	29	320					Ashburton				
Murchison	24-9-91	Cue	10-1-96	95	933	89	810	113	1,007	110	1,152	111	1,294	12'43	14'25	177	...	Murchison				
		Nannine	7-12-94	82	973	93	1,114	98	1,187	119	1,291	131	1,560									
		Day Dawn	10-1-96	117	1,281	112	1,209	98	1,058	98	1,035	87	890									
		Mount Magnet	7-12-94	116	1,044	94	834	77	656	66	532	54	443									
Dundas	31-8-93	...	...	68	733	72	793	88	913	84	956	59	732	2'96	2'49	...	224	Dundas		
Coolgardie	6-4-94	Coolgardie	1-9-97	188	2,274	170	2,076	167	2,104	173	2,273	148	1,949	9'15	8'25	...	528	Coolgardie				
East Coolgardie	21-9-94	Kunanalling	1-9-97	86	1,097	73	908	72	882	55	679	35	475					East Coolgardie				
Yalgoo	23-1-95	...	...	35	417	28	365	27	284	32	344	37	435	11'49	12'15	...	138	Yalgoo		
North Coolgardie	28-6-95	Menzies	20-3-96	100	1,364	129	1,508	135	1,649	106	1,335	108	1,403	14'89	14'43	...	570	North Coolgardie				
		Ularring	23-9-96	85	1,105	81	937	77	909	83	1,016	63	824									
		Yerilla	20-3-96	49	838	96	1,539	81	1,232	86	1,366	66	1,135									
		Niagara	12-3-97	119	1,431	121	1,455	111	1,297	88	1,090	69	875									
East Murchison	28-6-95	Lawlers	...	190	2,960	192	2,746	164	2,392	155	2,144	111	1,664	11'25	11'05	...	385	East Murchison				
West Pilbara	20-9-95	Black Range	...	...	...	...	...	89	1,017	118	1,486	117	1,581					West Pilbara
North-East Coolgardie	20-3-96	Kanowna	13-11-96	112	1,322	89	1,118	82	1,073	89	1,151	97	1,240	7'10	6'22	...	469	North-East Coolgardie				
		Bulong	13-11-96	73	887	67	909	74	1,084	64	944	41	518									
		Kurnalpi	13-11-96	4	54	27	612	11	198	6	86									
Broad Arrow	17-11-96	...	...	89	1,151	86	1,098	88	1,144	76	943	84	1,039	2'92	3'54	96	...	Broad Arrow		
Peak Hill	19-3-97	...	...	66	747	59	693	62	719	47	492	42	370	1'52	1'26	...	122	Peak Hill		
Mount Margaret	12-3-97	Mount Margaret	12-3-97	169	2,767	132	2,089	159	2,454	172	2,676	118	1,953	19'50	17'24	...	1,232	Mount Margaret				
		Mount Malcolm	12-3-97	140	2,515	108	1,836	143	2,384	144	2,467	117	2,095									
		Mount Morgans	2-4-02	41	720	33	614	55	933	74	1,152	68	1,015									
Gascoyne	25-6-97	...	...	2	36	2	36	5	66	4	54	...	...	17	...	...	54	Gascoyne
Donnybrook	11-11-99	Crown Land	...	8	123	8	123	5	56	...	...	...	...	...	...	...	...	Donnybrook
Phillips River	21-9-00	Private Property	...	18	236	16	206	13	132	...	...	...	...	...	...	...	...	Phillips River
Greenbushes	...	...	...	21	419	17	298	15	229	13	149	43	480	46	1'64	331	...	Greenbushes	
Newcastle	...	Private Property	...	...	...	4	36	4	36	...	...	...	...	...	...	...	...	Newcastle
Other Localities	...	...	...	...	...	...	...	...	...	...	...	4	96	...	33	96	...	
Totals	...	...	...	2,424	32,570	2,328	30,415	2,488	32,530	2,447	32,273	2,181	29,370	100'00	100'00	884	3,787		

266 Leases : 2,903 acres decrease for 1906.

TABLE 12.

Number and Acreage of Mineral Leases in force 31st December each year, for the Five Years ending 31st December, 1906.

MINING DISTRICTS.		SUB-DISTRICTS.		1902.		1903.		1904.		1905.		1906.		Increase or Decrease for 1906, compared with 1905.		DISTRICTS.	
Name.	Proclaimed.	Name.	Pro-claimed.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	Increase.	Decrease.		
														acres.	acres.		
Kimberley	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Kimberley
Ashburton	11-12-90	...	...	7	286	...	...	...	...	...	...	4	126	126	...	Ashburton
Murchison	24-9-91	Cue	7-12-94	...	...	...	...	...	...	...	...	...	...	...	...	Cue
		Nannine	7-12-94	3	80	80	...	Nannine
		Day Dawn	10-1-96	...	...	...	...	1	6	1	6	1	6	...	...	Day Dawn
		Mount Magnet	7-12-94	2	10	2	10	Mount Magnet
Greenbushes	7-4-92	...	...	54	1,192	38	703	30	597	39	706	62	1,127	421	...	Greenbushes
Pilbara	16-6-92	Marble Bar	16-6-92	7	176	3	80	4	180	11	290	32	768	478	...	Marble Bar	
		Nullagine	6-11-96	1	10	1	24	24	...	Nullagine
Yalgoo	23-1-95	...	...	3	21	1	6	1	60	1	3	...	...	...	3	Yalgoo
Yilgarn	22-3-95	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Yilgarn
Coolgardie	22-3-95	Coolgardie	22-3-95	1	12	2	22	3	42	2	22	3	41	19	...	Coolgardie	
East Coolgardie	22-3-95	Kunanalling	1-9-97	...	...	...	...	...	...	...	...	...	...	...	...	Kunanalling
East Murchison	28-6-95	...	...	15	110	13	180	11	130	10	55	5	20	...	35	East Coolgardie
North Coolgardie	16-8-95	Menzies	15-4-96	3	14	1	2	3	14	2	12	...	...	...	12	East Murchison
		Ularring	15-4-96	1	12	1	12	1	12	1	48	48	...	Menzies
		Yerilla	15-4-96	1	10	1	4	4	Ularring
		Niagara	1-3-97	1	1	Yerilla
West Pilbara	1-11-95	...	...	10	358	8	284	3	194	3	194	15	401	207	...	Niagara
Dundas	27-12-95	...	...	1	6	1	6	1	6	1	6	1	6	...	...	West Pilbara
Collie	21-2-96	...	...	94	29,145	94	29,145	68	20,975	74	22,894	74	22,895	1	...	Dundas
North-East Coolgardie	15-4-96	Kanowna	15-4-96	Collie
		Bulong	15-4-96	Kanowna
		Kurnalpi	15-4-96	1	12	Bulong
Broad Arrow	20-11-96	...	...	1	20	...	...	1	20	1	48	...	...	...	48	Kurnalpi
Northampton	1-1-97	...	...	4	50	5	125	1	20	...	...	5	124	124	...	Broad Arrow
Peak Hill	1-4-97	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Northampton
Mount Margaret	1-4-97	Mt. Margaret	1-4-97	3	11	2	6	1	3	1	3	1	3	...	...	Peak Hill
		Mt. Malcolm	1-4-97	20	538	14	317	10	145	8	51	5	32	19	Mt. Margaret
		Mt. Morgans	2-4-02	1	6	1	6	3	55	4	65	10	Mt. Malcolm
Gascoyne	15-4-97	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Mt. Morgans
Yandanooka	1-12-97	Crown Lands	...	2	90	13	855	1	65	2	40	1	20	...	20	Gascoyne	
		Private Property	2	50	2	50	Yandanooka
Phillips River	1-7-99	...	...	67	2,122	39	1,093	31	839	28	754	49	1,151	397	...	Phillips River
Donnybrook	27-11-99	...	...	4	78	...	...	2	31	...	...	...	...	...	...	Donnybrook
Crown Land	...	Cane River	...	1	40	...	...	...	...	...	...	...	...	...	...	Cane River
Totals	...	Other Localities	...	5	420	5	230	6	240	38	1,300	4	184	...	1,116	Other Localities	

678 acres increase for 1906.

Apart from the Collie field, where large areas are held for coal mining, the largest area under Mineral Lease is held in the Phillips River field, where 1,151 acres are occupied, principally for copper; Greenbushes follows with an area of 1,127 acres, held for tin mining; then come Pilbara and West Pilbara with areas of 768 and 401 acres, held principally for tin and copper, respectively.

Taking all goldfields, the largest percentage of land leased is in the Mount Margaret field, in which 17 1/4 per cent. of the total area is leased, then North Coolgardie, Murchison, and East Murchison follow, with percentages of 14.43, 14.25, and 11.05 respec-

TABLE 13.

Number and Acreage of Mineral Leases in force on 31st December, 1906, showing Minerals for which they are worked.

MINERALS.	Ashburton.		Murchison.		Greenbushes.		Pilbara.		Coolgardie.		East Coolgardie.		North Coolgardie.		Dundas.		West Pilbara.		Murchison.		Yalgoo.	
	Uaroo.		Day Dawn.				Marble Bar.		Coolgardie.				Menzies.					Nannine.				
	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.
Tantalite and Tin	2	35	3	88	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Antimony
Gypsum
Coal	1	48	...	...	11	332	3	80	1	24
Copper
Ironstone	1	6	1	15	...	...	...
Limestone
Copper, Silver, and Lead	1	48	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Copper and Ironstone
Tin	60	1,092	19	517	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Silver
Silver and Lead	2	30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Copper and other Minerals
Copper and Silver	1	48	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Clay	1	6	...	...	...	...	2	21	4	15	...	...	...	...	...	...	...	...	...	...
Building Stone	1	5	...	...	...	...	...	...	...	...	...	...	...
Building Stone and Mica
Lime
Copper and Lead
Copper, Lead, and Blend
Lead	2	44	...	...	...	...
Opal	1	20	...	...	...	...	...	...	...	...	...	...	...	...
Graphite
Mica
Asbestos
Tantalite
Totals	4	126	1	6	62	1,127	32	768	3	41	5	20	1	48	1	6	15	401	3	80	1	24

MINERALS.	Collie.		Northampton.		Mt. Margaret.						Yandanooka.		Phillips River.		Crown Lands outside proclaimed Mining Districts.		Total Acreage.	Increase or Decrease for 1906 compared with 1905.				
	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.		Increase.	Decrease.			
Tantalite and Tin	123	73	...			
Antimony		
Gypsum		
Coal	74	22,895	...	...	...	...	...	...	...	...	...	...	...	...	...	...	22,895	1	80
Copper	3	50	3	70	47	1,136	4	184	1,924	781	...			
Ironstone	15	15	...			
Limestone	1	10	...	...	...	...	...	...	26	10	...			
Copper, Silver, and Lead	48	48	...			
Copper and Ironstone		
Tin	1,609	663	...			
Silver	
Silver and Lead	30	30	...			
Copper and other Minerals	
Copper and Silver	1	15	...	...	...	...	...	...	63	48	85			
Clay	1	3	3	12	1	15	...	...	2	15	...	...	72	5	38			
Building Stone	5	
Building Stone and Mica	10	6	
Lime	40	40	
Copper and Lead	2	40	
Copper, Lead, and Blend	3	84	
Lead	44	44	
Opal	20	20	
Graphite	400
Mica	20
Asbestos	58
Plumbago, Graphite, and Blacklead	160
Plumbago and Graphite	420
Graphite and Tin	60
Plumbago	20
Tantalite	163	163
Totals	74	22,895	5	124	1	3	5	32	4	65	3	70	49	1,151	4	184	27,171	2,025	1,347	

TABLE 14.

Claims and Authorised Holdings under "The Mining Act, 1904," and Regulations, existing on 31st December, 1905 and 1906.

Claims, etc.	*Kimberley.		Yilgarn.		Pilbara.				*Ashburton.		Murchison.								Dundas.		Coolgardie.				East Coolgardie.		Yalgoo.		North Coolgardie.							
					*Marble Bar.		Nullagine.				Cue.		Day Dawn.		Nannine.		Mt. Magnet.				Coolgardie.		Kunanalling.						Menzies.		Ularring.		Yerilla.		Niagara.	
	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.		
Water Rights	9	6	...	...	7	7	...	...	12	10	25	21	3	...	3	...	19	14	16	20	10	11	40	42	...	...	19	14	15	15	10	9	18	19
Area of Water Rights	37	25	...	...	7	7	...	...	36	29	74	20	3	...	8	...	191	182	61	25	50	45	931	924	...	...	91	35	64	55	21	18	61	66
Quartz Claims	1	...	...	...	24	16	...	...	2	3	1	...	4	...	1	...	...	15	12	11	8	46	43	...	...	...	...	...	...	...	...	...	...
Alluvial Claims	1	...	...	...	...	...	1	1	1	...	...	3	...	1	...	...	...	...	...	...	40	36	...	...	...	...	...	...	...	...	...	...
Reward Claims
Prospecting Areas	26	32	...	...	...	...	...	...	22	33	5	17	13	39	13	24	25	22	25	64	26	27	30	50	11	12	46	58	13	32	31	45	19	34
Residence Areas	9	...	...	...	8	6	...	...	16	17	10	8	16	35	26	7	22	45	46	4	1	82	70	10	4	119	42	...	...	...	...	...	...
Business Areas	20	16	...	...	7	4	...	...	7	22	...	...	14	13	7	8	3	5	10	40	6	3	17	15	16	10	7	47	47	52	61	4	5	
Machinery Areas	1	...	...	...	2	2	...	...	3	3	...	1	1	1	3	2	3	3	5	4	3	3	4	4	1	1	...	...	...	...	...	...	...
Tailings Areas	12	8	...	...	1	1	...	...	4	3	3	1	1	1	3	2	2	4	2	2	1	3	4	7	2	2	...	...	2	2	2	2	5	6
Garden Areas	7	4	...	...	3	4	...	...	2	1	8	7	5	7	4	10	8	2	9	9	...	...	41	36	2	3	3	4	...	...	...	...	...	...
Tunnelling Areas
Poultry Farms
Lode Claims	1	...	...	...	...	...	...	...	...	...	...	...	...	...	4	8	...	...	...	...	...	...	13	12	...	...	...	...	...	...	...	...	...

A noticeable increase appears in the number of Prospecting Areas held, there being 340 more than in 1905. These areas are not surveyed, but there

are estimated to be from 11,000 to 12,000 acres held under this form of tenure.

Claims, etc.	East Murchison.				*West Pilbara.		North-East Coolgardie.				Broad Arrow.		Peak Hill.		Mount Margaret.						Gascoyne.		Green-bushes.		Phillips River.		Outside Goldfields.		TOTAL.		Increase or Decrease for 1906 compared with 1905.				
	East Murchison.		Black Range.				Kanowna.		Bulong.		Kurnalpi.						Mount Margaret.		Mount Malcolm.		Mount Morgans.														
	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	Increase.	Decrease.			
Water Rights	36	37	2	4	...	3	9	6	11	9	...	...	17	14	14	12	28	25	30	56	28	24	...	...	39	39	12	11	...	...	468	428	20	...
Area of Water Rights	72	78	2	4	...	18	48	31	46	39	...	...	58	46	142	125	79	64	234	251	94	87	...	...	30	160	67	58	...	...	2,477	2,442	...	35
Quartz Claims	...	2	...	...	...	1	84	109	48	40	11	11	12	7	...	...	5	6	5	5	2	1	...	...	...	...	...	...	...	...	...	...	...	...
Alluvial Claims	...	...	1	...	...	5	214	195	42	35	3	3	...	...	...	...	8	8	...	...	...	...	...	...	52	76	...	...	...	...	313	361	48	...
Reward Claims	1	1
Prospecting Areas	24	26	10	50	...	13	13	25	14	12	1	3	16	49	...	2	51	70	47	53	27	38	...	...	...	...	...	...	...	...	...	...	...	...
Residence Areas	21	20	6	4	...	1	11	10	60	55	4	2	...	20	12	26	45	2	2	2	5	6	...	...	30	34	...	2	...	...	...	...	...
Business Areas	20	21	6	11	...	13	7	7	5	5	2	2	16	12	7	1	29	38	11	12	31	26	...	...	3	6	2	1	...	...	354	404	50	...
Machinery Areas	...	...	...	...	...	...	10	9	6	6	2	2	5	6	1	1	2	2	3	3	1	1	...	...	6	9	1	1	...	...	78	80	...	...
Tailings Areas	...	...	...	...	...	...	2	2	2	2	...	...	5	5	...	...	2	2	3	3	1	1	...	...	6	9	1	1	...	...	59	66	...	...
Garden Areas	...	...	...	...	...	1	2	2	...	...	...	...	6	4	2	...	8	13	13	14	2	2	...	...	3	3	15	15	...	...	184	173	...	11
Tunnelling Areas
Poultry Farms	...	...	...	...	...	...	...	...	...	...	...	...	12	7	...	...	6	3	3	...	...	...	...	...	...	...	...	...	...	...	7	7	...	...
Lode Claims	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	50	53	...	...

* No returns received.

TABLE 15.
Miners' Rights issued during 1905 and 1906.

PLACE OF ISSUE.	MINING ACTS.				PLACE OF ISSUE.	MINING ACTS.			
	Miners' Rights.		Consolidated Miners' Rights.			Miners' Rights.		Consolidated Miners' Rights.	
	1905.	1906.	1905.	1906.		1905.	1906.	1905.	1906.
Albany	7	7	...	...	Menzies	295	312	...	...
Ashburton ... ..	...	7	...	...	Mt. Magnet	133	138	...	...
Black Range	243	509	...	...	Mt. Malcolm	385	307	1	1
Broad Arrow	235	234	...	...	Mt. Margaret	338	374	...	...
Broome	6	15	...	...	Mt. Morgans	245	160	...	...
Bulong	145	99	1	...	Nannine	290	310	...	...
Bunbury	3	9	...	...	Newcastle	1	1	...	...
Busselton	3	5	...	...	Norseman	289	248	...	...
Carnarvon	16	18	...	...	Northam ... ..	...	4	...	...
Collie	3	2	...	...	Northampton	4	17	...	...
Coolgardie	549	577	...	...	Nullagine*	132	86	...	...
Cue	369	414	...	...	Peak Hill	76	71	...	...
Derby	8	59	...	...	Perth	163	225	...	...
Esperance ... ..	...	27	...	...	Phillips River	85	297	...	...
Geraldton	7	11	...	...	Pinjarra ... ..	...	...	...	...
Greenbushes	341	536	...	3	Southern Cross	140	203	...	...
Kalgoorlie	1,483	937	...	...	Ularring	94	156	...	...
Kanowna	450	396	...	...	West Pilbara	68	62	...	...
Katanning	4	17	...	...	Williams	3	3	...	...
Kimberley	22	43	...	...	Yalgoo	93	87	...	...
Kookynie	403	355	...	...	York ... ..	...	1	...	...
Kurnalpi	53	31	...	...	Total	7,853	7,973	3	5
Lawlers	319	197	...	...			
Marble Bar	350	406	1	1					

* See Marble Bar.

NOTE.—Since 1st March, 1904, Business Licenses, Mining Licenses, Consolidated Mining Licenses, and Quarry Licenses have ceased to be issued by the Department.

TABLE 16.
Number and Acreage of Miners' Homestead Leases in force on 31st December, 1905 and 1906.

Goldfield.	District.	1905.		1906.		Increase.		Decrease.	
		Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.
Greenbushes ... ..	...	...	...	2	30	2	30	...	...
Pilbara	Pilbara	2	25	2	25	...	...	...	...
	Nullagine	1	20	1	20	...	...	...	...
Dundas ... ..	...	21	1,043	19	823	...	...	2	220
Broad Arrow ... ..	...	5	120	4	100	...	...	1	20
Yilgarn ... ..	...	9	153	7	115	...	...	2	38
Mt. Margaret	Mt. Morgans	5	100	4	80	...	...	1	20
	Mt. Malcolm	12	2,320	12	2,319	...	...	...	1
	Mt. Margaret	9	495	9	500	...	5	...	...
Murchison	Cue	9	1,403	9	1,418	...	15	...	...
	Day Dawn	10	105	11	110	1	5	...	...
	Nannine	16	1,984	16	1,984	...	...	...	...
Yalgoo ... ..	...	...	1	200	1	200	...	...
Coolgardie ... ..	...	43	5,215	41	4,236	...	...	2	979
East Coolgardie	Kunanalling	1	20	1	20	...	...	...	...
	...	53	2,377	55	2,675	2	298	...	...
Phillips River ... ..	...	41	3,653	58	4,348	17	695	...	...
Peak Hill ... ..	...	12	1,863	12	2,320	...	457	...	...
North-East Coolgardie	Kanowna	21	667	19	355	...	...	2	312
North Coolgardie	Menzies	6	630	8	639	2	9	...	...
	Yerilla	1	10	1	10	...	...	...	...
	Niagara	7	410	5	385	...	...	2	25
East Murchison ... ..	...	2	520	4	610	2	90	...	...
	Black Range	4	1,070	6	1,190	2	120	...	...
		290	24,203	307	24,512	29	1,924	12	1,615

Increase for 1906: 17 leases; 309 acres.

PART IV.—MEN EMPLOYED.

TABLE 17.

Average Number of Men engaged in Mining during 1905 and 1906.

Goldfield.	District.	Reef or Lode.		Alluvial.		Total.	
		1905.	1906.	1905.	1906.	1905.	1906.
1. Kimberley ...		3	1	10	15	13	16
2. Pilbara ...	Marble Bar ...	89	71	44	32	133	103
	Nullagine ...	103	54	27	15	130	69
3. West Pilbara ...		12	8	38	52	50	60
4. Ashburton ...				6	8	6	8
5. Gascoyne ...							
6. Peak Hill ...		177	53	4	11	181	64
7. East Murchison ...	Lawlers ...	850	818	56	51	906	869
	Black Range ...	308	524	125	146	433	670
	Cue ...	309	380	17	14	326	394
8. Murchison ...	Nannine ...	189	283	154	113	343	396
	Day Dawn ...	774	750	16	17	760	767
	Mt. Magnet ...	183	170	13	9	196	179
9. Yalgoo ...		115	102	16	17	131	119
	Mt. Morgans ...	355	388	35	43	390	431
10. Mt. Margaret ...	Mt. Malcolm ...	1,029	1,048	33	38	1,062	1,086
	Mt. Margaret ...	821	760	41	40	862	800
	Menzies ...	602	543	18	9	620	552
11. North Coolgardie ...	Ularring ...	427	410	54	48	481	458
	Niagara ...	554	538	29	25	583	563
	Yerilla ...	370	334	66	36	436	370
12. Broad Arrow ...		260	243	102	105	362	348
13. North-East Coolgardie ...	Kanowna ...	645	629	97	99	742	728
	Bulong ...	143	138	213	123	356	261
	Kurnalpi ...	26	33	19	15	45	48
14. East Coolgardie ...		6,256	5,965	103	31	6,359	5,996
15. Coolgardie ...	Coolgardie ...	1,057	1,089	150	110	1,207	1,199
	Kunanalling ...	248	243	31	58	279	301
16. Yilgarn ...		317	443	2	5	319	448
17. Dundas ...		435	327	25	31	460	358
18. Phillips River ...		62	106	6	2	68	108
19. Donnybrook ...							
State generally		143	157			143	157
Total—Gold Mining ...		16,832	16,608	1,550	1,318	18,382	17,926
MINERALS OTHER THAN GOLD.							
Tin ...	Greenbushes M.F. ...			*208	*393	208	393
	Marble Bar D. ...			*271	*497	271	497
Copper ...	Mt. Morgans D. ...	1	34			1	34
	Phillips River G.F. ...	124	259			124	259
	Menzies D. ...		1				1
Coal ...	Nannine D. ...		1				1
	Yalgoo G.F. ...		1				1
Tantalite ...	Collie River M.F. ...	351	307			351	307
	Marble Bar D. ...	3	10			3	10
	Greenbushes M.F. ...	2				2	
Total—Other Minerals ...		481	613	479	890	960	1,503
GRAND TOTAL ...		17,313	17,221	2,029	2,208	19,342	19,429

* Classified elsewhere as employed at mines.

Comparing the years 1905 and 1906 it appears from the figures given in Table 17 that there has been a slight increase amounting to 87 in the number of men engaged in mining.

A decrease of 456 in the number of men engaged in gold mining appears, the decrease in the number

of men working reefs and lodes being 224, and in working alluvial 232.

The decrease is more than counterbalanced by the increase in the number of men mining for minerals other than gold, this being 543.

Tin mining accounts for an increase of 411, and copper mining for 171.

TABLE 18.

Average Number of Men employed at Mines during 1906.

Mineral.	Above Ground.	Under Ground.	Total.	Percentage of total men employed.	Increase or decrease compared with 1905.
Tin ...	* 764	126	890	4.91	+ 411
Coal ...	71	236	307	1.70	- 44
Copper ...	118	178	296	1.63	+ 171
Gold ...	7,444	9,164	16,608	91.70	- 224
Tantalite ...	10		10	.06	+ 5
Total ...	8,407	9,704	18,111	100.00	+ 319

* As the tin obtained is principally "stream tin," the average number of alluvial workers has been, in this case, included in the heading "Above ground."

The above table deals with the men working their own mines or employed on wages, and is compiled from the returns regularly furnished to the Department by mine owners. The percentage of men em-

ployed on gold mines is less than for several years past.

Attention may be drawn to the increase in the number of men employed in mining for tin and copper.

TABLE 19.

Average Number of Men employed at Gold Mines during 1906, 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 1905.	Percentage of total men employed.	
					1905.	1906.
1. Kimberley ... ..	...	1	1	— 2	'02	'01
2. Pilbara	58	67	125	— 67	1'14	'75
3. West Pilbara	4	4	8	— 4	'07	'04
4. Ashburton ... ..	...	...	...	...	...	...
5. Gascoyne ... ..	...	...	...	...	...	...
6. Peak Hill	31	22	53	— 124	1'05	'32
7. East Murchison	701	641	1,342	+ 184	6'88	8'08
8. Murchison	736	847	1,583	+ 153	8'47	9'53
9. Yalgoo	46	56	102	— 13	'68	'61
10. Mt. Margaret	1,055	1,141	2,196	— 9	13'10	13'22
11. North Coolgardie	744	1,081	1,825	— 128	11'60	10'99
12. Broad Arrow	91	152	243	— 17	1'55	1'46
13. North-East Coolgardie	307	493	800	— 14	4'84	4'82
14. East Coolgardie	2,619	3,346	5,965	— 291	37'17	35'92
15. Coolgardie	503	829	1,332	+ 27	7'75	8'02
16. Yilgarn	214	229	443	+ 126	1'88	2'67
17. Dundas	134	193	327	— 108	2'58	1'97
18. Phillips River	44	62	106	+ 44	'37	'64
19. Donnybrook ... ..	...	...	...	...	...	...
State generally	157	...	157	+ 14	'85	'95
Total	7,444	9,164	16,608	— 224	100'00	100'00

The above table shows that the number of men employed on gold mines decreased to the extent of 224, but a substantial increase appears in the number of men mining for tin and copper. The decrease shown in the Peak Hill field is accounted for by the temporary slackening of work on one mine, while

the increase on the East Murchison is due to the prospecting of the Black Range district. The Murchison goldfield owes its increase to the larger number of men employed in the Nannine district, principally at Meekatharra. It is pleasing to note the increased number of men on the Coolgardie and Yilgarn fields.

TABLE 20.

Alluvial Gold Workers.

Goldfield.	1905.	1906.	Increase or decrease compared with 1905.
1. Kimberley	10	15	+ 5
2. Pilbara	71	47	— 24
3. West Pilbara	38	52	+ 14
4. Ashburton	6	8	+ 2
5. Gascoyne ... ..	...	...	...
6. Peak Hill	4	11	+ 7
7. East Murchison	181	197	+ 16
8. Murchison	200	153	— 47
9. Yalgoo	16	17	+ 1
10. Mt. Margaret	109	121	+ 12
11. North Coolgardie	167	118	— 49
12. Broad Arrow	102	105	+ 3
13. North-East Coolgardie	329	237	— 92
14. East Coolgardie	103	31	— 72
15. Coolgardie	181	168	— 13
16. Yilgarn	2	5	+ 3
17. Dundas	25	31	+ 6
18. Phillips River	6	2	— 4
19. Donnybrook ... ..	...	...	...
Total	1,550	1,318	— 232

The number of alluvial gold miners has fallen steadily since 1903, when 3,387 were estimated to be working. The North-East Coolgardie goldfield, as during last year, still supports the greatest num-

ber of alluvial miners, the East Murchison following it with 197 men, who were principally engaged in the Black Range district.

TABLE 21.

Table containing Extracts from Awards delivered by the Court of Arbitration and the Industrial Agreements made between Parties in Gold Mining Industrial Disputes, showing the daily Wage, etc., provided for in each Award or Agreement in force on 31st December, 1906.

Locality in which Award or Agreement has effect.	Date of Award or Agreement.	Term.	Rock-drill men and Chuck men in shafts.		Rock-drill men and Chuck men else-where.	Miners (Hammer and Drill men).	Miners (wet ground) extra allowance.		Braemen and Platmen.	Skipmen.	Mullockers and Shovelers.	Truckers filling and trucking.	Truckers from Shoots.	Men working in Cyanide Vats and Filter-presses.	Timbermen.	Surface Labourers.	Boiler Cleaners.	Horse-driver (including looking after horses).	Drill and Tool Sharpeners.	Mechanics' Labourers.	Oilers and Greasers.	Biggers.	Firemen.	Pipe Fitters (under ground).	Fitmen.	Fitters, Turners, and Blacksmiths.	Pattermakers.	Engine-drivers.				Hours of work per week.			
			Per week.	Per shift.			Main Shaft.	Overtime.																				Men on Surface.	Underground men.						
								All other classes of Engines.																						Ordinary Day.	Sunday.				
			Up to 4 hours.	After 4 hours.	Sunday.																														
Black Range ...	[Miners' Award expired 1/8/06] Engineers' Award dated 13/7/05	From 1st Aug., 1905, to 1st Feb., 1907	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.	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.	s. d.	s. d.	48	47	
* Cue-Naamine ...	17th October, 1904	From 29th July, 1904 to 30th Jan., 1906 †	14 6	14 0	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	...	...	...	...	...	...	...	...	...	...	...	...	...	...	48	47
Dundas ...	[Miners' Award expired 16/6/06] Engineers' Award dated 13/7/05	From 1st Aug., 1905, to 1st Feb., 1907	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	48	47
Higginsville ...	5th October, 1906	1st November, 1906, to 1st May, 1908	15 0	14 6	14 0	13 4 12 10 13 4 12 4	...	1 8	12 4	...	11 4	11 4	11 4	12 4	14 0	11 10	12 6	11 10	13 4	11 10	...	...	...	...	...	...	...	...	...	...	...	...	...	48	47
* Kalgoorlie ...	9th December, 1905	1st September, 1905, to 1st January, 1907	14 4	13 10	13 4	11 8	...	...	11 8	...	10 6	10 6	10 0	11 8	13 4	10 0	...	...	...	10 0 10 6 11 0	10 6	...	11 8	...	...	...	...	...	...	...	...	...	...	48	47
Lawlers and Mt. Sir Samuel ...	10th July, 1905	From 1st August, 1905, to 1st Feb., 1907	13 4	12 10	12 4	12 8 13 4 13 0 14 2	...	1 3	12 0	12 0	11 4	11 4	11 4	11 8	13 0	10 10	12 0	11 10	13 4	11 0	11 0	11 0	11 0	12 6	13 6	14 6	...	...	...	...	...	...	...	48	47
* Nullagine (Mosquito Creek) ...	16th January, 1905	1st February, 1905, to 1st February, 1907	...	...	...	...	...	1 8	14 2 13 4	...	...	...	13 4	13 4	14 2	13 4	...	...	16 8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	44	44
Peak Hill ...	6th December, 1906	1st October, 1906, to 1st October, 1909	15 0	14 6	13 10	13 0	...	1 3	12 6	...	11 10	11 10	11 10	12 6	13 10	11 4	13 0	12 4	14 3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	48	47
Southern Cross ...	13th July, 1905	From 1st Aug., 1905, to 1st Feb., 1907	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	48	...
Wiluna ...	6th December, 1906	From 1st Jan., 1907, to 1st Jan., 1910	15 6	15 0	14 4	13 6	...	1 3	13 0	13 0	12 4	12 4	12 4	13 0	14 4	11 10	13 6	12 10	14 9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	48	47

* Industrial Agreement. † Although term has expired the agreement remains in force until retired from. ‡ Hours of engine-drivers and battery feeders agreed at 47 per week. § Terms of Award as stated in Southern Cross Award.

PART V.—ACCIDENTS.

TABLE 22.

Men Killed and Injured in Mining Accidents during 1905 and 1906.

Goldfield.	Killed.		Injured.		Total Killed and Injured.	
	1905.	1906.	1905.	1906.	1905.	1906.
1. Kimberley ... ..	...	...	...	...	...	...
2. Pilbara	1	1	1	1	2	2
3. West Pilbara ... ..	...	...	...	...	...	...
4. Ashburton ... ..	...	...	...	...	...	...
5. Gascoyne ... ..	...	...	...	...	...	...
6. Peak Hill ... ..	...	...	6	...	6	...
7. East Murchison	3	4	15	14	18	18
8. Murchison	3	6	23	24	26	30
9. Yalgoo ... ..	...	...	2	...	2	...
10. Mount Margaret	3	7	36	33	39	40
11. North Coolgardie	1	1	21	11	22	12
12. North-East Coolgardie	1	2	7	9	8	11
13. Broad Arrow	1	...	2	3	3	3
14. East Coolgardie	14	14	139	335	153	349
15. Coolgardie	3	4	8	9	11	13
16. Yilgarn	3	1	...	1	3	2
17. Dundas	1	...	6	4	7	4
18. Phillips River ... ..	...	...	1	...	1	...
19. Donnybrook ... ..	...	...	...	...	...	...
MINING DISTRICTS.						
Northampton ... ..	...	...	...	...	...	...
Yandanooka ... ..	...	...	...	...	...	...
Greenbushes ... ..	...	...	1	3	1	3
Collie ... ..	...	...	2	32	2	32
Total	34	40	270	479	304	519

During 1906 40 fatal accidents occurred, as against 34 in 1905, but this number is less than the average number of fatal accidents for the years 1900 to 1905, inclusive.

The number of men injured shows the remarkable increase of 209 over the total for 1905. The figures for the majority of mining districts show no unusual increase, but in the East Coolgardie goldfield the number of men reported as injured is 335, as against 139 in 1905. Doubtless managers are more

careful every year to report accidents, and a perusal of the list of serious accidents goes to show that there are many accidents classed as serious that but for the fact of their keeping the injured person off work for 14 days would be considered comparatively trifling in other occupations.

Full information as to the accidents for the year and their causes will be found in the report of the State Mining Engineer.

TABLE 23.

Death from Accidents at Mines during 1905 and 1906.

NOTE.—Figures for 1905 were incorrectly published in 1905 Report.

Kind of Mines.	1905.						1906.					
	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 mines ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Men employed ... ..	...	...	...	(90)	(261)	(351)	...	...	...	(71)	(236)	(307)
Gold mines	3	31	34	·39	3·42	2·02	8	31	39	1·07	3·38	2·35
Men employed ... ..	...	...	...	(7,758)	(9,074)	(16,832)	...	...	...	(7,444)	(9,164)	(16,608)
Other mines ... ..	...	...	...	...	...	...	...	1	1	...	3·29	·84
Men employed ... ..	...	...	...	(488)	(121)	(609)	...	...	...	(892)	(304)	(1,196)
Total for all mines	3	31	34	·36	3·28	1·91	8	32	40	0·95	3·30	2·21
Total number of men employed	...	...	...	8,336	9,456	17,792	...	...	...	8,407	9,704	18,111

In coal mines no fatal accidents occurred during the year, all the fatal accidents with one exception having taken place in gold mines.

While the death rate per thousand in gold mines is 2.35, as against 2.02 in 1905, it is slightly less than the average for the years 1900 to 1905, inclusive.

TABLE 24.

Deaths from Accidents in Gold Mines during 1906, and the Death Rate per 1,000 Men employed, and per 1,000 tons of Gold Ore raised during 1905 and 1906.

GOLDFIELD.	Number of Deaths.			Death rate per 1,000 Men employed.				Number of Deaths per 1,000 tons of Gold Ore Raised.	
	1906.			1906.			1905.		
	Above Ground.	Under Ground.	Total.	Above Ground.	Under Ground.	Total.	Total.	1906.	1905.
1. Kimberley
2. Pilbara	5.21	...	.18
3. W. Pilbara
4. Ashburton
5. Gascoyne
6. Peak Hill
7. E. Murchison	4	4	...	6.24	2.98	2.59	.02	.02
8. Murchison	2	4	6	2.71	4.72	3.78	2.10	.02	.01
9. Yalgoo
10. Mt. Margaret	2	5	7	1.89	4.38	3.19	1.36	.02	.01
11. N. Coolgardie	1	1	...	.92	.54	.51	.005	.004
12. N.E. Coolgardie	2	2	...	4.05	2.50	1.22	.03	.01
13. Broad Arrow	3.84	...	.04
14. E. Coolgardie	4	10	14	1.53	2.98	2.34	2.23	.01	.01
15. Coolgardie	4	4	...	4.82	3.00	2.29	.03	.02
16. Yilgarn	1	1	...	4.37	2.25	9.46	.02	.06
17. Dundas	2.30	...	.03
18. Phillips River
19. Donnybrook
Totals and Averages ...	8	31	39	1.07	3.38	2.35	2.02	.01	.01

While the death rate for 1906 per thousand men employed shows an increase over that for 1905, the number of deaths per thousand tons of gold ore raised remains the same.

	1905.		1906.		Comparison with 1905.	
	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.
1. Explosives	9	13	6	13	- 3	=
2. Falls of Ground	12	61	17	81	+ 5	+ 20
3. In Shafts	5	15	3	33	- 2	+ 18
4. Miscellaneous Underground... ..	5	91	11	227	+ 6	+ 136
5. Surface	3	90	3	125	=	+ 35
Total	34	270	40	479		

PART VI.—STATE AID TO MINING.

STATE BATTERIES.

The number of State batteries has not increased during the year, there being, as in 1905, 29 State plants on the fields. A 10-head battery was purchased at Kalpini, that at Southern Cross was dismantled and disposed of—privately-owned plants being available for treating ore.

The number of cyanide plants working is the same as during 1905, viz.: 24, although additions and improvements to several of these plants were made.

No additional slimes plants were erected, that at Mulline being the only one working.

A tin-dressing plant was completed and started crushing during the year at the North end of the Greenbushes tinfield, the old plant at the South end of the field having been fully employed.

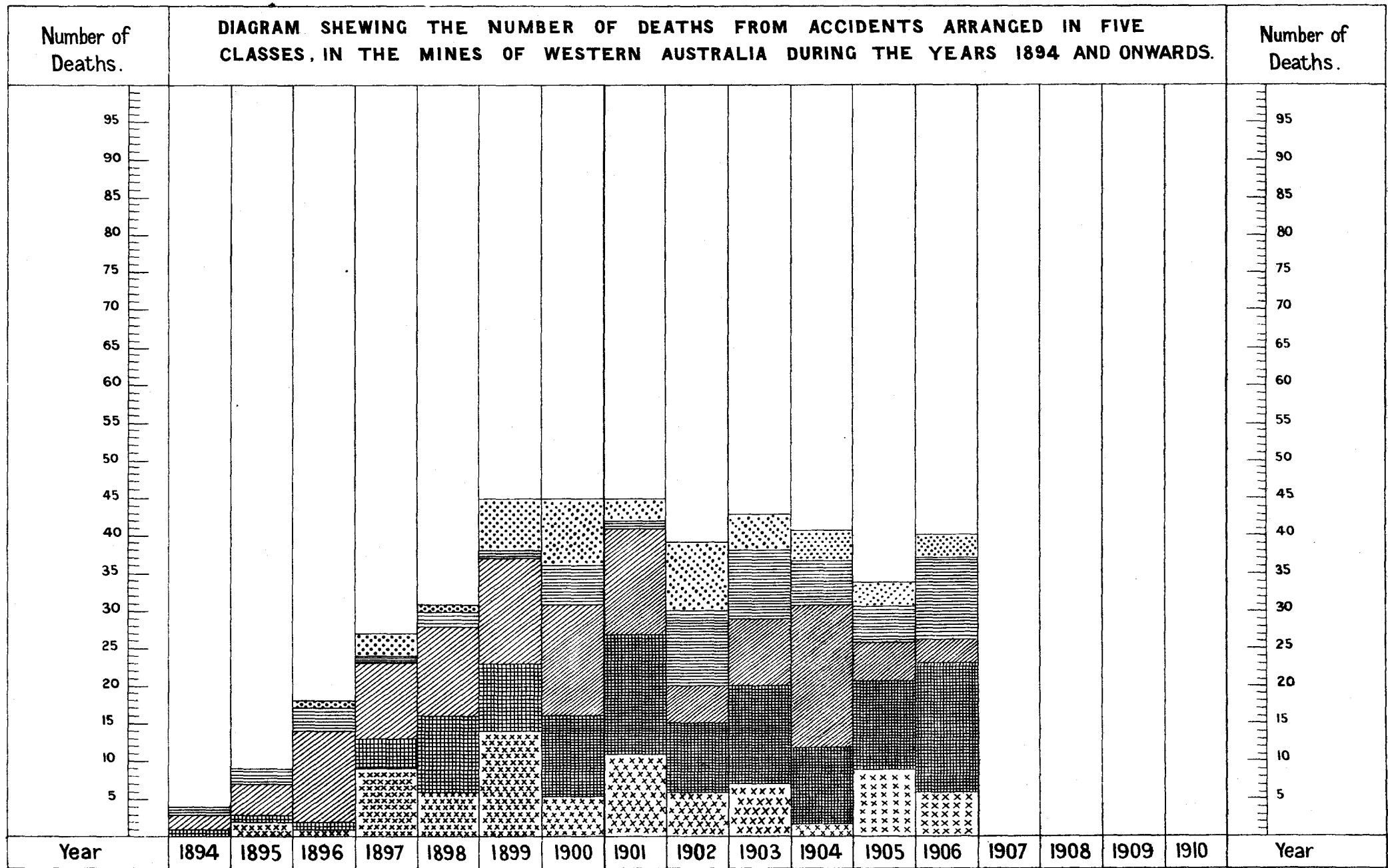
To the end of 1906, since the first State battery was started, gold and tin to the value of £1,708,430 have been cleaned up at State-owned plants; 410,000

tons of gold ore producing gold to the value of £1,683,593 having been treated, and 20,670 tons of tin ore producing tin to the value of £24,837.

In 1902 39,517 tons of gold ore were treated at State batteries; the tonnage increased annually until in 1905 85,018 tons were treated, while 95,831 tons were treated during 1906.

The revenue from all State plants, including tin-dressing plants, was £89,639 during 1906, and the working expenditure was £85,756; to the latter must be added £1,455 spent in additions and improvements, leaving a net working profit of £2,880.

The plants used for the treatment of gold ore only, showed a loss on crushing of £4,076, and a profit on cyaniding and slimes treatment of £7,803; miscellaneous receipts, such as from the sale of water, etc., amounted to £453, and expenditure from revenue in improvements and additions to £1,455, leaving a net working profit of £2,725.



EXPLOSIVES.

FALLS OF GROUND.

IN SHAFTS.

MISCELLANEOUS UNDERGROUND.

ON SURFACE.

To the end of 1906 the capital expenditure on State batteries and tin-dressing plants was £225,679, and the working expenses exceeded the receipts by £8,210.

The report of the Superintendent of State batteries will be found in this volume, and in it there is full information as to the year's operations.

WATER SUPPLY.

Although for many years past the main mining centres on the goldfields have been fairly supplied with water, the prospector is pushing further afield and water supplies must be provided for new centres and the supplies to older districts increased to provide water for batteries and other mining machinery. New roads and stock routes must be selected, kept open, and existing wells and other watering-places maintained.

Work of this nature has fully occupied the Mines Water Supply officers during the year, and detailed statements of the work done will be found attached to the report of the Engineer for Mines Water Supply, and a short summary is as follows:—

Number of bores put down, 192; with an aggregate depth of 10,481 feet.

Wells sunk, 30; with an aggregate depth of 2,009 feet.

One hundred and nineteen wells have been improved in various ways by deepening, driving, re-lining, and providing better surface equipment.

Five tanks with an aggregate capacity of 16½ million gallons, have been excavated, while three more, of a total capacity of 4¼ millions, are in progress.

Several important pumping installations for supplying water for mining purposes have been completed, the two longest pipe lines being those supplying Meekatharra and Mertondale.

GEOLOGICAL SURVEY.

The year has been a busy one for the Government Geologist and staff, and the results of their investigations are contained in the Government Geologist's report printed in this volume.

Geological examinations have been made of the cupriferous country reported during the year in West Kimberley, and of the country between Onslow and Carnarvon with a view to defining the artesian area. Surveys were also made in the Cue and Day Dawn districts, the East Murchison and Mount Margaret goldfields. Reports were furnished on the phosphate deposits in the Dandarraga district, the reported discoveries of gold in the Wagin district, the reported occurrence of oil in the Albany Harbour, besides numerous reports on the alienation of mineral lands and applications under the Mining Development Act.

In the Geological laboratory a large number of assays were made, the number of free assays being unusually large. An exhibit illustrative of the mineral resources of the State was prepared for the Exhibition of the Perth Chamber of Manufactures which was held during December and January.

Five Geological Bulletins were issued during the year.

ASSISTANCE UNDER THE MINING DEVELOPMENT ACT.

The following statement shows the sums advanced during 1906 under the provisions of the Mining Development Act:—

	£	s.	d.
Advances in aid of Mining Work ...	3,498	4	6
" " Boring ...	324	18	9
" " Crushing Plants	3,148	3	0
Subsidies to Private Crushing Plants	3,977	18	8
Purchasing of Boring Plants ...	334	14	5
Providing means of Transport ...	976	9	8
	£12,260	9	0

In addition to the above, amounts totalling £4,733 16s. 9d. were expended from the Mining Development vote on various matters for the assistance of mining, such as water supply, roads, subsidy for carting stone long distances, and subsidy for development work done below the 100 feet level in small mines.

Subsidies to the extent of £3,977 18s. 8d. were given to private crushing plants, the conditions being that they crushed for the public at fixed rates, in most cases conditions being imposed as to treating or purchasing tailings. The number of tons of stone crushed at those plants during the year was 58,226 tons.

The receipts under the Mines Development Act, exclusive of interest payments, amounted to £804, made up as follows:—

Refunds of advances	£800	0	0
Sales of Plant... ..	4	0	0

The amount of £800 was refunded by Messrs. Crawford and Pimley, of the Carbine mine, in the Coolgardie goldfield, who in the course of development work were fortunate enough to strike some rich stone.

Further particulars are given in the report of the State Mining Engineer.

STATE SMELTING WORKS.

Phillips River Goldfield.

Owing to delays in the delivery of material, the new smelting plant mentioned in my last report as being under construction was not ready for work as anticipated in May, 1906. Before its completion, the principal producing mines in the district were purchased by a London syndicate which made overtures for the purchase of the smelter. As the remaining mines showed no promise of being able to keep the plant going for more than a small part of the year, and especially as the syndicate controlled the principal mines producing sulphide ore, negotiations were entered into and resulted in the purchase of the smelting works, ore and stores in hand by the syndicate. The agreement for sale provided that any copper ores offered for sale for a period of two years should be purchased on the same terms as when the smelter was in the hands of the Government.

Further particulars will be found in the State Mining Engineer's report.

PART VII.—REMARKS ON THE GOLDFIELDS AND MINERAL DISTRICTS, AND SUM-
MARIES OF WARDENS AND OTHER OFFICERS' REPORTS.

ASHBURTON GOLDFIELD

The output for this field was 278 fine ounces, as against 208 fine ounces for the year 1905, an increase of 70 fine ounces.

The find of amethysts referred to in the last Annual Report did not result in anything, the specimens forwarded to the Agent General in London being reported on as having no commercial value.

Gold mining in this field has made no progress during the year.

BROAD ARROW.

The output of gold for the year was 21,511 fine ounces, as against 18,584 fine ounces for 1905, an increase of 2,927 fine ounces.

A good deal of prospecting has been done during the year, evidenced by the fact that a considerable number of prospecting areas were applied for.

With the exception of the new Slug Hill Company at Vettensburg, none of the companies holding leases in the field have done much by way of development, most of the properties being manned by tributors.

The area of this field was increased during the year by the addition of the Northern portion of the Kunanalling district, which was excised from the Coolgardie field on account of the Broad Arrow office being more adjacent, and consequently more convenient for those desirous of transacting business with the Warden.

It is hoped that the gold output will show greater increase in the coming year.

COLLIE MINING DISTRICT.

The output of coal for the year was 149,755 tons, as against 127,364 tons for the preceding year, an increase of 22,391 tons.

This is the largest output for any year since the field was opened.

Three serious accidents occurred during the year, none of which had fatal results.

A slight increase in the consumption of coal is anticipated as a result of the construction of the Collie-Narrogin Railway line.

COOLGARDIE GOLDFIELD.

The output of gold for this field was 64,030 fine ounces, as against 63,664 fine ounces for the preceding year, an increase of 366 fine ounces.

This is the result of the large number of prospecting areas taken up.

An increase in the number of Gold Mining Leases applied for was also noticeable.

Three copper leases were taken up, and good results are hoped for when working operations are in full swing.

Work has progressed steadily at Higginsville, the discovery of which was chronicled in last year's report. Its future prospects are hopeful.

Mining generally in this field may be regarded as healthy, and the outlook encouraging.

DONNYBROOK GOLDFIELD.

Mining has been at a complete standstill during the year, and there is nothing to indicate any revival of operations in the immediate future.

DUNDAS GOLDFIELD.

The output of gold for this field was 20,435 fine ounces, as against 25,961 fine ounces for the year 1905, a decrease of 5,526 fine ounces.

Despite this the prospects of the field are bright, important developments having taken place during the year, which, it is hoped, will be of material advantage to the district.

The early construction of the Coolgardie-Norseman Railway is also looked forward to, as being the means of giving a considerable impetus to the mining industry, and removing many of the difficulties now obtaining as a result of the isolation of the field.

The tonnage at the State battery exceeded that of the previous year by 712 tons.

Only two serious accidents occurred.

EAST COOLGARDIE GOLDFIELD.

The gold output for the year was 989,357 fine ounces, as against 997,193 fine ounces for the preceding year, a decrease of 7,836 fine ounces.

No new finds occurred, but the developments in the large mines were all of a most satisfactory nature.

Mining in this field may be described as of a steady settled nature, and its future outlook is bright.

The area of the field was increased during the year by the inclusion of the Mt. Monger district on its excision from the North-East Coolgardie goldfield.

EAST MURCHISON GOLDFIELD.

The output from this field was 95,771 fine ounces, as against 84,926 fine ounces for the preceding year, an increase of 10,845 fine ounces.

In the Lawlers district of the field there has been no progress but rather a falling off; but the Black Range district shows a marked improvement all round and its prospects are most encouraging.

GASCOYNE GOLDFIELD.

As in the preceding year, no gold has been reported from this field, and the only mining known of are the operations of about half-a-dozen dry-blowers at Bangemall.

This place is 260 miles from Carnarvon, the head quarters of the Warden, and, as a consequence, little or no information is obtainable. Practically the field is abandoned.

GREENBUSHES MINING DISTRICT.

The output of black tin for the year was 783 tons, valued at £79,195, as against 644 tons, valued at £52,960, for the preceding year; an increase of 139 tons, valued at £26,235.

The average number of men engaged in mining has increased from 208 men in 1905, to 393 in 1906, and at the close of the year it is estimated there were 515 employed.

A large increase in the number of claims and leases held has also taken place. During the year several dredging claims were applied for, and a complete dredging plant is about to be erected. This should result in a material increase in the output.

Evidences of progress are noticeable everywhere and the outlook for the field is most promising.

KIMBERLEY GOLDFIELD.

The output from this field was 166 fine ounces, as against 496 fine ounces for the preceding year, a decrease of 330 fine ounces.

There is no activity in mining, and nothing to indicate any immediate improvement.

MOUNT MARGARET GOLDFIELD.

The output for the year was 166,259 fine ounces, as against 188,712 fine ounces for the preceding year, a decrease of 22,453 fine ounces.

This field ranks third in gold production, and although the output for the year under review shows a decrease, it may be considered satisfactory, as the reduction is almost entirely due to the falling off in some of the larger mines; for instance, the Lancefield mine, upon which a new treatment plant was being erected, was for practically the whole year, a non-producer.

Copper deposits are being worked at Murrin Murrin and Anaconda with satisfactory results.

The future of this field may be regarded as a promising one.

MURCHISON GOLDFIELD.

The output for the year was 182,396 fine ounces, as against 206,735 fine ounces for the preceding year, a decrease of 24,339 fine ounces. This is accounted for by the falling off in the output of the Great Fingal mine at Day Dawn, and, had this mine maintained its output, there would have been an increase in the total.

The centres of Barambie, Errolls, Stake-Well, and Mindoola, have opened up during the year. This, combined with the prosperity obtaining at Meekatharra, augurs well for the future of this field.

NORTHAMPTON AND YANDANOOKA MINING DISTRICTS.

During the year a considerable improvement in the prospects of the Northampton field was experienced. Several leases were taken up, and genuine work was being prosecuted. The revival is the outcome of the improvement in the price of metals.

Lead is the principal metal mined at Northampton.

At Yandanooka an increased activity was also noticeable. Copper is the principal metal mined at this centre.

The outlook for both fields is brighter.

NORTH COOLGARDIE GOLDFIELD.

The output for the year was 110,957 fine ounces, as against 148,771 fine ounces for the preceding year, a decrease of 37,814 fine ounces.

In the Menzies district there have been satisfactory developments in a few mines, and the area held for mining shows a slight increase.

At Goongarrie a copper mine is being opened up, and the holders are very hopeful.

The Menzies Consolidated Gold Mine commenced a new main shaft, and contemplate thoroughly equipping the mine, and opening it up to the best advantage. The prospects are very encouraging.

A new mining centre at Hillview, eight miles South-East of Menzies, is looking very promising, and a considerable amount of prospecting is being carried out, many leases and claims having been taken up in the vicinity.

In the Ularring district the area held shows a slight increase, but the gold output a decrease. Notwithstanding this, the erection of new plants on many shows would seem to indicate that the district still has the confidence of investors.

A revival has taken place at Callion, which had been deserted for the past two years.

In the Niagara district the area held for mining shows a slight decrease, as does also the gold yield. Several shows held by prospectors are looking very well.

The Yerilla district also shows a slight decrease in the area held and the gold yield.

A deep alluvial find was reported at Yerilla, but, outside the prospector's claim, nothing was discovered, and the ground is now abandoned.

No developments of any importance have occurred, but the future outlook of the field in general is considered promising.

NORTH-EAST COOLGARDIE GOLDFIELD.

The output for this field was 44,573 fine ounces, as compared with 52,947 fine ounces for the preceding year, a decrease of 8,374 fine ounces.

The Bulong district was reduced during the year by the inclusion of the Mount Monger portion in the East Coolgardie goldfield.

Mining throughout the year has not shown any marked progress.

In the Kanowna and Kurnalpi districts there were no developments of any importance.

PEAK HILL GOLDFIELD.

The output for this field was 2,008 fine ounces, as compared with 13,587 fine ounces for the preceding year, a decrease of 11,579 fine ounces. This decrease is accounted for by the partial closing down of the only mine of any importance in the district—that belonging to the Peak Hill Goldfields, Ltd. However, at the end of the year mining operations were recommenced, and it is hoped that the field will soon show an improvement.

There is nothing of importance to relate with regard to any of the outside centres of this field.

PHILLIPS RIVER GOLD AND MINERAL FIELD.

The output of gold for this field was 2,780 fine ounces, as compared with 2,563 fine ounces for the preceding year, an increase of 217 fine ounces.

The production of copper was 2,885 tons, valued at £25,270, as compared with 2,329 tons, valued at £15,592, for the preceding year.

The high price ruling for copper has resulted in much activity in this field.

The Phillips River Gold and Copper Co., which owns several properties, acquired the State smelter, and, under the purchase agreement, have to continue ore-buying on the lines adopted by the Government for a period of two years.

Prospecting throughout the field, including Kundip, where good progress has been made, is being vigorously pursued, and the future is full of promise.

PILBARA GOLDFIELD.

The output of gold from this field was 5,712 fine ounces, as against 11,474 fine ounces for the preceding year, a decrease of 5,762 fine ounces. This decrease is attributed to the high cost of production, causing several mines to close down. The tin mining centres have also been very attractive, leaving a dearth of labour in the gold mining centres.

Tin mining has been the mainstay of this field, the production for the year being 712 tons, valued at £78,449, as against 436 tons, valued at £33,880, for the preceding year; an increase of 276 tons, valued at £44,569.

Fifteen tons of tantalite, valued at £2,644, were also raised at Wodgina.

The principal tin-producing centres are Moolyella, Cooglegong, and Wodgina.

Many rich finds of copper have been reported, and samples sent away for testing. With railway facilities copper mining promises to become an important industry.

Mining in the Nullagine district has been exceptionally quiet, no developments of any importance being reported.

The construction of the Port Hedland to Marble Bar Railway is expected to give a considerable impetus to the mining industry.

The outlook generally is very promising.

WEST PILBARA GOLDFIELD.

The gold output for this field was 749 fine ounces, as against 801 fine ounces for the preceding year, a decrease of 52 fine ounces.

Mining has shown signs of some activity, the result of the high prices ruling for copper, which is the principal mineral produced.

The outlook may be considered promising.

YALGOO GOLDFIELD.

The output for this field was 4,450 fine ounces, as against 4,743 fine ounces for the preceding year, a decrease of 293 fine ounces.

The copper discovery at Wodgingarra referred to in the last Annual Report is still being worked by a party of working miners, but there is nothing of importance to relate regarding it.

This field is not in a flourishing state, and there is no apparent reason for expecting any great improvement in mining matters in the near future.

YILGARN GOLDFIELD.

The output for this field was 23,547 fine ounces, as against 19,291 fine ounces for the preceding year, an increase of 4,256 fine ounces.

In the immediate vicinity of Southern Cross mining has been very quiet, but in some of the outlying centres vigorous developments are being prosecuted.

The prospects of the field are hopeful.

PART VIII.—EXISTING LEGISLATION.

At the close of the year the Acts in force relating to mining were:—

- (1.) The Mining Act, 1904.
- (2.) The Sluicing and Dredging for Gold Act, 1899.
- (3.) The Mines Regulation Act, 1895.
- (4.) The Mines Regulation Act Amendment Act, 1899.
- (5.) The Mines Regulation Amendment Act, 1904.

(6.) The Sunday Labour in Mines Act, 1899.

(7.) The Mining Development Act, 1902.

During the year the Mines Regulation Act, 1906, was passed. This Act repeals Nos. 3, 4, 5, and 6, above, and is to come into operation on a day to be fixed by proclamation. It is intended to proclaim it as early as possible in 1907.

Some slight alterations to the regulations under the Mining Act, 1904, were also effected, the chief of which was an increase in the areas applicable to claims.

PART IX.—INSPECTION OF MACHINERY.

The Inspection of Machinery Act, 1904, came into operation on the 1st March, 1905, and the provisions of same are unaltered since the last report. The work in connection with Engineering Surveys under the "Navigation Act, 1904," was, during the year, directed to be carried out under this Act.

The number of steam boilers registered at the end of 1906 was 3,178, as against 3,060 at the close of 1905.

Two thousand one hundred and eighty-five thorough inspections were made, and 2,021 certificates issued.

During the year 16 boilers were constructed within the State.

The number of registrations of plants totalled 2,064, as against 1,549 for 1905, an increase of 515.

There were 1,625 inspections made, and 1551 certificates issued, whilst the boilers and machinery of 31 vessels registered under the "Boat Licensing Act, 1878," were surveyed, as against 28 during 1905.

Also 15 surveys of steamers under the Navigation Act were carried out.

In conducting inspection and other work, an approximate distance of 47,868 miles was travelled.

The following return shows the number of certificates granted to engine-drivers during the year:—

Return Showing total number of Certificates granted (all classes.)

First Class Competency	14
Second " "	18
Third " "	66
First Class Service	3
Second " "	30
Third " "	68
Locomotive and Traction Competency	14
" " Service	37
Traction Drivers' Competency	3
" " Service	5
Marine Drivers' Competency	1
Marine (without examination)	10
Interim certificates	27
Copies of Lost and Destroyed Certificates	17
Total Certificates granted	313

PART X.—SCHOOL OF MINES.

The Director reports that the past year, which is the third of the school, has been one of steady progress. Several new subjects for the diploma courses were commenced, and the examination results again show a decided improvement. They indicate that, not only have a greater number of subjects of examination been taken up, but there has been an increase of over 50 per cent. in the number of passes secured, while the standard of the examination papers submitted has been well up to those of previous years.

Although the lack of knowledge in elementary principles is evident, the men now being attracted to the school in many respects make good students.

They are regular in attendance, attentive to their duties, and are steadily working their way through the various classes.

A very gratifying feature of the year has been the number of valuable scholarships and prizes offered to students of the school by mine managers and others interested in the work, full particulars of which, together with details of the working of the school, will be found in the report of the Director, appearing at page 168 herein.

The system of free assays for prospectors has been continued. During the year a total of 648 assays and determinations of minerals was made,

PART XI.—DEPARTMENTAL.

TABLE 26.

Summary of Revenue for Years 1905 and 1906.

	1905.		1906.	
	£	s. d.	£	s. d.
Mines (Revenue under Mining Act)	46,706	11 0	45,319	7 9
Geological Survey	216	4 3	167	4 9
State Batteries	82,023	1 11	90,836	17 4
Water Supply (Mines)	9,362	10 5	9,227	14 11
Purchase and Treatment of Copper Ore	54,107	3 1	27,327	4 1
Mining School	622	9 0	732	16 0
Explosives and Analytical	4,004	16 4	3,299	12 2
Inspection of Machinery	5,182	19 0	5,012	5 6
	£202,225	15 0	£181,029	2 6

The above return excludes "Gwalia Hotel" Revenue.

respective years although not brought to account in the Treasury books prior to the closing of the year.

These figures show all Revenue belonging to their

TABLE 27.

Return showing Revenue collected under the Mining Act and Expenditure in Administration for Years 1905 and 1906.

FIELD.	Revenue, 1905.		Percent- age of gross Revenue, 1905.	Revenue, 1906.		Per cent- age of gross Revenue, 1906.	Expenditure, 1905.		Percent- age of gross Expendi- ture, 1905.	Expenditure, 1906.		Percent- age of gross Expendi- ture, 1906.
	£	s. d.		£	s. d.		£	s. d.		£	s. d.	
Ashburton ...	39	16 6	·085	62	8 0	·137	...	...	...	3	15 6	·008
Broad Arrow ...	1,222	0 6	2·60	1,160	16 0	2·56	510	9 0	1·07	570	10 3	1·21
Coolgardie ...	3,988	11 3	8·53	3,847	5 8	8·49	2,878	15 7	6·06	3,015	0 7	6·40
East Coolgardie ...	5,438	8 10	11·64	4,608	15 8	10·17	2,953	7 9	6·21	3,016	7 4	6·402
North Coolgardie ...	6,003	1 9	12·83	5,299	17 0	11·70	3,792	10 7	7·98	3,986	14 2	8·49
N.E. Coolgardie ...	2,735	7 2	5·85	2,628	8 5	5·80	1,672	11 6	3·51	1,446	18 5	3·07
Dundas ...	1,277	11 9	2·73	1,184	5 3	2·62	1,004	2 9	2·11	954	19 2	2·03
Gascoyne ...	55	0 6	·12	4	14 0	·001	...	...	...	11	0 0	·023
Kimberley ...	29	17 0	·06	39	13 6	0·87	26	15 7	·06	24	18 1	·052
Mt. Margaret ...	6,942	14 3	14·86	6,127	17 11	13·52	3,323	8 2	7·00	3,152	9 4	6·69
Murchison ...	5,282	19 0	11·31	5,818	12 4	12·84	3,816	3 5	8·03	4,001	2 4	8·495
East Murchison ...	4,307	16 3	9·22	4,634	11 3	10·23	2,507	17 9	5·27	2,038	4 2	4·33
Peak Hill ...	884	11 5	1·80	743	1 4	1·64	810	2 6	1·70	728	10 4	1·55
Pilbara ...	1,457	1 3	3·12	1,374	0 11	3·03	1,703	1 10	3·59	1,760	2 7	3·74
West Pilbara ...	342	3 0	·73	475	17 3	1·05	5	0 0	·01	24	0 9	·05
Yalgoo ...	476	11 11	1·02	567	19 3	1·255	582	17 10	1·23	499	10 6	1·06
Yilgarn ...	1,275	4 3	2·71	1,276	15 6	2·82	718	3 0	1·51	715	1 7	1·52
Phillips River ...	1,145	10 3	2·44	1,804	5 4	3·98	873	11 2	1·84	1,369	9 1	2·91
Collie ...	2,357	17 7	5·26	880	10 9	1·94	163	5 3	·35	148	3 10	·30
Northampton ...	82	0 0	·175	227	0 6	·50	103	0 0	·21	100	13 4	·21
Greenbushes ...	694	14 6	1·49	1,643	0 7	3·62	509	18 0	1·07	647	18 6	1·37
Head Office ...	667	12 1	1·42	909	11 4	2·01	19,577	13 3	41·19	18,879	13 11	40·09
Total ...	46,706	11 0	100·00	45,319	7 9	100·00	47,532	14 11	100·00	47,095	3 9	100·00

TABLE 28.

Comparative Return showing Revenue collected during the Years 1905 and 1906 by Departments under control of the Minister for Mines.

	MINING.											
	Gold Mining.						Other Minerals.					
	Lease Rentals.		Other Rentals.		All other Sources.		Lease Rentals.		Other Rentals.		All other Sources.	
	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.
£ 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.
Perth Head Office, Registrar	4 10 0	24 0 0	58 5 0	122 10 0	46 18 6	58 6 0	194 11 3	249 10 0	4 3 0	25 19 0	25 7 6	6 10 6
Do. Machinery	...	...	...	...	...	...	...	...	...	...	...	...
Do. Water Supply	...	...	...	...	...	...	...	...	...	...	...	...
Do. Explosives	...	...	...	...	...	...	...	...	...	...	...	...
Do. Geological	...	...	...	...	...	...	...	...	...	...	...	...
Broad Arrow	812 14 3	686 9 0	157 11 9	222 15 6	70 1 6	107 15 0	...	1 5 0	...	...	...	...
Coolgardie	2,547 9 9	2,484 2 6	442 19 0	501 7 2	254 19 0	198 11 3	10 10 0	14 0 0	...	...	2 2 0	2 10 0
E. Coolgardie—Kalgoorlie	3,550 18 0	3,173 17 0	739 12 0	546 1 3	490 18 1	239 19 8	13 16 0	17 5 6	...	...	...	...
N. Coolgardie { Menzies	3,804 9 0	3,341 12 3	835 5 6	741 8 6	289 3 6	328 1 7	0 10 0	9 5 0	...	...	...	...
{ Mulwarrie												
{ Kookynie												
N.E. Coolgardie { Kanowna	1,678 4 9	1,541 8 3	341 7 6	365 19 10	205 17 11	171 6 10	...	...	...	...	...	...
{ Bulong												
Collie	...	...	...	0 15 0	0 9 6	0 2 0	863 7 6	470 7 0	0 15 0	...	1,353 4 4	233 10 9
Dundas	776 4 6	657 15 9	190 5 9	183 8 0	41 15 0	77 11 6	1 13 0	1 10 0	...	...	...	...
Greenbushes	...	...	...	...	...	...	192 12 0	308 6 1	153 17 9	271 4 0	58 18 6	186 14 6
Mt. Margaret { Laverton	4,175 11 9	3,970 14 5	1,135 8 3	970 19 0	496 19 0	308 13 10	29 8 6	37 10 9	...	...	15 0 0	4 15 0
{ Mt. Malcolm												
{ Mt. Morgans												
Murchison { Cue	2,998 4 6	3,076 15 6	484 16 9	720 2 3	438 15 6	416 13 7	1 10 0	20 17 6	...	...	...	0 7 6
{ Mt. Magnet												
{ Nannine												
E. Murchison { Lawlers	2,555 14 0	2,750 11 9	425 19 0	558 12 6	344 18 9	261 4 0	...	...	...	...	...	...
{ Black Range												
Peak Hill	403 11 8	418 1 4	153 2 3	156 3 6	23 6 0	21 19 6	...	...	...	...	0 2 0	...
Phillips River	311 4 3	351 14 6	70 10 0	134 1 6	18 7 0	34 12 6	286 0 6	265 19 4	4 0 0	6 0 0	29 17 0	47 0 0
Yalgoo	262 4 9	272 0 0	94 12 9	140 8 3	17 13 11	10 5 6	0 10 0	...	...	...	...	0 9 6
Yilgarn	651 9 0	698 4 0	168 3 0	194 1 0	71 6 0	88 4 6	0 15 0	...	...	...	...	...
State Smelter, Ravensthorpe	...	...	...	...	...	...	...	...	...	...	...	...
Kalgoorlie School of Mines	...	...	...	...	...	...	...	...	...	...	...	...
Pilbara { Marble Bar	415 7 6	401 16 0	276 17 6	320 18 2	51 13 6	39 16 6	153 19 6	150 2 3	2 15 0	23 12 6	8 12 6	22 0 6
{ Nullagine												
W. Pilbara—Roebourne	103 4 0	53 10 9	68 16 6	77 7 0	8 4 0	1 6 0	78 5 0	124 16 6	6 15 0	22 11 0	3 0 0	3 12 6
Northampton	...	...	...	...	...	...	40 10 0	90 3 6	1 0 0	3 5 0	21 8 0	8 16 0
Kimberley—Hall's Creek	13 0 0	13 0 0	15 11 0	22 10 0	1 0 0	0 10 0	...	...	...	...	...	...
Gascoyne—Carnarvon	47 5 0	...	5 15 0	4 5 0	...	...	...	...	0 10 0	...	...	...
Ashburton—Onslow	9 10 0	...	15 0 0	20 2 6	0 12 6	1 5 0	2 5 0	13 10 0	1 10 0	...	...	2 12 6
Total	25,125 16 8	23,915 13 0	5,679 18 6	6,003 15 11	2,872 19 2	2,366 4 9	1,870 3 3	1,774 8 5	175 5 9	352 11 6	1,517 11 10	518 19 3

TABLE 28—continued.

Comparative Return showing Revenue collected during the Years 1905 and 1906 by Departments under control of the Minister for Mines—continued.

	Other.		Survey Fees.		Exemption Fees.		Examination Fees.		Total Mining Revenue.		Government Geologist and Assayer.		State Batteries.	
	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.
	£ 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.
Perth Head Office, Registrar ...	49 6 10	46 9 7	227 10 0	325 18 9	50 0 0	27 17 6	7 0 0	18 0 0	667 12 1	905 1 4	...	...	150 0 0	...
Do. Machinery ...	...	4 10 0	...	...	...	...	...	...	...	4 10 0	...	...	...	...
Do. Water Supply ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Do. Explosives ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Do. Geological ...	...	...	...	...	...	...	...	...	...	...	216 4 3	167 4 9	...	...
Broad Arrow ...	1 8 0	5 11 6	83 10 0	116 0 0	96 15 0	21 0 0	...	...	1,222 0 6	1,160 16 0	...	...	...	1,561 6 9
Coolgardie ...	10 5 6	7 17 3	555 10 0	443 0 0	163 11 0	195 17 6	1 5 0	...	3,988 11 3	3,847 5 8	...	...	5,197 19 4	5,122 12 0
E. Coolgardie—Kalgoorlie ...	40 19 3	30 12 3	412 8 0	287 17 6	188 12 6	313 2 6	1 5 0	...	5,438 8 10	4,608 15 8	...	...	...	...
N. Coolgardie { Menzies ...	15 16 3	12 16 0	726 0 0	588 10 0	331 17 6	278 3 8	...	...	6,003 1 9	5,299 17 0	...	...	29,120 10 11	37,145 17 6
Do. { Mulwarrie ...														
Do. { Kookynie ...														
N.E. Coolgardie { Kanowna ...	7 17 0	7 1 0	367 0 0	385 0 0	135 0 0	157 12 6	...	...	2,735 7 2	2,628 8 5	...	...	1,596 0 0	1,267 15 7
Do. { Bulong ...														
Collie ...	1 11 3	1 2 0	12 0 0	10 0 0	126 0 0	164 14 0	0 10 0	...	2,357 17 7	880 10 9	...	...	...	...
Dundas ...	4 11 0	6 12 6	155 0 0	158 10 0	108 2 6	98 17 6	...	...	1,277 11 9	1,184 5 3	...	...	2,861 5 6	3,659 17 1
Greenbushes ...	7 13 9	11 3 6	198 10 0	686 10 0	83 2 6	179 2 6	...	...	694 14 6	1,643 0 7	...	...	999 13 1	2,555 2 5
Mt. Margaret { Laverton ...	14 9 9	13 9 11	757 7 0	573 0 0	318 5 0	248 15 0	0 5 0	...	6,942 14 3	6,127 17 11	...	...	16,133 6 10	13,417 4 1
Do. { Mt. Malcolm ...														
Do. { Mt. Morgans ...														
Murchison { Cue ...	19 14 3	18 8 0	874 13 0	1,186 8 0	464 15 0	379 0 0	0 10 0	...	5,282 19 0	5,818 12 4	...	...	10,536 2 5	11,112 14 3
Do. { Mt. Magnet ...														
Do. { Nannine ...														
E. Murchison { Lawlers...	9 19 6	11 8 0	698 0 0	801 0 0	273 5 0	251 15 0	...	...	4,307 16 3	4,634 11 3	...	...	11,851 4 7	12,275 4 11
Do. { Black Range ...														
Peak Hill ...	1 14 6	1 4 6	79 10 0	20 10 0	218 5 0	125 2 6	...	...	884 11 5	743 1 4	...	...	761 12 8	603 15 8
Phillips River ...	4 11 6	8 14 0	325 0 0	857 10 0	96 0 0	98 13 6	...	...	1,145 10 3	1,804 5 4	...	...	...	...
Yalgoo ...	1 15 6	1 1 0	77 0 0	70 10 0	22 15 0	73 5 0	...	...	476 11 11	567 19 3	...	...	...	...
Yilgarn ...	6 11 3	4 16 0	275 0 0	232 10 0	101 15 0	59 0 0	0 5 0	...	1,275 4 3	1,276 15 6	...	...	607 16 2	245 4 3
State Smelter, Ravensthorpe ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kalgoorlie School of Mines ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pilbara { Marble Bar ...	10 10 9	6 19 0	410 15 0	239 10 0	126 10 0	169 6 0	...	...	1,457 1 3	1,374 0 11	...	...	2,207 10 5	1,870 2 10
Do. { Nullagine ...														
W. Pilbara—Roebourne ...	1 9 6	3 8 6	42 10 0	167 10 0	29 19 0	21 15 0	...	...	342 3 0	475 17 3	...	...	...	...
Northampton ...	0 12 0	0 11 0	18 10 0	114 10 0	...	9 15 0	...	...	82 0 0	227 0 6	...	...	...	...
Kimberley—Hall's Creek ...	0 6 0	0 13 6	...	3 0 0	...	...	...	...	29 17 0	39 13 6	...	...	...	...
Gascoyne—Carnarvon ...	0 0 6	0 9 0	...	...	1 10 0	...	...	...	55 0 6	4 14 0	...	...	...	...
Ashburton—Onslow ...	0 9 0	0 18 0	9 5 0	17 0 0	1 5 0	7 0 0	...	...	39 16 6	62 8 0	...	...	...	...
Total ...	211 12 10	205 16 0	6,304 18 0	7,284 4 3	2,937 5 0	2,879 14 8	11 0 0	18 0 0	46,706 11 0	45,319 7 9	216 4 3	167 4 9	82,023 1 11	90,836 17 4

TABLE 28—continued.

Comparative Returns showing Revenue collected during the Years 1905 and 1906 by Departments under control of the Minister for Mines—continued.

	Water Supply.		State Smelter.		Mining School Fees.		Inspector of Explosives and Government Analyst.		Inspection of Machinery Act.		Totals.		Increase or Decrease for 1906 compared with 1905.		
	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	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.	
Perth Head Office, Registrar	
Do. Machinery	2,452 4 0	2,222 13 0	2,452 4 0	2,227 3 0	...	225 1 0	
Do. Water Supply ...	9,362 10 5	9,227 14 11	...	...	...	...	...	...	...	...	9,362 10 5	9,227 14 11	...	134 15 6
Do. Explosives	4,004 16 4	3,299 12 2	...	...	4,004 16 4	3,299 12 2	...	705 4 2	
Do. Geological	216 4 3	167 4 9	...	48 19 6	
Broad Arrow	1,222 0 6	2,722 2 9	1,500 2 3	...	
Coolgardie	490 7 6	45 5 0	9,676 18 1	9,015 2 8	...	661 15 5	
E. Coolgardie—Kalgoorlie	1,029 12 6	1,507 0 0	6,468 1 4	6,115 15 8	...	352 5 8	
N. Coolgardie { Menzies	
{ Mulwarrie	89 0 0	29 0 0	35,212 12 8	42,474 14 6	7,262 1 10	...	
{ Kookynie	
N. E. Coolgardie { Kanowna	4,331 7 2	3,896 4 0	...	435 3 2	
{ Bulong	
Collie	2,357 17 7	880 10 9	...	1,477 6 10	
Dundas	45 0 0	...	4,183 17 3	4,844 2 4	660 5 1	...	
Greenbushes	1,694 7 7	4,198 3 0	2,503 15 5	...	
Mt. Margaret { Laverton	
{ Mt. Malcolm	509 0 0	659 17 6	23,585 1 1	20,204 19 6	...	3,380 1 7	
{ Mt. Morgans	
Murchison { Cue	
{ Mt. Magnet	423 0 0	403 5 0	16,242 1 5	17,334 11 7	1,092 10 2	...	
{ Nannine	
E. Murchison { Lawlers	110 0 0	123 5 0	16,269 0 10	17,033 1 2	764 0 4
{ Black Range	
Peak Hill	28 15 0	22 0 0	1,674 19 1	1,368 17 0	...	306 2 1	
Phillips River	1,145 10 3	1,804 5 4	658 15 1	...	
Yalgoo	6 0 0	...	482 11 11	567 19 3	85 7 4	...	
Yilgarn	1,883 0 5	1,521 19 9	...	361 0 8	
State Smelter, Ravensthorpe	54,107 3 1	27,327 4 1*	...	...	...	...	...	...	54,107 3 1	27,327 4 1	...	26,779 19 0	
Kalgoorlie School of Mines	622 9 0	732 16 0	...	...	...	...	622 9 0	732 16 0	110 7 0	...	
Pilbara { Marble Bar	
{ Nullagine	3,664 11 8	3,244 3 9	...	420 7 11	
W. Pilbara—Roebourne	342 3 0	475 17 3	133 14 3	...	
Northampton	82 0 0	227 0 6	145 0 6	...	
Kimberley—Hall's Creek	29 17 0	39 13 6	9 16 6	...	
Gascoyne—Carnarvon	55 0 6	4 14 0	...	50 6 6	
Ashburton—Onslow	39 16 6	62 8 0	22 11 6	...	
Total ...	9,362 10 5	9,227 14 11	54,107 3 1	27,327 4 1	622 9 0	732 16 0	4,004 16 4	3,299 12 2	5,182 19 0	5,012 5 6	202,225 15 0	181,923 2 6	...	20,302 12 6	

* £27,327 4s. 1d., State Smelter, Ravensthorpe, is made up as follows:—

	£	s.	d.
Receipts Account, Working ...	9,201	0	5
Receipts Account, Sale of Smelter ...	18,126	3	8

£27,327 4 1

CORRESPONDENCE.

TABLE No. 29.

Letters, Telegrams, etc., despatched during 1906.

Branch.	Letters.	Telegrams.	Circulars and Advices.	Statistics and Publications.	Total.
Analytical and Explosives	2,429	59	...	*	2,488
Chief Accountant	5,675	135	4,021	...	9,831
Correspondence	8,250	1,245	4,024	12,500	13,519
Drafting	217	16	...	...	233
Geological Survey	1,329	90	...	4,261	1,419
Inspection of Machinery	7,384	312	120	...	7,816
Mines Water Supply	2,711	707	...	...	3,418
Registration	7,175	504	200	...	7,879
State Batteries	4,597	481	3,590	...	8,668
Statistical	355	122	370	6,100	847
Survey	698	42	...	...	740
	40,820	3,713	12,325	22,861	56,858

* The figures in this column are not included in the totals column.

Inward Correspondence.

Branch.	1905.	1906.
<i>Correspondence Registered.</i>		
Correspondence	8,200	8,500
Analytical and Explosives	1,905	1,979
Geological Survey	1,500	1,520
Mines Water Supply	4,290	3,779

By comparison with 1905, as appearing at page 41 of 1905 Departmental Report, it will be seen that with regard to letters, telegrams, etc., despatched, there is a decrease of 2,209, against the increase of 10,036 for the year 1905.

The following tables furnish a statement of the number of surveys executed for the Department of Mines during the year 1906, and compared with the year 1905.

TABLE 30.

Surveys of Leases, Areas, etc., with the exception of Groups of Business and Residence Lots.

	1905.		1906.	
	No.	Area.	No.	Area.
Surveys on Eastern Goldfields	812	acres. 11,969	498	acres. 6,674
Surveys on Central Goldfields	240	3,023	334	4,408
Surveys on all other Fields	125	2,131	289	7,815
	1,177	17,123	1,121	18,897

TABLE 31.

Business and Residence Areas in Groups.

1905.		1906.	
No.	Cost.	No.	Cost.
177	£ s. d. 188 8 0	668	£ s. d. 669 6 7

TABLE 32.
Surveys of Roads, Connection Traverses, etc.

	1905.			1906.						
			Cost.			Cost.				
	m.	c.	£	s.	d.	m.	c.	£	s.	d.
Eastern Goldfields	110	71	457	15	8	58	52	229	14	6
Central Goldfields	54	77	200	0	8	102	60	507	7	0
Other Fields	2	49	8	13	2	3	16	6	19	2
	168	37	666	9	6	164	48	744	0	8

In conclusion, I desire to acknowledge the loyal support received from all officers of the Department during the year.

Department of Mines, Perth,
 31st March, 1907.

H. S. KING,
 Under Secretary for Mines.

DIVISION II.

Report of the State Mining Engineer for the Year 1906.

To the Under Secretary for Mines, Perth.

Office of the State Mining Engineer, Mines Department,

Perth, 20th February, 1907.

SIR,

For the information of the Hon. the Minister for Mines, I have the honour to submit the following Report on the work of this office for the year 1906:—

Inspection of Mines under "The Mines Regulation Act, 1895" (with amendments), and "The Coal Mines Regulation Act, 1902."

During the year 1906, Mr. G. Jenkyn, Inspector of Mines for the North-East Coolgardie Goldfield, retired from the Public Service under the Superannuation Clauses of the "Public Service Act." Pending a proposed re-arrangement of the Inspectors' districts, Mr. S. Cullingworth was appointed temporarily as an Inspector of Mines at Kalgoorlie, assisting Inspectors Lightly and Hudson in their duties there, and Messrs. Lightly and Cullingworth between them also undertook the North-East Coolgardie work formerly performed by Mr. Jenkyn. In December, owing to Inspector Crabbe obtaining three months leave of absence, Mr. Hudson undertook the whole of the Kalgoorlie district inspection, Mr. Lightly taking North-East Coolgardie, and Mr. Cullingworth Coolgardie, Yilgarn, and Dundas. The only other change in the staff of Inspectors of Mines during the year was that the Inspector at Phillips River Goldfield, Mr. John Dunstan, having retired from the Public Service owing to the sale of the State Smelting Works, of which he was also Manager, no fresh appointment was made for that district for the time being.

PILBARA AND WEST PILBARA GOLD-FIELDS.

Mr. P. C. Riches, Acting-Inspector of Mines, reports on the 11th January, 1907, as follows:—

"With the exception of the Nullagine District, gold mining during the past year has been almost at a standstill. The British Exploration Company ceased operations entirely, and as they were the holders of the largest mining propositions in this district, their ceasing work has meant a corresponding dullness.

"At Warrawoona two parties of tributers are at work on the Klondyke and Gauntlet Leases, and they have had several small crushings of a satisfactory nature.

"In the Mosquito Creek district a fair amount of prospecting is going on. The State battery has been crushing at intervals throughout the year, but not nearly sufficient stone is being raised to keep the plant going one shift continuously. The other gold mining centres are all more or less deserted.

"The high price of tin has caused quite a revival at all the tinfields, and probably the district was never as flourishing from a monetary point of view as at present. At Moolyella some 400 men are engaged tin mining, and all seem to be doing fairly well. The output from this field is about 60 tons a month. New leads are being discovered, and the field shows every sign of continued prosperity. A dredging area has been applied for on Brockman's Creek, and, if granted, it is proposed to endeavour to work with machinery the tin deposit that is supposed to exist under the creek.

"At Cooglegong the output of tin is about 15 tons a month, and is quite likely to increase or remain at that figure. This field has so far had no deep leads located, but there are no reasons why they should not exist, and their discovery will probably be a matter in the near future.

"At Wodgina mining matters are progressing steadily. Several of the claims have changed hands, and some solid mining is being carried out. The Mt. Cassiterite mine purpose erecting an ore-dressing plant early next year, and this will doubtless tend to send the district ahead. The lodes so far opened up have maintained their richness, and show no signs of cutting out. A considerable quantity of tantalite has been mined and despatched from this field, but in view of the uncertainty of the market several promising lodes have been abandoned.

"A new tinning centre was discovered at Mt. Francisco, situated about 25 miles South of Wodgina; a fair amount of alluvial tin was obtained, and after the rainy season I fully expect to hear of fresh discoveries in this locality.

"*West Pilbara.*—During the past year there has been very little gold mining carried out on this field, but I believe that during the last few weeks several leases near Roebourne have been successfully floated. We shall therefore, probably, during the coming year again see West Pilbara in a prominent position amongst the list of gold producers in the State. In consequence of the high price of copper, several copper mines are again being worked, amongst them the well-known Whim Well mine, at Whim Creek. This mine has been raising some very rich ore bidding fair to equal, if not surpass, its previous records. Several copper leases have also been taken up in the vicinity of Roebourne, and if the high price of copper continues there is every prospect of other properties being re-applied for and developed.

"During the year a silver lode has been taken up near Roebourne, and is now being developed. Some antimony lodes have also been taken up and applied for near Mallina. If the high prices of metals ruling at present continues, I quite expect to see a great revival of mining in this district.

"The only accident during the year was one caused by missfire in a water shaft at Moolyella; the charge exploded and killed a man named O'Connor.

"No assistance has been given during the past year under the Mining Development Act, but an application for a loan to sink a shaft on the All Nations lease, at Nullagine, was favourably considered, and the work will be put in hand as soon as the necessary documents are completed.

"The high price of metal taken in conjunction with the proposed construction of the railway line to Marble Bar bids fair to make the coming year a prosperous one."

CENTRAL GOLDFIELDS.

The annual report of the Inspector of Mines, Mr. F. J. Lander, is dated 7th January, 1907. He says:—

"During the year mining on the whole has made rapid strides. Several new finds have been developed, and proved to be permanent gold producers—Errols, Barrambie, Mindoolah, Scott's Find, and Webb's Patch.

"At Errols, Barrambie, Scott's Find, and Webb's Patch, batteries have been erected, and I understand Messrs. Spencer Bros. are now engaged in carting a 10-head battery for erection at Mindoolah. It is very interesting to notice that the owners of the mines at these centres have so much confidence in their new finds.

"It is worthy of notice that some of the mines in my district have, during the past year, yielded exceptional returns.

CUE DISTRICT.

"*Queen of the May*.—A main shaft has been sunk to a depth of 250 feet. The size of the reef averages about two feet in width, and is running North-East and South-West. During the year 808 tons have been treated for a return of 1,059ozs. Three hundred tons are now at grass, which it is estimated will return over an ounce to the ton. This mine is one of the most promising in the Cue District.

"*Salisbury G.M.*—On this mine a main shaft has been sunk to a depth of 260ft. The width of the lode is about 20ft., 6ft. of this is now being worked, and I understand from the manager that the average value is 16dwts. to the ton. The cost of mining, including treatment and management, is 22s. per ton.

"*Princess Murchison*.—This property is still being worked by tributers. During the past year 221 tons were treated for a return of 203ozs. over the plates. The curious thing connected with this mine is, that when the company worked it they considered all the gold-bearing ore was on the foot-wall. The tributers, however, are taking out good payable stone (about 1oz. to the ton) from the hanging-wall, which was left by the company, leaving a large body of quartz between the two walls untouched. I am astonished to find a property of this kind, so near Cue, lying practically idle.

"*Hill End G.M.*—Situated at Webb's Patch, 20 miles East of Cue. This mine is owned by a party of working miners. During the year a 5-head battery has been erected, also a pumping plant. The last parcel of stone treated (20 tons) gave a return of 8ozs. to the ton. During the year 200 tons were treated for a return of 440ozs. The main shaft is now down to a depth of 70ft., and the owners now propose going in for development work. This is a very promising mine. There are no other leases taken up at this centre, owing to the water difficulty. There is an enormous supply, the water level is about 25ft. from the surface. Ten men are now employed on this mine.

"*Victory United G.M.*, Cuddingwarra.—This is the only mine working at this centre. During the year some 2,699 tons were treated for a return of 3,330ozs. (the last crushing, 180 tons, gave a return of 420ozs.). The main shaft has been sunk to a depth of 750ft., and the mine is looking well.

"*The Union Jack*, Tuckanarra.—This mine has treated 173 tons for 896ozs.

"*Judy's Gift*, Tuckanarra, No. 1532.—During the past year 71 tons were treated from this mine for a return of 359ozs.

"*Nemesis*.—No. 1337, Tuckanarra, 119 tons were treated for a return of 351ozs.

"*Island Queen*, No. 5D, Lake Austin.—During the past year this mine treated 45 tons for a return of 252ozs.

"*First Chip*, No. 407D, Lake Austin.—84ozs. were drolled from about one ton of stone. This property was at one time held by the Goleonda Gold Mining Co.; the lease is now being worked by a party of miners.

"*The Day Dawn*.—Three parcels, total tonnage about 86, yielded 199ozs. Most of this stone was treated at the Lennonville State Battery.

"*Crete d'Or*.—This property is again working after being idle for a considerable time. A main shaft has been sunk, and during the year a parcel of 20 tons yielded 27ozs. The owners of this mine are now going in for development work. A five-head battery has been erected, and I have reason to believe that this mine will be a constant gold producer in the future.

NEW FINDS.

"*Nallan*.—Situated about three miles North of Jack's Well, some 15 miles from Cue. Some months ago Messrs. Peck and party found a reef carrying free gold. Five leases have been applied for at this centre, but so far very little work has been done.

"*Scott's Find*.—This is a new centre, situated 22 miles North-West of Cue. During the year several leases and prospecting areas have been taken up. Messrs. Scott and party have erected a five-head battery. A parcel of 67 tons yielded 15dwts. to the ton. Several shafts have been sunk to a depth of 90 feet. The reefs run North and South, and dip to the West. Good water can be obtained at a depth of 80 feet. Fifteen men are now employed at this centre.

"*Mindoolah*.—This centre was discovered in the latter part of 1905, but very little work was done

until 1906. The find is situated about 50 miles North-West of Cue. Eight leases and eleven prospecting areas have been taken up.

"During the year Messrs. Bertram and party (the original prospectors) have treated 153 tons for a return of 553ozs., also about 100ozs. in the sands. This ore was carted to Cue and treated at Messrs. Chesson & Heydon's battery (the cost of cartage being £3 per ton). Mr. Bertram has sunk six shafts on his property, the deepest of which is 75 feet. The reef runs North-East and South-West, and varies in size from six inches to three feet in width. I understand that a company has now taken an option over this property.

"Messrs. Spencer Bros., Alcorn and party, McDead and party, Ryan and party, and several others are all on payable reefs. Good water can be obtained at a depth of 65 feet. About 35 men are now employed at this centre. Messrs. Spencer Bros. are engaged carting a ten-head mill to their property. I anticipate this district will become one of the best centres about Cue.

"*Erro's*.—This district has made great strides during the past year, 23 leases have been applied for, also several prospecting areas. A five-head battery is being erected, and the mines are now being developed.

"*Barrambie*.—During the past year 12 leases and seven prospecting areas have been applied for. The Barrambie Ranges Co. has erected a ten-head battery; a crushing of 527 tons yielded 900ozs. over the plates, and another 450ozs. is expected from the sands. The company could not continue crushing owing to scarcity of water; they are now engaged sinking a water well. The mines at this centre are being developed, and I am of opinion that the permanency of this centre as a gold producer is assured.

"*Gabamintha*.—Mr. A. E. Morgans has taken up 128 acres of copper producing country. Two shafts have been sunk to a depth of about 30 feet. The approximate width of the lode running through this property is four feet, and the values up to date are stated to be from eight to 10 per cent. of copper, with from 2 to 4dwts. of gold per ton. Very little work has been done, but the prospects look bright.

"*Field's Find*.—This mine is being worked again after lying idle for a considerable time. The Fields Reward G.M. Co. has sunk a new main shaft. The old reef was cut, and I understand that the values are very satisfactory.

"*Burnakurra*.—Several mines are again working at this centre. The Federal City G.M., which is owned by a local syndicate, is looking well. The reef is about 4 feet 6 inches in width, and estimated to yield over an ounce to the ton. A ten-head mill has been erected on this property.

"*Meekatharra*.—This district is still improving, and to show the faith owners have in their mines, costly machinery has been, and is being erected. For instance, the owners of The Marmont have almost completed the erection of a twenty-head mill. During the past year this mine treated 804 tons for a return of 3,608ozs.

"The owners of the Fenian Mine are also erecting a ten-head battery. This mine joins the Marmont, and is being worked on the same line of reef; in fact they have communicated one with the other for

ventilation purposes. The average width of the reef is about eight feet. During the year 856 tons were treated for a return of 3,607 ozs.

"*Ingliston Extended G.M. Co.*—This company has erected a complete plant, which includes a ten-head mill, cyanide vats, and filter presses. The mill, which at present is ten-head, is to be increased to a fifty-head in the near future. During the year 7,400 tons were treated for a return of 4,163ozs. The reef in this mine is about 30 feet in width.

"*Ingliston Consols Extended*.—This is a 12-acre lease, owned by Messrs. Roberts Bros. During the year 1,536 long tons were treated for a return of 4,282ozs. over the plates, and the sands valued at 48s. per ton. The average thickness of the reef is about 18 inches. The whole of the mines at this centre are looking well.

STAKE WELL.

"At this centre there are four mines working. The Kohinoor and the Kohinoor South are the only two that have been developed.

"A ten-head battery has been erected on the Kohinoor South. The width of the reef is about 13 feet, and is stated to be valued at 18dwts. per ton; 1,800 tons have been treated for 7½dwts. over the plates, and 11½dwts. in the tailings. There is a good supply of fresh water on this mine. I am of opinion this mine will be a great gold producer within the next year or two.

NANNINE.

"*The Lady Mary*.—This is a promising mine, it is worked from an open cut; the width of the reef is not yet known. Several hundred tons of ore are now waiting treatment. The values are estimated by the owners to be about half an ounce to the ton.

"*The Caledonian*.—A main shaft has been sunk to a depth of 230 feet. The lode ranges from two to six feet in width, and the average value is said to be about 30dwts. per ton.

"*The Caledonian Extended*.—This lease joins the Caledonian, and is worked by a local syndicate. The reef in size and values is similar to that of the Caledonian.

"Several other properties are now being worked in this district, on the same line of reef as the Lady Mary.

"The business people of the town are looking forward to a prosperous time when the Government battery is working.

MT. MAGNET.

"*The Morning Star G.M.*—At present this company is engaged sinking the main shaft to a depth of 400 feet. At the 300 feet level the reef was found to be about 12 feet in width, and the values about 11dwts. per ton.

"The great drawback in the past to this property has been caused through want of development. Although this mine has been working for ten years, it is not yet 400 feet deep. I am of opinion that if the company continue development work this mine will soon rank among the dividend-paying mines on the Murchison.

"*The Sirdar*.—This lease is being worked on the open cut system. The reef, which is over 30 feet in

width, averages about one ounce to the ton. At the present time this property is under option to Messrs. Bewick, Moreing & Co., and should they see their way clear to take it over, I am of opinion that it will be the means of proving to other mining investors the value of the Magnet district.

"There are many other properties in and around this district that are equally worthy of attention, for instance, the St. George, which I understand is under option to the Great Boulder No. 1 Co. This mine is also worked on the open cut system. There is a large reef, and the last parcel treated, 270 tons, yielded 291.37 fine ounces.

YUIN.

"The only mine working at this centre is the Royal Standard. A 15-head battery has been erected, 10 stamps of which are kept constantly going. The reef in this mine is about eight feet in width, and valued by the owner at 10dwts. per ton over the plates. There are 30 men now employed on this mine.

WILUNA.

"*Gwalia Consolidated Gold Mines, Ltd.*—From the commencement of operations up to the 31st December, 1906, the ten-head mill crushed 55,755 tons for 9,791.77 fine ounces by amalgamation, worth £41,517.1048; sands leached, 27,151 tons for 8,358.54ozs., worth £35,440.2096; slimes filter-pressed, 25,711 tons for 5,332.89ozs., worth £22,611.4536. Totals milled, 55,755 tons for 23,483.2ozs. fine gold, all processes worth £99,568.76 gross.

"Costs for the period 1st December, 1905, to 30th November, 1906 :—

	Tons.	Total cost.	Cost per ton milled.
		£ s. d.	s. d.
Mining	21,404	5,486 10 1	5/1 .5
Milling	21,404	4,433 5 1	4/1 .7
Leaching	10,282	4,102 4 3	3/10 .1
Filter Pressing ...	11,122	6,765 17 8	6/ 3 .8
General Charges ...	21,404	2,118 6 9	1/11 .7
		22,906 3 10	21/4 .8

"The management estimate ore in sight on the Central lease above the 100ft. level at about 101,000 tons. Proved length of the lode so far opened up in this lease is 420ft. x 42½ft. wide. This ore is estimated on what is said to be a conservative basis at 7dwts. per 2,000lb. ton.

"In the South lease the ore channel has been proved up to the present to be 705 feet long by 198 feet wide, the extension further, South being unknown. Across one part of this body, 37 feet below the surface, a crosscut has been driven 73 feet in ore stated to average 11dwts. 9grs. In the North lease the lode has been proved for a length of 620 feet, across which several shallow workings are reported to average 17dwts. per short ton. Width of this channel and further extension North unknown, no attempt having been made to prove it.

"The total working cost of 21/4.8 has been attained under the old scale of wages, and with very inferior motive power, and absence of fresh water.

Since the beginning of this year wages have been reduced on an average 5s. per week. The management is now erecting twenty additional stamps and new motive power, which plant is expected to be running next April, when the existing ten stamps will be dismantled and re-erected alongside the new battery. The average tonnage crushed by present ten stamps varies between 1,850 and 2,000 per month. A 4in. pipe line is being installed, and the new plant will be run by fresh water, of which the company has obtained an abundant supply some distance away. The plant also embraces four 4½ ton filter presses with agitators, etc., and leaching plant.

"Should the body of ore continue to exist at a depth, this mine will rival the Great Fingall Con., Ltd., as a gold producer, in the course of a few years.

ACCIDENTS DURING THE YEAR.

"The accidents during the year numbered six fatal, 24 serious, three minor.

"With regard to the fatal accidents, two out of the six (6) can hardly be chronicled as mining accidents :—

"*Cue One G.M.*—Accident No. 19/06, re the death of T. G. Heydon. This man was not working on the mine, but went down an old abandoned shaft for the purpose of getting old timber out for fire-wood.

"*Salisbury G.M.*—Accident No. 21/06, re the death of H. A. Hilly. At the inquest the doctor stated that Hilly's death was caused through heart failure.

"*Ingliston Extended.*—Accident No. 1/07, James Nuttal (killed in shaft).

"*Lilly G.M.*—Accident No. 6/06. Albert Keys (killed by a fall of earth).

"*Hill End G.M.*—Accident No. 10/06 (B. Smith and C. Herivel). These two men were killed through an explosion taking place on June the 12th, 1906.

"Prosecutions during the year, 2.

"Mines inspected during the year, 222.

"Miles travelled, 5,753.

"On the whole, managers have been very willing at all times to carry out the provisions of the Mines Regulation Act.

MT. MARGARET AND EAST MURCHISON GOLDFIELDS.

The annual report of Mr. W. M. Deeble, Inspector of Mines, dated 8th January, 1907, says :—

"Owing to the large area of this district I have not been able to visit as much as I would like the outlying portions, and some of these places just outside the fringe of civilisation are very promising for the amount of prospecting done. The average number of miles travelled per mine inspected this year is Mt. Margaret, 32.60; East Murchison, 24. This does not mean that the average is that far apart, but having to return to the scene of an accident over ground I have just been on is the cause of extra travelling. In one case during the year it meant 480 miles. Inspecting ground to work on which Government assistance has been asked for,

also entails a lot of travelling. During the year I have travelled 8,544 miles.

MINES.

"The most North-Western mine being worked in the Mt. Margaret district is the Hootanui. This mine is situated eight miles North-West of Mulga Queen. The reef is in diorite country, and about 7ft. wide at surface, but owing to it being so far away only about 18in. has been broken for crushing. Out of a shaft 150ft. deep 128 tons have been taken for a return of 819ozs. over the plates. From what I can learn from prospectors who have travelled over the country North-West to New England, they state that, with the exception of small breaks, the country is similar right through. A party of prospectors left Mulga Queen some months ago and travelled to New England. One of the party has since returned, and stated that very encouraging results were being obtained. The New England district was prospected in 1893, but in those times if a reef did not produce dollying stone it was of no use to the prospector. In this case the reefs were soon abandoned. In 1896 the reefs were given another trial, and later a five-head mill erected on one of the shows, but apparently the share holders were hampered through not having sufficient capital to open up the mine, and when water was met with at from 30 to 80 feet the shows were abandoned. Where the reefs have been worked they will average about three feet wide, and during the time the five-head mill was on the ground 1,357 tons of stone were crushed for 1,309.71ozs. of gold. I consider this place is worth examining by those having capital at their command.

"*Mulga Queen.*—At this place mining has been fairly quiet during the latter part of the year, although the various shows have given on the whole good average crushing stone. They are in a number of cases too far from the public mill to raise capital on the grade of stone available, and as they all belong to prospectors without capital, they simply continue to struggle on in the hope of meeting higher-grade stone.

"*Duketon.*—This place gave promise of turning out well when first opened, but owing to water being struck at about 10ft. from surface, the prospectors had to abandon their shows. The Mulga Queen opening up very soon after induced a number to leave and go there. There are places around this on which practically no prospecting has been done.

"From Duketon to Laverton, a distance of about 80 miles, a number of small mines are working. There are a number of low-grade reefs in this line of country which are of no value to the prospector to cart long distances to crush.

"*Laverton.*—This district promises to improve greatly in the near future. The Lancefield G. M., which should be the main gold producer, has been stopped during the whole of the year to instal a dry crushing process. Several trial runs have been given to the plant, and I understand it has been successful. A large mine like this going, in addition to the others, should make a considerable difference to the district, and the gold return of this goldfield. The Augusta G.M. continues to give highly payable returns, and the most satisfactory part is that the richest stone is being broken from the lowest level. The mine is owned by a local syndicate, who are

bringing the mine up to date by adding to the machinery for raising and treating the ore. On the South and East of Laverton are a number of small mines, which produce good returns from time to time, but in the hands of prospectors have not advanced to become regular producers. The mines held by companies in this district are the Ida H. and the Craggiemore. The Ida H. speaks for itself by the dividends paid, and in the Craggiemore, although it is considered a low-grade mine, it has been demonstrated what can be done with capable management on low-grade ore. To the South of Laverton, about six miles, is the Euro G.M. This mine was taken up by a local working syndicate, and during the last twelve months they have erected a ten-head battery on it. They have had a lot of trouble to get sufficient water for crushing purposes, but taken altogether are getting payable returns. About four miles West again is the Red Flag. Around this place rich floaters have been picked up, and rich small leaders found, but most of the work done has been confined to the alluvial.

"About 18 miles South of Laverton at the West side of a range of hills which run on the West side of Laverton and Childe Harold, is a late development which is very promising. The country around is covered with spinifex-covered sand, and in this is a diorite hill, one side of which is showing through the sand, and on the exposed part the quartz outcrops and colours of gold can be seen in the reef.

"*Burtville.*—The mines in this place are nearly all worked by prospectors for themselves, and in the past have been doing well, in fact as a working miner's district it has been the best I know of on the goldfields. There are a number still working in shallow ground, but in a great number of cases the good stone has been worked out to water level and it will be necessary to erect machinery before much more can be taken out of the leaders opened up. It is quite possible there are more undiscovered than have been worked. Prospecting in this part is difficult on account of an overburden of cement, which not only makes prospecting expensive but also slow. There is a large area of country to the South of Burtville on which rich patches have from time to time been obtained, but very little systematic work has been done.

"*Mt. Morgans.*—This district has been very quiet during the year, chiefly caused by the main mine not keeping up its returns as in previous years. There are a number of small mines in which the stone is fairly even in size and value, but the owners seem to prefer to work them and not exert themselves to increase the output. To the North-West there is some very good-looking country, and at about 12 miles in this direction there is a small mine from which some rich returns have been obtained. The mine has lately been taken over from the prospectors, and under the new owners promises to become a mine in place of a prospecting show. Since the change of owners a boiler and winch have been put on the mine and a new shaft sunk to a depth of 207 feet.

"*Australia United.*—The Princess Iris is the main mine in this part. On this mine a 20-head mill has been erected, and for a while some rich returns were obtained. During the last few months the battery has been shut down owing to a shortage of water. This has affected the district generally

as five heads were used for the public until the mine got its development ahead of the fifteen stampers. The country from this right through Randwick, and on to Mertondale, is similar, and rich patches have been found all along this line of country.

"Mertondale.—The Merton's Reward G.M. has been quiet during the latter part of this year owing to the shortage of water. Now water is being laid on from Pig Well to get over this difficulty. Within a radius of 10 miles there are a large number of alluvial patches, and small new patches often found, but very little attention appears to have been paid to the lines of reefs.

"Pig Well.—There are one mine and a number of prospectors at this place. During the year mining has been very quiet here.

"Murrin Murrin.—This centre has continued to hold its own during the year, but during the last three months the Malcolm mines have been shut down, and this has reduced the gold yield considerably. The other shows around are continuing about the same as last year. The copper mine at Anaconda has considerably improved in appearance, and should give good returns during the coming year.

"Leonora.—At this place mining has just about held its own during the year. The Sons of Gwalia and Great Tower Hill are the main mines, and these continue to keep their mills fully employed. The smaller mines around not dealing with large quantities vary considerably in their monthly returns. The Leonora Main Reefs have a large reef going through this mine, and during the last three months the returns have increased, which makes the outlook for the coming year very bright.

"From Leonora through to the King of the Hills, a distance of 20 miles, there are a number of miners working on small leaders, and getting some fair returns. The same may be said of the country through Diorite, Mt. Stirling and Mt. Clifford, and on to Wilson's Patch, a further distance of 40 miles.

"Wilson's Patch.—The only mine that has been working continuously at this place is the Great Western G.M. This mine is on a large reef, which has given regular payable returns during the year.

"Darlot.—There is a fairly large number of miners working in this district on small prospecting shows, but the main mines are the Amazon, St. George, Monte Christo, and Zangbar. The Amazon has been a regular producer and the stone rich; the last crushing, in December, 1906 (119 tons), returned 348ozs. The St. George and Zangbar are on the same line of reef, which is large and crushes about 10dwts. per ton.

"Lawlers.—Mining at this and surrounding places appears to be about the same as at the end of last year. Most of the mines appear to be at the "just payable" stage and kept there, the same may be said of the country for the next 40 miles through Sir Samuel to Kathleen Valley.

"Black Range.—This place is situated about 96 miles West of Lawlers. The first 76 miles of the road are through non-auriferous country. From about 60 miles from Lawlers on towards Black Range large lodes and reefs of ironstone and quartz can be seen in the hills a little way off the road. I consider this part worth prospecting. At 76 miles

the Maninga Marley group is met, the Maninga Marley being the first to crush and erect machinery. The main shaft has been put down 200ft. vertical, and the reef driven on over 200ft. A 10-head mill and cyanide plant have been erected, but have not been kept going on account of shortage of water: lately another supply has been cut, and since then the crushings have returned over 1¼ozs. per ton, this, together with cyanide, will make the return up to 2ozs. per ton. The adjoining mine, the Maninga Marley No 1 North, has been getting stone worth 3ozs. per ton, but they have not been opening up the mine very energetically.

"West of the Maninga Marley North and adjoining, is the Havilah G.M. This mine has lately changed hands, and at the time of my last visit machinery was being erected. The reef where worked near the surface was rich. A new shaft is being sunk to work it at a deeper level, and water has been cut in sufficient quantity to run a 10-head mill. About one mile towards Black Range is the May King G.M., out of which fair returns are being obtained, but as it is only at the windlass stage only small parcels of stone are crushed.

"The Eclipse G.M. is situated about nine miles East of Black Range. At the time of my visit a vertical shaft was being sunk on the reef, which was about 18 inches wide and showing nice rough gold in the stone. There is another reef running parallel and showing on the side of the shaft, but as it was not broken into, the width and value are not known.

"Black Range G.M.—On my last visit, in November, I was pleased to see this mine appeared better than I ever saw it before, and the development work well ahead of the mill. Altogether this mine has crushed 16,500 tons for a yield of 29,980ozs. 4dwts. A 20-head stamper mill is on the road and will be erected shortly, so much larger returns may be expected during 1907.

"Oroya Black Range G.M.—This mine takes in what was known as the Sandstone group, comprising 13 leases. The whole of the leases gave rich returns when worked near the surface by the original owners, but since the change of ownership only development work has been done. Heavy water has been met with, so that if a battery be erected there will be more than sufficient to keep it going.

"Sandstone Development G.M.—This company has taken up 10 leases to the North and West of the Oroya Black Range, and from the amount of work done appears to have good prospects.

"The Wanderie group of mines is to the West of the Black Range G.M. about two miles, the main mine being the Wanderie G.M. Machinery has lately been erected, and the main shaft sunk to 210ft. deep. An inflow of about 30,000 gallons per day has lately been struck, which is hampering mining operations. The other mines in this group have had good returns from the shallow workings, but at the time of my visit were engaged sinking to open up deeper ground.

"Hancock Group.—This group comprises a number of small mines worked by prospectors, and until lately it was considered that there were only leaders (usually rich) about this part, but on my last visit I saw a lode formation which has been discovered in the Koinoor G.M. Through the formation there are rich ironstone veins, and I was told that the whole formation taken out gave high assay results.

"Battler G.M.—This is similar to the Koinoor lode in places, but not so rich; it was found during the year, and sufficient has not been done to prove what it will develop into. There are a number of other small mines in this group out of which the owners are just making a living. There is nothing in them worth recording.

"Wirraminna G.M.—This mine is situated about two miles South-East of Nunngarra, and has lately been bought by the Sandstone Development Co. The reef will average 10 feet wide, and the average of the stone crushed about 10dwts. per ton.

"Range View.—This is situated about eight miles South of Nunngarra. Fourteen leases had been pegged out when I visited the place, but had not been surveyed, although the total area of ground pegged takes in over 200 acres. The leases follow along the ridge of a hill, the top of which is the reef. The reef is in most places a jaspery quartz, but varies in places to a brown sugary to pure white quartz. I saw some nice gold in the stone, but more work will have to be done on the reef before anyone can give an opinion as to its permanency. All that can be said at present is that it appears very promising. There are similar reefs around, on which very little prospecting has been done.

At Birrigrin, 50 miles North-East of Black Range, are a number of mines giving fair returns; the main ones are the following:—

"Pelerin G.M.—This has been worked to a depth of 84 feet, and the stone taken out has been rich. The owner has put on machinery to sink another lift and to cope with the water.

"Hawthorn Reward has lately been taken over on option, and also the adjoining mine, where some rich stone has lately been obtained. This mine gave some excellent returns at first, but lately very little has been done by the owners. Tributers worked a parallel reef to the main lode, and obtained some very good yields.

"Wheal Ellen is worked on the intersection of a quartz reef and ironstone leaders; by following the junction down rich dabs are obtained. During the last six months 136 tons were crushed for 1,092ozs. There are a number of other small mines around this place where the owners are just making a living.

"Montagu Range.—This is situated about seven miles North of Birrigrin, and a number of promising mines are being opened up.

"Caledonia G.M.—This is one of the latest on which good payable ore has been discovered. The water level at this place is only 25 feet deep, and as the overburden of cement is 10 feet it only gives 15 feet of ground to stope above the water to surface. The last crushing of 120 tons gave 450ozs. of gold, but before much more can be broken, machinery will have to be erected. About half-a-mile South of this is the Christmas Gift, which has met with the same difficulty and is nearly as rich. Most of the reefs in this district are large and low grade, and a number are trying to raise capital to put machinery on the ground to treat the ore without unnecessary handling. There is plenty of both firewood and water available, and with machinery on the ground, very low grade ore should be made to pay.

ACCIDENTS.

"During the year there has been an increase in the fatal accidents, but when these are looked into it is difficult to see how measures could be taken to prevent them. The following are the particulars of each fatal accident:—

Mt. Margaret Goldfield.

"Sons of Gwalia G.M.—Two Italians were charging holes when one hole exploded, killing both men.

"Princess Iris G.M.—One man was killed by a fall of rock when cutting bin in back of shaft.

"Westralia Mt. Morgans.—One man was killed by a fall of rock in open cut.

"Merton's Reward G.M.—One man was killed by a fall off rope when being pulled up a winze.

"Sons of Gwalia.—Two men were buried by fall of sand on sand dump.

East Murchison Goldfield.

"Hawthorn Reward G.M.—One man died of heart failure, probably brought on by dynamite fumes.

"Zangbar G.M.—One man struck by stone in pit of stomach when filling truck at chute; died in hospital after being operated on.

"Prospecting Area.—One man was killed by a fall of earth.

"Black Range G.M.—One man was killed by a fall in shaft.

NORTH COOLGARDIE GOLDFIELD.

Mr. W. F. Greenard, Inspector of Mines, reports on the 20th January, 1907:—

"I have the honour to submit my Annual Report for the year 1906, on the administration and working of the Mines Regulation Act and Amendments in the North Coolgardie Goldfield.

"The mines throughout the goldfield have been carefully inspected during the year, and any defects noticed have been immediately remedied.

"One prosecution was undertaken against the Wallaby Central mine, Yarrie, for an unfenced shaft, into which a miner fell on leaving work. I failed to get a conviction partly through the injured miner's evidence, and the difficulty of proving the exact position of the open cut where the accident occurred.

"The accident return is an extremely light one consisting of one fatal, eleven serious, and thirty-nine minor accidents. The fatal accident to Gandini was due to his getting into an ore-chute for a shovel without first obtaining an answer from the man working above; rocks rolled down the chute while Gandini was there and killed him. The eleven serious accidents do not call for any remarks, being occurrences inseparable from mining. The minor accidents are bruises and cuts of various kinds. Careful inquiry has been made in every case with a view to detect any negligence.

"Ropes, chains, safety appliances, etc., have been carefully tested at frequent periods, and there has been no accident in connection with them. The oiling of ropes with hot castor oil, and the cutting and re-shoeing every three or four months have given good results. Sanitation has been well at-

tended to, the attention centred on this subject by the Royal Commission having had a good effect.

"Ventilation and the temperature of all underground workings have been carefully noted. I have insisted upon the generous use of 'compressed air' in ends, rises, etc., in fact in every working place where necessary.

"Explosives have received careful attention in storing and handling underground. There are still complaints about the different brands of dynamite from the miner.

CONDITIONS OF MINING, Etc.

"Mining generally throughout the field is on a solid basis, notwithstanding a decrease in output for the year, but good development work continues to be done, and the new year opens with many reassuring aspects.

"The prospecting claims in the immediate vicinity of Menzies have continued to keep two public batteries going throughout the year, and the value obtained from the stone milled has been exceptionally good.

"*The Menzies Consolidated*, at Woolgar, continues to open up well. The No. 10 level is quite up to expectations in width and values. The management are now engaged sinking a new main shaft, which they propose to sink to 1,000ft. before opening out. This shaft is already down over 100ft., and is being pushed on with energy. The districts of Springfield, Picton, and Hillview, are being worked by prospectors for good returns.

"*The Goodenough*.—This mine has undoubtedly been a disappointment, but with further development along the known ore-chutes, which is now being done, I am of opinion the mine should considerably improve.

"*The Cometdale*.—This has two very nice mining propositions, the Sand Queen and the Gladsome. The Sand Queen has done good work during the year, and some very good returns have been obtained.

"*The Gladsome* has continued to develop well, and a ten-head battery had been erected, but some difficulty has arisen over the battery foundations, thereby delaying crushing operations. Had they been able to proceed, some good returns would have come from this mine.

GOONGARRIE.

"Mining matters at Goongarrie have not been very brisk during the year. Janeczek and party have now taken the Providence Copper lease, and erected a boiler and winding engine with the view of further development, which the property warrants, and at the present price of copper it should pay well.

DAVYHURST.

"This place has been almost at a standstill as far as development goes, although a considerable amount of gold has been won.

"*The Golden Pole* has done very little, below the 400ft.—why a rich mine like this is not developed energetically is extremely puzzling. The *Waihi* has also continued to work and exhaust known reserves, without the slightest effort to develop the mine on a sound basis. Both these mines are worth developing.

"*The Great Ophir* is another promising proposition deserving of energetic development.

"*The Homeward* has been equipped with good machinery, and two shafts sunk to 200ft. When the levels have been driven to the pay ore chutes some good crushings should be obtained from this property.

"*The Light of Israel* is a property joining the Gt. Ophir. Wainwright and party have had some very payable crushings at the State battery from this mine, which has a very large lode of low-grade ore, similar in character to the Great Ophir.

"Recently the old Callion mine has been reworked with excellent developments, which give promise of being highly payable.

MULWARRIE AND MULLINE.

"Small parties of miners have continued to work the mines at Mulwarrie and Mulline for very good results. Hood and party have erected a good five-stamp mill on the Riverina South, where they have 2,000 tons of ounce stone at grass. This mine is being energetically developed on sound economical lines, and reflects great credit on the mining and business acumen of the party. They will now be able to crush their stone for 6s. per ton. The cost of crushing at a public battery was 14s., and 6s. per ton for carting. With their own mill this party will be able to develop their mine thoroughly.

NIAGARA.

"This district has continued to do good work; during the year several good prospecting propositions were discovered.

"The May Bee and Lubra leases on the same line of lode are very promising mines, from which good crushings have been obtained. The W.E.G. mine has been taken over by Mr. Davis, and with a supply of water the mine should give a good account of itself. The Challenge mine is a very promising property and would pay a small syndicate to open it up. The Hannan's Main Reef Co. are now sinking their main shaft below the 400ft., the values obtained at that depth augur well for the future of this mine. The prospecting claims around Niagara have continued to keep the State battery going full time on payable stone.

KOOKYNIE.

"At present, through the closing down of the Cosmopolitan Proprietary, Kookynie is under a cloud, but the levels now being driven into the Cumberland mine at No. 9 and No. 11 should open up many thousands of tons of good payable stone, together with the Southern shoot where excellent stone was recently discovered at a depth of 1,700ft. With the removal of the large electrically-driven pump from the 6 to the 10 or 11 level, and the repairs completed to the boilers, this mine should lift the cloud and work for several years.

"Perry and party have worked the old Champion mine for good returns during the year.

TAMPA.

"Mr. Spicer has equipped the Grafter mine with a good five-head stamp mill and cyanide plant, which will give the mine a chance to be opened up in the deep country. A five-head battery has been erected at Armidale, a place situated North-West of Tampa,

where there are several small promising mines, the development of which has been retarded through the cost of carting ore to the batteries several miles away.

YUNDAMINDERA.

"The Potosi Consolidated Co. has not done much development work on their group of leases during the year, nevertheless the past history of this property, with the known values that exist, warrant further exploratory work in the hard country from which there is every reason to believe payable ore would be obtained. The prospectors have continued to work their properties with satisfactory results.

YERILLA.

"During the year deep alluvial wash was discovered by Thomas Brothers. A large number of shafts were sunk proving the existence of a lead running West over the cap of the Melba Consols reef, and East in the direction of the lake. Thomas Brothers were granted a reward claim, and they undoubtedly had several feet of rich wash, but it was a patch. Although a considerable amount of work was done and immense quantities of wash proved, nothing of a payable nature was discovered beyond a few colours of gold in a few of the claims. Several prospectors are working quartz reefs with payable results in the vicinity of the public battery.

MT. REMARKABLE.

"Messrs. Robertson and Crowley are working a large lode of low-grade material which should pay with a small plant on the property. Several nice prospecting claims have recently been discovered in the direction of Yilgangie. The surface indications are of a very promising nature.

YARRIE.

"The *Wallaby Central*, owned by the Lake View South, has continued to develop satisfactorily. Thomas Brothers have worked the *Wallaby* for good returns, and the mine has a promising future. The *Wallaby North* has been worked by tributers on a very large quartz reef for payable returns. A few prospectors are working several claims in the vicinity of the State battery for excellent results.

EDJUDINA.

"The *Neta* mine and the other leases held by Alderson and party have been worked throughout the year for payable results. Good values in hard country have been worked by the Senate Co. The mine has a promising future. Very little work has been done along the line of reef for the year.

PINGIN.

This place has settled down to develop the mines.

"The *Anglo-Saxon* has been worked for good returns and the owners have proved the chute-carrying values on the underlie for 400ft. or 500ft.

"The *Pingin King* lease being worked by Menz and party has turned out several good parcels of stone, and gives promise of developing into a good mine.

"The *Anglo-Saxon North*, owned by Christenson and party is developing well. This claim has a good chance of getting the dip of the *Anglo-Saxon's* rich chute.

"The *Harbor Lights* has had one or two good crushings this year. The faulting of the rich chute

of payable ore has caused some trouble during the year. This has occurred in one or two other claims at Pingin, but the chute has been found again by searching in the right direction.

"A number of other claims are being worked with satisfactory results. The State battery has done good work during the year."

NORTH-EAST COOLGARDIE AND BROAD ARROW GOLDFIELD.

The Annual Report on this field, dated 12th January, 1907, is written by Mr. S. Cullingworth, Inspector of Mines, who has had principal charge of it during the year; he says:—

"Mining in the various centres in this district has been steadily carried on, although it is to be regretted that very little capital has been available for fresh enterprise.

"A large proportion of the gold won comes from tributers' work or from privately owned properties working under the disadvantages of small and often inadequate capital.

"The accidents for the year comprise—two fatal, nine serious, seven minor.

"Seventeen permits for Sunday labour have been issued, principally to the North White Feather Co. for mullocking their stopes.

"*Kanowna*.—The Red Hill leases owned by private individuals or small parties, continue to yield a good tonnage of high grade ore, their crushings varying from 25dwts. to over 4ozs. per ton.

"The characteristics of each holding are similar and are somewhat peculiar, the quartz veins being almost flat, and occurring one beneath the other at intervals of from 10ft. to 30ft.

"The Robinson mine has been worked by tributers, 18 parties having been at work during the year.

"The Robinson Slimes plant has now finished operations on the accumulated heap of slimes, having treated 26,400 tons of slimes.

"On the Lily Lease, belonging to the North White Feather Company, development work has been vigorously pushed on, levels having been driven at 600, 700, and 800ft. with, on the whole, satisfactory results.

"The North leases belonging to this company are manned by tributers, but, I understand, it is the intention of the company to resume work here and to sink a new shaft and explore the deeper ground.

"Martin's public battery has been fully occupied, and has crushed a total of 10,141 tons for a yield of 9,718ozs. of gold. A slimes plant is now being erected at this mill.

"On the North Lead several parties are still at work, mining the headings or bottoms of the old alluvial lead.

"Norton's battery is principally engaged in crushing this material, and Sims' puddler has also been well employed on the pug from this lead.

"Rollo's Reward is a newly-formed local company to test some deep ground about three miles from Kanowna. The shaft should be down to the required depth in a few weeks' time.

"The Sunbeam owners are now driving and stopping at their No. 2 level. The reef is small but of high grade.

"The Commonwealth mine, which was lately sold by auction, is now manned by tributers and, so far, their operations have been satisfactory.

"On the Moonlight lead Messrs. Black, Blatchford, and Grut have applied for a lease to work the headings and bottoms of the old alluvial lead. Should this lease be granted, it is their intention to erect a good treatment plant. Several other of the old mines are worked by tribute parties with varying success.

"*Gindalbie*.—On the South Gippsland lease, owned by the Queen Margaret Company, development work is proceeding at the 600ft. level with payable results.

"Messrs. Perry and Harrop are erecting a 5-head mill on the Eclipse mine, and intend to crush for the public. Several other privately-owned claims and leases have lately had good crushings, and altogether there is a very hopeful feeling in the district.

"*Bulong*.—At the Queen Margaret work is being carried on principally below the 600ft. level. In common with many of the mines in this district the ore is patchy, and a large percentage of the gold won occurs as specimens. The other leases belonging to this company are worked by tributers who are occasionally rewarded by striking rich patches.

"On the Golden West, a locally-owned property, a 5-head battery has just been erected, and at the Barton, another locally-owned property, a Huntington mill has been put up. This latter property is an alluvial deep lead, and if operations are successful, will doubtless lead to other leases being taken up.

"*Mount Monger*.—There is a large extent of auriferous country in this district, but as it is mostly low-grade, and as there are no crushing facilities on the field, the properties—which are mostly owned by small parties—are not being very vigorously opened up.

"*Broad Arrow and Paddington*.—Mining in these districts is quiet. The alluvial leads, formerly so productive, are now almost exhausted. At the Windanya Consols a 10-head battery has been erected, and will start crushing at the beginning of the new year. Many of the mines in the Paddington and Bardoe centres are being worked by tributers—in some cases with satisfactory results.

"The New Slug Hill mine at Vetersburg is being energetically worked. The reef is small but of high-grade. From 1899 to November, 1906, 18,033 tons were milled for 16,078ozs. of gold, and 8,000 tons were cyanided for 921ozs. of gold.

"*Kalpini*.—A Government battery has lately commenced work here. The crushings which have been put through to date have been satisfactory, and it is considered this district will be a consistent producer. It is pleasing to note that the local people are supporting mining ventures in their own districts, as nearly all the companies and syndicates formed during the year are well supported, or entirely owned, by residents in the locality."

EAST COOLGARDIE GOLDFIELD.

The annual Report of the Inspector of Mines, Mr. J. O. Hudson, dated 25th February, 1907, says:—

"The Mines have been regularly inspected, and where defects in the working conditions were brought

under the notice of the various managers, I am pleased to state that they were remedied as speedily as possible.

"*Accidents*.—During the year thirteen (13) accidents, which proved fatal to fourteen (14) men occurred:—

One on the Golden Ridge from fumes in treating zinc precipitates with sulphuric acid.

Four due to falls of ground in stopes—three of these accidents occurred on the Oroya-Brownhill G.M., and one on the Lake View Consols.

Three men fatally injured on the Ivanhoe G.M.—one in excavating in the filling to locate a rearing, was crushed by a slide from the East wall which came away from below the filling; and two men were killed by the sand filling moving the covering over a pass and the men were evidently unaware the covering over the pass had been moved and slipped into the pass, and were covered by the sand which followed them.

Two men were killed by stones moving on rills in stopes—one on the Ivanhoe G.M., and one on the South Kalgurli G.M. In the case on the Ivanhoe mine the stone rolled down the rill, fell over the rearing, and caused injuries which resulted in death to a man sitting in the level.

One man was killed on the Lake View consols G.M. by premature explosion, which was attributed to fast fuse.

One man was killed on the Ivanhoe by a fall from the ladder-way in Drysdale's shaft—this was an upcast shaft, and to reach the ladder-way he had to climb up by air-pipes on the sides of the shaft. The bottom ladder had been removed to prevent any persons climbing up the shaft.

Two men were killed on the Eclipse G.M. by being electrocuted, one by a lighting cable of 110 volts, and the other by a power cable of 550 volts.

"There were 335 serious accidents during the year. This number seems very large, but when the cause and injury are analysed, it is readily seen that the majority are such as cannot be avoided.

"There were 44 truckers seriously injured, and in most cases the injuries consisted of bruised and cut fingers and strained legs.

"A large number of serious accidents are due to strains, ruptures, poisoned hands and similar injuries.

"There were no fumes accidents reported underground during the year. This class of accident was very prevalent, and it is to be hoped that there will be no recurrence of them.

"*Safety Appliances*.—These have received constant supervision and are regularly tested by special men on the large mines, and records are entered of the results of the tests.

"There have been several cases of cages hanging up in shafts when descending. In each case it was while lowering the empty cage or skip. The most serious case occurred on the Ivanhoe mine, the descending skip being hung up between the 200 and

300ft. levels. The ropes became entangled and the shaft was severely damaged and the ropes, which were new, were condemned.

"The present safety appliances attached to cages on this field do not seem adapted to deep lifts and fast running. This is a question which will require the consideration of the Mines at a very early date, or it will be necessary to limit the rate of speed in single gear.

"Winding Ropes.—There were no cases of the breakage of winding ropes during the year.

"The necessity of very strict supervision is clearly demonstrated by the number of ropes which have been discarded owing to internal corrosion. The proposed new regulations should prove of considerable service in further safeguarding accidents from this source.

"Explosives.—The regulations in regard to explosives have been rigidly enforced. The magazines are frequently inspected. The large mines employ special men who have charge of the explosives, and they are held responsible for the delivery underground. The explosives used on the mines are of recent date and of good quality. The introduction of stronger detonators has given every satisfaction.

"Fuse.—There have been several accidents and many narrow escapes from premature explosions. In all cases it was stated to be due to fast fuse. A case was reported by the manager of the Ivanhoe mine where a man had barely time to be hauled out of the winze before a shot exploded. At the test made of the fuse on the mine it was found that two brands of fuse were being used—this was due to fuse being returned, by an adjacent mine, of a different brand to that used. The mine had been used to working fuse of 105 seconds per yard—that which they were using at the time was 79 seconds per yard, which would mean a difference of 52 seconds in a length of 6 feet, which was the length generally used.

"The matter has been placed before the Chamber of Mines, and a series of tests has been carried out on the mines which demonstrated that the difference was even more than that stated, and that the burning rate was very irregular.

"All fresh consignments of fuse are now tested on the mines, and the minimum is taken as the burning rate—conditionally that it complies with the regulations.

"Ventilation.—The ventilation of the large mines is satisfactory. The Ivanhoe G.M. has connected with the Golden Horseshoe G.M. on the South, and the Great Boulder on the North at the 865ft. level—this has caused a considerable improvement. The Great Boulder Perseverance G.M. has connected with the Associated G.M. at the No. 11 level. The Golden Horseshoe G.M. has connected with the Great Boulder G.M. at the No. 10 level. The lower levels are connected by winzes, and the connections between the levels are made as speedily as possible.

"Electric Signalling.—The South Kalgurli G.M. has installed a duplicate system—a full description of which has been forwarded. The Kalgurli G.M. has installed an electric system—a full description of which is attached.*

* See Appendix "C."

"First Aid.—It is pleasing to note that considerably more interest is being taken in this very useful subject. Messrs. Bolton and Harris are devoting a large amount of time to lectures. The manager of the Ivanhoe G.M. has inaugurated classes on his mine, and insists on all the permanent staff attending. It is to be hoped that other managers will inaugurate similar classes on their mines. It is to be regretted that the men employed underground do not take a greater interest in a matter which is largely to their advantage, and supply a better attendance.

"Prosecutions.—Particulars of the prosecutions for the year are as follows:—

"A manager, for unsafe working of sand dump by which a fatal accident occurred, fined £2 and costs (£3 18s.).

"A miner charged with having used an iron tool for tamping explosives, fined 10s. and costs (£2 6s.).

"A miner charged with carelessness in the use of explosives, he having left a plug of gelignite in a hole and omitted to warn the men relieving him. A nominal penalty only was asked for, fined 2s. and costs (2s.).

PROGRESS OF THE PRINCIPAL MINES.

"Great Boulder Perseverance G.M.—During the year this mine treated 169,194 tons of sulphide ore and retreated 230 tons of tailings for a total recovery of 80,648.550ozs. of fine gold, and 10,812.646ozs. of fine silver, with an estimated value of £343,605 3s. 8d.

"Considerable improvements have been effected in metallurgical operations for the year, which have resulted in a reduction in the loss of residues to .543 of a dwt. per ton.

Development Work.—

	feet.	inches.
Driving	2,873	0
Crosscutting	1,747	6
Winzes and Rises	1,003	6
Plats and Chambers	491	0
Making a total of...	6,115	0
Sumping	367	6
Diamond Drilling	1,963	0
Making a total altogether of	8,445	6

"The main development during the year was the discovery of a large body of payable ore at the 1,450ft. level, which, however, is not sufficiently exposed to be included in the ore reserves; 1,876 tons were treated from this development.

"The following is a general summary of the ore reserves to the 31st December, 1906:—

Lode.	Tonnage and Value.		Probable Ore in Reserve.
	tons.	dwt.	
Perseverance	177,377 at	7-123	47,458
W. Branch of Perseverance	10,358 "	9-962	Nil
Lake View	148,653 "	10-104	156,569
E. Branch of Lake View	7,467 "	6-468	9,741
W. Branch of Lake View	2,000 "	10-000	Nil
No. 1 East	1,326 "	7-000	Nil
El Oro	29,879 "	10-909	12,424
Ophir	6,850 "	10-070	Nil
	383,410 at	8-701	226,192

"The probable ore in reserve—226,192 tons—is estimated at an average value of 6dwts.

"Ore Breaking.—With the exception of two, the stopes of this mine are worked on the shrinkage system. The following table shows the ore extracted from the various levels during the year :—

Level.	Tons.
100	965
200	9,416
300	8,096
400	6,381
500	21,916
700	54,921
900	39,041
1,100	25,558
1,300	1,428
1,450	1,876
	<u>169,600</u>
Tonnage treated... ..	169,194 tons
Remaining in bin	406 "
	<u>169,600</u> "

"Costs.—

	Average Costs per ton.					
	1905.			1906.		
	£	s.	d.	£	s.	d.
Ore breaking	0	9	0.207	0	6	9.645
Sulphide treatment	0	13	1.551	0	11	11.509
General	0	1	3.575	0	1	1.636
Tailing distribution	0	0	5.924	0	0	6.497
Total cost	1	3	11.257	1	0	5.287

"Plant.—During the year the following additions and alterations have been made to the plant :—

"An electric tramline was laid down to mine passes for the discharge of sand filling.

"Nos. 1, 2, 3, 4, and 5 furnaces have been converted to the 'Edwards' type.

"A large ore bin has been placed at the shaft together with 'Hadfield's' 18 x 30 jaw crusher and conveyor extending to main ore bin.

"A new electric plant has also been installed.

IVANHOE GOLD MINE.

"Development Work.—Patterson's shaft has reached a total depth of 1,724ft., and opening out is now being done at 1,670ft., when sinking will be continued.

"During the first half-year the developments at the bottom level (1,371ft.) were not of a promising nature, but it was ultimately found, through a throw in the East lode occurring that they were not on the proper track of the lode. It has since been located, and the ore exposed so far is equal in value and width to any of the levels in the 865ft., and the ore reserves for the year ending 31st December, 1906, will show a considerable increase in tonnage and gold contents, and the management confidently expect the present profits being won from the mine will be maintained for some considerable time.

"Treatment Plant.—During the latter part of the year a considerable reduction has been made in the loss in residues—principally brought about by the increased use of lime and better concentration.

"First Aid.—During the latter part of the year a surgery was built adjoining the time office at the main shaft. It is fitted with all appliances and chemicals necessary in case of accident, and is used for no other purpose but accident. An ambulance wagon of the latest type is kept in readiness in case of emergency. This is a considerable improvement on the methods of some of the other mines.

Particulars of Mine Development for Year 1906. (Ivanhoe Gold Mine.)

Level.	Main Cross-cuts.	East Lode.				Middle Lode.				Horseshoe Lode.				Boulder Lode.		New Lode.		Totals.
		Driving.	Winzing and Raising.	Cross-cutting.		Driving.	Winzing and Raising.	Cross-cutting.		Driving.	Winzing and Raising.	Cross-cutting.		Driving.	Cross-cutting.	Driving.	Winzing and Raising.	
106 feet			56				17											feet.
189 "			89															73
289 "			22															89
387 "			20															22
489 "		22	7															20
588 "		68		22	34													29
707 "		75		14	180	181	23	105	71	19	9	16					124	
865 "		648	240	154														693
1010 "		500	386	100														1,042
1203 "	16	515	513	144	488	403	8											1,143
1371 "	200	937	173	160	655	183	20									18	106	2,087
1519 "	706	70	51		125	8	9									35	36	2,452
1669 "	33																	1,040
Shaft																		33
Totals	955	2,835	1,557	594	1,482	949	60	105	71	19	9	16	53	142				9,058

HAINAULT GOLD MINE.

"The main shaft has reached a depth of 815ft., and will be continued to the 1,000ft. 750ft. level :—The Northern ore body has been opened up for a length of 127ft., with an average width of 19ft., value 10dwts. The main South drive is in 250ft.,

and it is expected that the Southern ore body will be met with at, approximately, 300ft. The ore bins are ready for working the skips, and are also being cut at the 750ft. and 400ft. levels. 300ft. level :—The main shaft drive is in 360ft. from 95ft. The drive has been in payable ore from 3ft. to 15ft.

wide. 200ft. level :—The main shaft drive has been carried to the South boundary—a distance of 460ft., and shows payable ore over a length of 380ft., varying in width from 4ft. to 21ft. The ore body on the 100ft., 200ft., and 300ft. levels South of the main West crosscut are nearly vertical, both as to strike and dip, whilst the ore body first worked, which started 190ft. West and 200ft. North of the main shaft, is at the 750ft. level 145ft. South, and only 120ft. West of the shaft—this ore body has, approximately, a dip of 46ft. towards the South, and an underlay of 12ft. to the East in each 100ft. of vertical depth.

“*Surface.*—A new and large winding engine is being erected, and self-dumping skips of two tons capacity are being installed. Ore bins are being erected at the shaft, and the treatment plant is being increased to 40-head of 1,200lbs. stamps, and it is expected to treat 7,500 tons per month. Sorting-belts are installed by means of which fully 2,500 tons of waste matter—value 1.5dwts. per ton will be sorted out. The ore will be crushed coarse in a 30 x 12 rock breaker, then the waste sorted out, and then crushed in 15in. x 9in. rock breakers. It will be treated at the battery through 8-mesh screens and then ground fine in ‘Middleton & Cobb’s’ grinding pans; then amalgamation, classification, concentration, and cyanidation. The total cost is not expected to exceed 15s. per ton.

“*Change houses.*—A large changing house—80ft. x 28ft. over all—has been built. Hot and cold water and shower baths, and every convenience possible have been provided for the comfort of the men. The introduction of hooks to raise all clothes to the roof is a good one, as it leaves the floor space perfectly clear.

KALGUBLI GOLD MINE.

“The main shaft has been carried down from 1,154ft. to 1,400ft. Payable ore was met with in this shaft—the last body at 1,320ft. It is intended to open out levels at 1,350 ft. and 1,250ft. The deepest level worked is 1,150ft.—at this depth the shaft and plats were in payable ore. 70ft. West of the shaft ore averaging over the present grade in the mine was opened up for a length of 235ft., showing free gold and telluride—average width about 8ft. At the Eastern side of the shaft there has been no cross-cutting, the ore body starting off the chamber and going South about 110ft., averaging in width 45ft. to 50ft., the average value being about 17dwts.—between this and the South drive off the main West crosscut the diamond drill showed 32ft. of ore, averaging 8dwts. A winze below the South drive, off the main West crosscut, shows values about 1oz. down to 62ft. Over the 750ft. level the stope is 225ft. in length, the Northern part being 63ft. in width and the Southern end 78ft. in width.

“640 Stope : The ore body is 130ft. wide, and it is being worked in two parallel stopes. The main stope is 210ft. in length and has an average width of 65ft. At the 200ft. level stope the ore is being taken out over a length of 120ft., and width of 150ft.

“*Plant.*—Double-decked cages have been in use during the whole of the year. They are fitted with travelling chairs which have proved most satisfactory, and have worked without any trouble. It is the in-

tention, owing to the increased tonnage and deeper levels being opened up to instal skips, with a capacity of two tons of ore, at an early date.

“At the Rock-Breaker a large exhaustor has been installed to exhaust all the fine dust from the rock-breakers, etc. The dust is then collected in a hessian dust-collecting or filtering house.

“*Treatment Plant.*—A 450h.p. Mill Engine has been purchased, and is to replace the 250h.p. now in use. The capacity of the mill has been increased by 2,000 tons per month, or up to 11,000 tons per month. The treatment costs have been reduced, approximately, 2s. per ton, and the value of the residues has been reduced to 3s. per ton.

“*Changing House.*—A new changing house has been erected for all surface employees, and is fitted with every convenience.

OROYA-BROWNHILL GOLD MINE.

“Work is being carried on at the Brownhill, Oroya North, and Oroya South Leases. There are no new developments of note for the year. The following are the particulars of footage for the year :—

Shaft sinking	263
Driving	3,284
Rising	1,472
Crosscutting	4,236
Winzing	214
Plat-cutting	227
Total	<u>9,696</u>

Ore treated 128,180 tons, realising 148,203.072 fine ounces.

SOUTH KALGURLI GOLD MINE.

“The main shaft has been taken to a depth of 1,520ft., and Morty’s shaft to 1,020ft. There have been no fresh developments of note on the mine during the past year. The following table shows particulars of footage for the year :—

Shaft-sinking	303 feet
Driving	1,997 ”
Cross-cutting	968 ”
Rising	200 ”
Total	<u>3,468 ”</u>

“Tonnage extracted and treated, 98,726 tons (2,000 pounds).

“Tonnage extracted and treated, 1905 (six months only), 42,030 tons.

“Fine Gold Yield for 1906, 38,391 ounces.

HANNAN’S REWARD AND MT. CHARLOTTE, LIMITED.

“During the year the mill was increased from ten to twenty head. The property is let on tribute with a royalty of 15 per cent. on the gross proceeds. Sub-tributes are let on the small East and West veins, but these are small and patchy, and the tonnage derived by this means is low. The sub-tributes are let on the same royalty as the tribute.

“From the 1st April, 1906, to the 31st December, the sub-tributors crushed 1,115 tons for a yield of 1,604ozs. 7dwts.—value £6,069 14s. 5d., averaging £5 8s. 1d. per ton.

“This property, however, mainly depends upon the working of the large quantity of low-grade ore

in the mine. This is at present being worked from an open cut from which descend passes to the 100ft. and 200ft. levels, and the ore is trucked from these to the main shaft. The ore is at present being worked for an average width of 25ft., and the open cut is about 300ft. long by 80ft. deep.

"The wages paid by the tributers for working the mine and mill amount to about £500 per month. Work underground is only carried on for one shift per day—about 100 tons being broken and landed in the mill.

"The result of the treatment of this ore during the aforesaid period was 17,239 tons for 2,544ozs. 16dwts. 12grs.—value £9,410 13s. 6d., averaging 10s. 11d. per ton. As the tributers pay 15 per cent. on this, the mining and milling was done for about 9s. 3d. per ton. The ore has latterly been lower grade than the above average, and is now costing about 8s. 6d. per ton for mining and milling, and the tonnage has been increased.

"The reduction of price in water to 3s. 6d. per 1,000 gallons, under the "low-grade ore" clause, has been of considerable assistance to this mine in enabling it to work on a large scale at a low cost.

ECLIPSE GOLD MINE (GOLDEN LINKS, LIMITED).

"During the year the Golden Link Lease was sold to the Lake View Consols G.M. Co. The following are the particulars of the development work carried out on the Eclipse Mine, and also on the Cresus Proprietary Lease during the past 12 months.

"500ft. level: The South Drive was driven a total distance of 411ft. 10in. from the main East crosscut. For the last 312ft. of this drive the lode has averaged 12ft. in width, and given an assay value of 14dwts. per long ton. The 500ft. level is, as yet, connected with the 400ft. level by one rise only, and short North and South drives have been driven at the 400ft. level. The average value of the ore in the rise is similar to that at the 500ft. level, and a solid schistose body of lenticular shape, but between the 500ft. and 400ft. levels is faulted, and above the fault is interlaminated with low-grade rock, the alternate laminations being payable. No payable values being hitherto discovered between the 100ft. and 400ft. levels, but the main lode is faulted in such a way that the development work done previously at the 200ft. and 350ft. levels has missed the faulted portions of the body. The oxidised ore became unpayable about 100ft. from the surface, and as far as at present known, remains unpayable to below the 200ft. level. The point at which the ore becomes payable will be proved as the present development work proceeds upwards. The ore body may prove to be much longer than is at present driven on at the 500ft. level, as the ore is still continuing in the face of the South drive. The body is underlying West about 45 degrees—that is, into the Eclipse Lease at the North end.

"The result of the development work during the last eighteen months has been sufficiently good to justify the immediate erection of a sulphide plant of a capacity of 80 tons daily.

IVANHOE SOUTH EXTENDED GOLD MINE.

"This shaft had reached a depth of 1,952ft. to the end of the year, but sinking has been continued, and at the 2,000ft. a lode was met with showing visible free gold.

"A new winding plant—first motion engine and head gear, has been erected

ASSOCIATED NORTHERN GOLD MINE. (Iron Duke Lease.)

"The main shaft has not been sunk during the past year.

"The development work for the year was:—

Drives	481½ feet
Crosscuts	1,677 "
Rises and winzes	641 "
Diamond drilling	156 "
Total	2,955½ "

"Ore mined, 1906—41,225 tons, total value gold recovered £182,697.

"The main work was carried out on the Iron Duke chute.

"Plant.—A new furnace has been added to the plant to maintain the output—this being necessary for treating ore with higher sulphur contents. The average extraction is given as 94.8 per cent.

"A short description of the treatment at this plant is appended (Appendix D).

ASSOCIATED GOLD MINES.

"Judd's shaft has reached a depth of 1,736¾ft., 56½ft. being sunk during the year. Tetley's shaft has reached a depth of 1,420½ft.—403ft. being sunk during the year.

"The developments for the year are as follows:—

Drives	4,070 feet
Crosscuts	2,607 "
Rising and Winzing	2,196 "
Diamond Drilling	2,811½ "
Total	11,684½ "

"The total extent of the workings on this mine is about 25 miles.

"For the year 1906, 106,009 tons of ore were mined for a total value of £231,551. The present capacity of the mill is about 10,000 tons per month. Judd's shaft is equipped with a direct motion, double drum, steam winder; and Tetley's shaft with a double conical drum electric winder.

"The following lodes were worked during the year:—Australia East lode, Tetley's lode, No. 2 Cross lode, Iron Duke chute, Australia main lode.

"The Iron Duke chute is now being traced and opened up to No. 12 level.

GOLDEN HORSESHOE ESTATES, LTD.

"The developments for the year are as follows:—

	Total for 1906.	Total since inception.
Drives and Crosscuts	4,639	47,477
Shaft sinking	203½	2,157
Passes, Rises, and Winzes	2,484	24,232
Diamond Drilling	2,039	2,993
Totals	9,365½	76,864

"The main shaft has reached a depth of 1,534ft. The total tonnage treated during the year was 243,026 long tons, the plants having handled 22,398 tons more than in 1905.

THE GOLDEN HORSESHOE ESTATES, CO., LTD.

Sundry particulars of Work done in Stopes by Rock Drills during the Year ended 31st December, 1906.

Average number of machines in use	20·2	Steel sharpened :	
No. of shifts worked	928	Hand drills	133,684
No. of holes bored	57,679	Machine drills	228,899
No. of feet bored	397,714	Picks pointed	1,175
No. of feet bored per drill per shift	21·21	Sizes of steel in use :	
Average depth of holes	6·90ft.	Star bits—2½ in. dia. x 6ft. 3in. long ...	13·4%
Tonnage of ore broken (2,240lbs.)	228,430	2¾ in. dia. x 5ft. 0in. long ...	22·4%
Average tonnage per drill per shift	12·18	3½ in. dia. x 3ft. 9in. long ...	20·1%
		3¾ in. dia. x 2ft. 6in. long ...	30·9%
		Chisel bits—1½ in. dia. x 7ft. to 10ft. ...	13·2%
			100·0%

Summary of Explosives used for Year ended 31st December, 1906.

Particulars.	Stoping.	Driving.	Cross-cutting.	Winzing and Raising.	Shaft Sinking.	Flat Cutting.
Tons of ore broken (2240 lbs.)	228,430					
Footage progressed		3,901½	716½	2,484	203½	Cub. ft. 3360 or 80ft. of crosscuts.
Lbs. of explosives used:—						
Gelignite	157,300	2,145	140	1,025		
Gelatine dynamite	180	7,595	450	455	50	
Blasting gelatine	1,210	44,480	7,350	14,215	3,375	350
Detonators	93,475	18,650	2,550	10,050	1,400	200
Coils of fuse	20,561	4,437	697	2,232	410	33
Average lbs. of explosives used per ton of ore broken (2240 lbs.)	69					
Average lbs. of explosives used per foot progressed ...		13·90	11·08	6·32	16·83	4·375

THE GOLDEN HORSESHOE ESTATES, CO., LTD.

Sundry Details of the Total output of the Mine from Inception to 31st December, 1906.

Total tonnage of ore treated	1,146,114
Do. ozs. of Bullion produced	1,479,210·9261
Do. gross value of bullion produced	£5,451,279 11s.
Do. Dividends paid	£2,265,000
Troy tons of gold produced	61½
Cubic feet of gold produced	88·2
Development work done (exclusive of 2,039ft. of diamond drilling)	14 miles.

"Developments.—The following are the principal developments during the year:—

"1,300ft. level.—No. 2 lode has been driven upon 367½ft., averaging 10½dwts. the whole distance for the full width of the drive.

"1,400ft. level.—No. 2 lode was cut at 25ft. North and 15ft. West of main shaft, proving 7ft. wide, and assaying 25dwts. per ton. No. 3 lode was also cut on this level at 35ft. South and 13ft. East of the shaft; it proved 16ft. wide, assaying 13dwts.

"1,500ft. level.—No 3 lode was cut at 12ft. East of the shaft, proving 16ft. wide, averaging 13dwts. per ton.

"The management states that the future prospects of the mine at a depth are most encouraging.

"Plant.—Preparations are being made and the foundations laid for a large new first-motion winding engine, which will be the largest erected on the field. It is also intended to instal at an early date a 60-drill compressor.

DEVON CONSOLS GOLD MINE.

"This mine has suspended underground operations. The depth of the main shaft is 250ft. The owners state that 23,000 tons were mined above that level for a value of about £45,000. It is to be re-

gretted that the owners have not courage to further develop this mine, the lowest level still being in oxidised country and there are no difficulties in connection with development.

HIDDEN SECRET GOLD MINE.

"The main shaft has reached a depth of 300ft., the ore body located, and high values obtained but the extent was limited. A winze is being sunk on to the chute and has reached a depth of 80ft. and is in high values.

A.W.A. UNITED.

"During the year work in the open cut was suspended, and the lode running South has been worked. The total tons crushed for the year were 9,318 for a return of 2,255ozs. The cost of mining development, cyaniding, is estimated at about 15s. per ton.

"The mine is held by two men—Thornett Brothers. They have erected 10-head of stamps, cyanide plant, and winding engine.

"The grade of ore, although low, is giving them a fair profit. This party has been materially assisted by the cheap water rate issued to low-grade properties.

BROWNHILL EXTENDED GOLD MINE.

"John's shaft has reached a depth of 825ft. This shaft is 14ft. x 4ft. 6in. in the clear. Plats have been cut—2, 3, and 4—for the 600ft., 700ft., and 800ft. levels.

"At the 800ft. level the lode was intersected 59ft. West of the shaft and driven on North and South. Two rises have been made in the lode, one connected with a winze at No. 7.

"The lode is frequently faulted, having an average width of 3ft.—this is the new lode discovered East of old main shaft. 700ft. level: This level is connected to the old main shaft by a crosscut.

"600ft. level crosscuts to lode 150ft. The lode is driven on North 249ft., the lode rising on 66ft. The lode is considerably faulted, values erratic, with payable chutes.

"No. 1 East lode has been driven on No. 6, and 7 levels and preparations made for stoping. The average width of the lode is about 4ft. The lode is regular and values considered payable.

"The high values in this mine are usually associated with scheelite, which is looked on as an indication of values.

"The company has leased the North Kalgurli battery for six months, and crushing will be started early in the year.

"A large winding engine, poppet heads, and ore bin have been erected at the shaft.

GREAT BOULDER MAIN REEF, LTD.

"The main shaft has reached a total depth of 1,726ft. There are 13 main and two intermediate levels, the bottom level being at 1,700ft.

"At the 1,700ft. level, approximately 750ft. of driving and crosscutting has been done in the last 12 months, and three bodies of ore have been located. Stopping thereon is now in progress. The Chaffer's G.M. Co. are crosscutting West to locate ore found by diamond drilling.

"Diamond drilling is now in progress testing the ground below the 1,700ft. level, and the first hole has already located an ore body about 7ft. wide at a vertical depth of 1,800ft.

"Mining is also in progress at the 15, 10, 8, 4, and 2 levels.

"About from 10,000 to 15,000 gallons of water are baled from the mine daily which runs to waste.

"During the winter of 1906 the whole of the reduction plant was pulled out and rebuilt. Crushing was resumed at the end of September last, since when, 9,768 short tons of ore have been crushed to the 31st January, 1907. About 120 men find employment on this mine.

GREAT BOULDER PROPRIETARY G.M., LTD.

"During the year 1906 the total lineal measurement of levels, rises, and winzes, amounted to 7,112ft. 6in.

"In addition, 3,063ft. 6in. of diamond drilling have been done and 619ft. of sinking, made up as follows:—

Main shaft ... 150ft. ...	Present depth, 2,126ft.
Edwards shaft 324ft. ...	Present depth, 1,914ft.
Hamilton shaft 145ft. ...	Present depth, 1,382ft.

619ft.

"The total tonnage crushed amounts to 149,943, for an estimated return of £556,127.

"Development (1,900ft. level).—The lode on this level has been driven on 800ft. North and South of the crosscut: sufficient work has not been done to determine the full width, but the work done demonstrates that the lode for the full length will average 10ft. in width. The average value is given at 12dwts. per long ton. The developments on this level are of

the most encouraging nature, the lode showing an increase in length and width.

"The South drive has connected with Edwards' shaft 2,050ft. The plat has been formed and a crosscut West has located the Eastern portion of the lode—where intersected the values were equal to those at the 1,900ft. level.

"The developments from the 1,500ft. level to the 2,050ft. level give an average value of 12dwts. per long ton.

"Hamilton's Shaft (1,350ft. level).—the lode has been driven on for a length of 350ft., averaging 4ft. to 5ft. in width, and the values average about 12dwts. per ton.

"The North drive is now within 110ft. of the Boulder No. 1 boundary and is still in values.

"800ft. level.—The lode has been driven on for a length of about 300ft. The average width of lode is from 5ft. to 6ft., and the values average about 14dwts. per ton. This level is connected to the East lode of the Ivanhoe G.M., which is the lode known as No. 3 lode in the Golden Horseshoe G.M.

"Preparations are being made to sink Edwards' shaft to a depth of 4,000ft.

"Plant.—One additional Edwards' furnace has been installed, also one additional ball mill.

"A retreatment plant is in course of erection, which includes 10 Ridgeway vacuum filters—this is the invention of Mr. Ridgeway, engineer on the mine. The plant will be capable of treating 400 tons per day.

"It is the intention to increase the tonnage during the coming year.

"A large, new, and up-to-date change house has been erected.

ALLUVIAL LEADS.

"Adeline Lead.—Several parties have been at work during the year with unsatisfactory results. Returns became so low that they were forced to abandon their claims.

"Applications have been made and granted for a 24-acre lease with a view to treating quantities of low-grade ore on a large scale.

"Hannan's Central Lead.—Two parties have been constantly at work on this lead with satisfactory results.

"Brownhill Lead.—This lead has been traced to the Brownhill Extended G.M. Three claims are being worked on the recent discovery, but Bailey and party who are working on the Brownhill Extended lease, are the only ones who have crushed. They have had two crushings, one of 35 tons for a return of 22.43ozs. fine gold, and one of 100 tons for a return of 57.58ozs. fine gold.

The developments on the lower levels of the principal mines on this field have been very satisfactory during the year.

COOLGARDIE, YILGARN, AND DUNDAS GOLDFIELDS.

The report of the Inspector of Mines, Mr. J. Crabb, is dated 8th January, 1907. He says:—

"Mining Accidents.—During the year under review 19 accidents occurred, three of which involved

the loss of five lives, the remainder being serious. The whole of these have been fully reported to your office as they occurred. Several slight accidents happened, but none were of such a character as to require special notice. The number of accidents for the year compared with those of last year show a decrease of two fatal. The most serious accident that occurred was that which caused the death of John Milroy, Frederick Christensen, and John Hansen Jorgensen at the Vale of Coolgardie mine, Bonnievale, on 9th January. This accident was caused by a fall of ground in the stopes above the No. 1 level while the deceased men were engaged in taking out mullock from an old stope. In connection with this unfortunate occurrence, I beg to take this opportunity of placing on record the heroic deeds of William Beaver, William Dunstan, and Albert Bably Hanlon in attempting to rescue these men. The risks that were undertaken in the initial stages of the rescue work were very considerable, so much so that they were in constant danger of sharing a similar fate to that of their unfortunate comrades, as the timbers which formerly served as a protection were carried away by the first fall, consequently they were exposed to a large area of unsupported dangerous ground. Several tons of earth fell round about the men as they worked, portions of which knocked Beaver down; still they continued with the rescue operations, seemingly regardless of the terrible danger they were exposed to, until Milroy was rescued.

"This is one of the bravest deeds of rescue that has come under my notice, and one which, in my opinion, is deserving of recognition.

'Falls of ground are undoubtedly one of the greatest dangers our miners have to contend with, and an examination of the statistics furnished by the Department will show that the majority of fatalities are brought about through this cause, and when compared with some other countries show a greater percentage. The superficial inquirer may attribute this state of affairs to the ground being more treacherous here than elsewhere, but I find on inquiry, and from personal experience that such is not the case. Generally speaking the ground in our mines is what is termed 'good standing.' This being so, it is only reasonable to think that instead of the death rate due to falls being higher than in other countries it should be lower. The question that now arises is (a.) What is the cause? (b.) What steps can be taken to minimise them? These are matters that I have given a considerable amount of attention, and I am thoroughly convinced that loss of life through falls of ground is almost entirely due to a lack of proper method in securing the underground excavations. Too much seems to be left to chance, and very often men appear to be satisfied to work under ground which they know to be a little baulked and trust to it 'holding a little longer.' Often in the course of my inspection work I have made inquiries regarding the condition of certain portions of ground which I had good reasons to think unsafe, and have been informed by both workmen and mine officials 'Oh, it's alright,' but on sounding same found it otherwise: If further questioned as to when it was last sounded, the usual reply is 'About ten minutes ago.' It is in such mines where this sort of 'alright' policy reigns supreme, and the so-called safe roof or wall that causes the trouble. Too much reliance of course can be placed on 'sounding.' This method, although

good, cannot on any account be relied on implicitly, especially in the case of roofs or walls in which 'joints' are known to exist. How often has it been stated by witnesses at inquests on deaths from falls that the roof or wall had been sounded shortly before the accident. From many years observation of the nature of accidents from falls of roof and sides, I am of opinion the best way to reduce the number due to this cause is to have rules established at almost every mine prescribing definite maximum distances and other matters in connection with timbering and filling; all rules in connection with timber and filling should of course be based on the method of working, the nature of the roof, and the inclination and thickness of the veins. These rules should be made by the manager to the best of his ability in conformity with the experience which he gains of the veins, and should be liable to alteration at any time in accordance with the altered conditions of evidence of insufficiency. The enforcement of such rules would not only ensure regularity, but would indicate to new workmen the best and most approved manner of keeping safe in workings in which they may perhaps have had no experience. I also think that it would have the tendency to restrain the over-confident as well as to instruct the inexperienced. There is no question that the maintenance of filling to within a reasonable distance of the roof and the liberal provision and maintenance of reliable supports, even where their necessity may seem open to question, constitute the best safeguard against accidents. There seems to be a very strong feeling entertained by a part of the public that legislation can do everything, and that a greatly increased Government inspection should be introduced for the purpose of rendering mines more safe. I must say, from my own experience, that nothing more could be more pernicious than the idea of substituting for the daily and hourly inspection of the agents of the mines any Government official. When it is remembered the extent of workings that have to be thoroughly examined, and that they have to be inspected every day, any notion of sending Government officials down every few days is to my mind preposterous, and I think if such a regularity of inspection were brought about it might produce the worst effects, in removing responsibility from those who are constantly among their men, and placing it on outsiders.

"The safety of a mine depends from hour to hour, it might be said almost from minute to minute, upon the care and attention bestowed upon every portion of it by the mine officials. A Government official may go through a mine and find everything perfectly safe, and in a few hours afterwards the conditions in many places might be changed, and instead of being safe, might be in a condition of great danger. I therefore hold any idea of substituting outside inspection for that daily and hourly care which should be expended upon the mine by the mine officials, to be altogether out of the question.

"*Ventilation.*—Generally speaking the ventilation of the mines has been good. In the early part of February I had occasion to notify the Manager of the Transvaal Gold mine, Southern Cross, that I was of opinion that the practice adopted by him of using tailings which I had reason to think contained a large percentage of potassium cyanide, was a dangerous one, and I accordingly notified him that

it was forthwith to be stopped. It appears however, that little or no heed was taken of the matter, for on the 27th of the above-mentioned month three miners were very badly affected with the fumes of these tailings. Proceedings were instituted under the Mines Regulation Act, but owing to all the witnesses leaving the district the case had to be withdrawn.

'Some managers do not appear to fully realise the great danger of using tailings that contain cyanide, even in a small percentage, for filling purposes. The principal danger in using sands containing cyanide is in the air passages becoming interrupted, and unless special provisions are made to prevent these air ways from being blocked I am afraid accidents will continue from this source.

"The dust caused from rock-drilling machines, as pointed out in some of my previous reports, is the miner's worst enemy, and I feel as though I cannot urge too strongly the adoption of measures that will in some way minimise the terrible conditions at present prevailing in some of our mines. At present what seems to be the most practicable means in vogue here is the laying of the dust by means of a small hand syringe. This method seems to be a very good one, but still, it is not as effective as we might wish for, but being the best that has yet been brought into use it is my intention to insist on the various companies supplying the miners with it. And also to insist on the miners using them where practicable when provided. Rising in quartz is undoubtedly the worst condition in which a miner has to work, for it is in rising that the greatest difficulty is experienced in laying the dust, especially when drills are working vertically. I have known some miners who would exercise great care in arresting dust with water whilst drilling holes a few degrees from the vertical, but would abandon its use in vertical holes owing to the grit affecting the machine through getting into the mechanism.

"*Height of Stopes.*—A considerable amount of discussion has taken place of late in connection with the height of stopes, a great many being in favour of a limit being laid down whilst others are of opinion that it would not be advisable to do so. With reference to this matter a great deal has to be taken into consideration. The conditions in most mines differ, and in some cases to a very great extent. In some cases a stope may be taken from eight to ten feet in height to advantage, and with comparative safety, whilst in others it would be unwise to do so, both from an economical and safe point of view. The height to which stopes should be carried is a matter in which so many conditions of working, both for economy and safety, arise, that it would be, I think, very unwise to lay down any hard and fast rules relating to them.

"*Penthouses.*—There has been a considerable amount of discussion *re* providing penthouses in shafts, and I have received complaints from various sources *re* the sinking of shafts in which no penthouses were provided beyond the usual covering at the top of the shaft. Although the Act provides for such structures I did not think it necessary to have penthouses put in, as in the cases complained of no hoisting operations were being carried on from any levels above the sinkers. In every instance, however, where hoisting has been carried on from levels above, I have been careful to see that the

sinkers were properly protected. As to placing a limit on the distance that penthouses should be placed above the sinkers, this is to my mind, unnecessary and contrary to the principles of mining, as it does not afford any further protection, but in some instances, the contrary.

"*Safety Appliances.*—In consequence of a notice served on the manager of the Cumberland G.M., Dundas Goldfield, in connection with the raising and lowering of men in skips, a considerable amount of discussion has taken place. On giving the manager to understand that I did not consider it a safe practice to raise or lower men in the incline by means of skips without some means being provided to prevent their being derailed, he informed me that such a practice was allowed on other goldfields under special conditions. In consequence of this I procured a copy of these special conditions or instructions, but after a careful perusal of same, could not see that they contained any more than that already provided for in the Mines Regulation Act, and I still persisted in having means provided to prevent derailment. This had the effect of bringing about the construction of a skip by Mr. F. L. Bell, the Company's Engineer, for which a patent has been taken out. This device has already been fully reported on to your office.

"*Sunday Labour.*—Nine applications for Sunday Labour Permits were made but only two were granted, both of which were for mines on the Yilgarn Goldfield. Several complaints have been made about Sunday Labour on mines, but in each instance, after closely looking into the circumstances under which the work was being carried out, I found that the work complained of came within the exceptions set out in Section 4 of the 'Sunday Labour Act.'

"*Mines Regulation Act.*—Generally speaking, the Mines Regulation Act has been fairly well complied with.

"*Mining Generally.*—Mining on the Coolgardie Goldfields has of late been somewhat dull, but new properties are now being opened up at Higginsville, Jourdie Hills, and Ora Banda, and some of the older properties such as the Carbine, Australia, Wealth of Nations, and Ora Banda, are said to be looking well, and there seems to be very good prospects of these mines being in a position, shortly, to give employment to a number of men.

"On the Yilgarn, mining matters have also been a little quiet of late, but there seems to be every prospect of improvement. The Transvaal Gold Mine is at present experiencing a little difficulty in connection with the treatment of ore, owing to its refractory nature. The Greenmount is said to be looking well, and there is every prospect of it developing into a highly payable proposition. At the Never Never mining matters are greatly retarded through scarcity of water, but there is no doubt when a sufficient supply is obtained, good progress will be made.

"On the Dundas mining seems to be quieter now than it has been for some time. There seems, however, to be good chance of a revival taking place in the near future. The principal mines here, are the Mararoa, Princess Royal, Cumberland, and Lady Miller. The former is now under offer to a company, and the ore raised from it is being treated at the Government Battery. At the time of my last visit to this Goldfield the mill at the Princess Royal was hung up, owing, it is said, to a shortage of water.

At present a considerable amount of prospecting work is being done in some of the upper levels, and there seems to be every prospect of payable ore bodies being opened up. The Lady Miller Gold Mine is attracting attention just at present, and there seem to be prospects of it changing hands very soon. There is a very large body of ore on this property, and it is considered that if worked under more favourable conditions than at present, the mine should give a very good account of itself."

COLLIE COALFIELD AND GREENBUSHES MINERAL FIELD.

Collie :—The Annual Report of the Inspector of Mines, Mr. T. D. Briggs, dated 24th January, 1907, says :—

"The total output of coal from the field was 149,794 tons, being an increase on the preceding year of 22,430 tons, and the largest output for any one year since the inception of the Collie Coal Industry. Of this total the Government Railways used 111,410 tons.

"The total number of men employed on the mines averaged 306 throughout the year, as against 322 for the previous year.

"No fatal accidents occurred during the year. Of the non-fatal accidents only three were reported to me by the managers as serious, these resulted in injury to four persons. In addition, 48 accidents were reported for the purpose of entitling the persons injured to the benefits of the Coal Mines Accident Relief Fund.

"The ventilation of the mines has been, on the whole, fairly satisfactory.

"General Rule No. 50, entitling the workmen to make periodical inspection, has been availed of at all the mines.

"In July, the manager of the 'Proprietary' Colliery was proceeded against for breach of Section 6 of the Act. The case was dismissed.

"*Greenbushes*.—Owing to the high price of tin this field has experienced a very prosperous year. During the year several applications have been made for dredging claims under Regulation 40A of the 'Mining Act, 1904.' There are, no doubt, considerable areas of low-grade ground, and if they could be worked in a payable way it would add greatly to the prosperity of the field.

"Three accidents occurred during the year, none proving fatal.

"There were no prosecutions under the 'Mines Regulation Act, 1904.'

MINING ACCIDENTS.

I send you herewith tabulated statement of the mining accidents for the year ended December 31st, 1906, for the customary tables Nos. 23, 24, and 25 of your Annual Report, with those of the previous year for the sake of comparison. The fatal accidents in every year since 1894 are also shown graphically in the diagram herewith, to be attached in its usual place in your report.

Table 23 shows 40 persons killed in mining accidents during 1906, being six more than in 1905, when the number was 34, and two less than in 1904, when it was 42. The diagram shows that the figure for the year is not above the average number of deaths from

mining accidents for the last eight years. The number of accidents recorded as 'serious' has, however, risen tremendously, being 479 for 1906 as against 270 for 1905, and 153 in 1904. This is commented upon later in this report in the portion more particularly describing the nature of the various accidents, and is due to the closer record now being kept rather than to any great increase in the proportion of persons hurt in the industry. Table 23 also shows the distribution of the accidents in the various goldfields and mining districts.

Table 24 shows the death-rate for 1905 and 1906 per 1,000 men employed. In coal mines there were no fatal accidents in either year. In gold mines the rates for 1905 were 0.39 for men working above ground, 3.42 for men working underground, and 2.02 for all workers, the respective figures for 1906 being 1.07, 3.38, and 2.35. In copper, lead, tin, and other mines there were no fatal accidents in 1905, but there was one, underground, in 1906, giving a rate of 3.29 per 1,000 persons employed underground, or 0.84 for all workers. The total figures for all mines in 1905 were wrongly printed in last year's report and are now corrected, being above ground 0.36, underground 3.28, all workers 1.91 per 1,000, and in 1906, 0.95, 3.30, and 2.21 respectively. The rates for 1904 were 0.48, 4.07, and 2.38 per 1,000 men employed.

Table No. 25 gives the same information for gold mines only, showing the rates per 1,000 men employed in each goldfield, and also shows the rate of deaths per 1,000 tons of gold ore raised in each. This latter figure remains in 1906 the same as in 1905, viz.:—0.01 fatal accidents per 1,000 tons of ore.

The figures showing number of men employed used in working out these rates are those shown in Table 19, giving a grand total for 1906 of 18,111 men, and exclude a number of alluvial workers who, as shown in Table 18, bring the grand total up to 19,429 men employed in 1906. If this figure were employed the death rates would be somewhat lower, the rate per 1,000 men employed for 1906 falling from 2.21 to 2.06. It is necessary to take such differences in methods of computation into account when comparing our rates with those of various other countries.

From the British Home Office General Report, and Statistics of Mines and Quarries for 1905, Table 52, it is seen that the death-rate in Great Great Britain and Ireland from accidents in and about all mines under the Coal and Metalliferous Mines Regulations Acts averaged 1.306 per 1,000 persons employed both above and underground for the ten years from 1896 to 1905, and for 1905 was 1.358. From Table 93 of the same report it is seen that the death-rate per 1,000 persons employed underground in the County of Cornwall was 2.00 in 1904, and 3.71 in 1905. The latest information as yet to hand in this office about the death-rate from accidents in the Transvaal is contained in the half-yearly report of the Government Mining Engineer for six months ending 31st December, 1905 : From Table 22 of this it appears that the death-rate per 1,000 persons engaged above and below ground in all mines and works of the Transvaal was 5.0715 for the half-year ended 31st December, 1905, 4.4681 for the statistical year 1904-1905, and 4.6639 for the statistical year 1903-1904. From a general

table, No. 282, in Part IV. of the Home Office Report above quoted showing death-rates for 1903 and 1904 of all the principal countries of the world it is also seen that the death-rate in Western Australia, though high, is by no means the worst, the rate for all mines for 1903 standing 26th, and for

1904 22nd, in order of merit out of 32 and 31 returns respectively.

Hereunder is a general table showing the number of persons killed and seriously injured by accidents in each goldfield and mineral district, and giving a classification of the causes of the accidents.

GOLDFIELD.	Explosions.		Falls of Ground.		In Shafts.		Miscellaneous Underground.		Surface.		Machinery.		Total.	
	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.
1. East Coolgardie	1	2	4	43	1	18	5	179	3	53	...	40	14	335
2. Mt. Margaret	2	1	4	8	...	4	1	12	...	5	...	3	7	33
3. Murchison	2	4	2	5	1	3	1	8	...	3	...	1	6	24
4. East Murchison	...	...	1	4	1	4	2	3	...	3	...	...	4	14
5. Coolgardie	...	1	4	2	...	3	...	2	...	...	...	1	4	9
6. Yilgarn	...	...	...	...	...	...	1	...	...	...	...	1	1	1
7. North Coolgardie	...	1	1	4	...	...	...	4	...	2	...	...	1	11
8. North-East Coolgardie	...	2	1	3	...	1	...	...	...	1	...	2	2	9
9. Broad Arrow	...	...	...	1	...	...	...	2	...	...	...	...	...	3
10. Dundas	...	...	...	2	...	...	...	1	...	...	...	1	...	4
11. Pilbara	1	1	...	...	...	...	...	...	...	...	...	...	1	1
12. Peak Hill	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13. Yalgoo	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14. Phillips River	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Collie	...	1	...	7	...	...	...	16	...	8	...	...	...	32
16. Greenbushes	...	...	...	2	...	...	...	...	...	1	...	...	...	3
Totals for 1906	6	13	17	81	3	33	11	227	3	76	...	49	40	479
Totals for 1905	9	13	12	61	5	15	5	91	3	90	...	...	34	270

The 'machinery' accidents, which might properly be included under the same general heading as the other 'surface' accidents, are such as have been caused by machinery in motion and boilers under 'The Inspection of Machinery Act, 1904.' and are usually reported upon by the Inspectors of Machinery, but have also to be recorded as mining accidents under 'The Mines Regulation Acts.' Only such are here recorded as serious as come within the 14-day rule adopted for mining accidents, notwithstanding that 'The Inspection of Machinery Act, 1904' defines 'serious bodily injury' as such as 'is likely to incapacitate the sufferer from work for at least forty-eight hours.'

In addition to the accidents shown in the table a large number of minor ones were reported to the Inspectors of Mines, and inquired into by them.

FATAL ACCIDENTS.

Explosions.—Four fatal accidents occurred during the year, causing the death of six persons, and serious injury to one other.

One was in a well at Moolyella, on the Pilbarra Goldfield. Two men fired a hole which did not tear quite to the bottom: they started boring the butt deeper, when an explosion occurred which killed one and injured the other.

A second accident of somewhat similar nature occurred on the Hill End mine, Murchison Goldfield, whereby two men were killed. The previous shift had warned them that one of a number of holes fired by them had given only a slight report, and might have missed fire, and shortly before the accident the deceased were seen boring at a point very close to the suspected miss fire. Either through trying to bore this out, or by boring by misadventure into the charged hole, an explosion was caused which killed both the men.

These accidents again bring prominently into notice the extreme danger of boring in or near old holes, a practice which is far too common amongst miners, and against which a general rule has been introduced in 'The Mines Regulation Act, 1906.'

"In the above cases the men themselves were to blame for imprudent or ignorant conduct of their boring operations, and no blame attached to any other person.

Two men, Italians, were killed in the Sons of Gwalia mine, Mt. Margaret Goldfield, by a premature explosion. As far as can be discovered they were most likely tamping the last of a number of holes about to be fired when the explosion took place. No one can tell the exact circumstances, or whether proper care was taken in the work. The remainder of the explosive used was found to be of good quality when tested.

The fourth fatal accident, by which one man was killed, was at the Lake View Consols mine, Boulder. There was a premature explosion, but no conclusive evidence could be obtained as to the cause thereof. The usual theory was that the fuse must have been defective, but samples from the remaining portion of the same coil were found to be in good order and of first-class quality.

Falls of ground.—Fourteen falls of ground occurred during the year which caused fatal injuries to persons, 17 men being killed by them, and two others seriously injured. In all cases careful investigation was made into the circumstances of the accidents, usually both by Coroner's inquisition, and by the Inspector of Mines, and in no case was there found any reason to ascribe negligence to any person. Seven of the men killed were practically their own masters, working in their own mines or on tribute. Of these, three were killed by one fall of

ground in the Vale of Coolgardie mine, as more fully explained in Inspector Crabbe's annual report. Three men were killed in excavations at surface, one in an open-cut on the Westralia Mt. Morgan's mine, and two, at the Sons of Gwalia mine in a sand-dump, from which they were shovelling sand into a pass for filling the stopes below. The case of one man who was killed at Cue by a fall of earth has been referred to in Mr. Inspector Lander's report as hardly to be chronicled as a mining accident, as the fall was caused by the deceased taking timber for firewood out of an old shaft: it has, however, been included. This man was acting both imprudently and illegally in removing the timber. In another case, referred to in Mr. Inspector Greenard's report, a man was killed in a pass by a fall of stone, which may or may not have been dislodged by another man working in the stopes above. The man in the stopes, however, was not to blame, as the deceased very imprudently went up the pass without giving him any warning. This accident might equally well be classified among the 'Miscellaneous underground,' in which are placed accidents resulting from rolling stones and rock purposely dislodged, but there is some doubt as to whether the stuff was knocked down by the man working above, or fell from the back of the stope above the pass, so it has been classified among those from 'Falls of ground.' The other cases of men being killed by 'Falls of ground' all occurred in the ordinary course of underground working, and all reasonable care seems to have been exercised to keep the ground safe. From the nature of mining work, however, it is inevitable that rock will often fall unexpectedly, in spite of the greatest care being exercised. In one instance the miner was killed while doing the dangerous but necessary work of pulling down rock loosened by blasting, an operation in which there must always be a certain amount of risk.

In shafts.—Three fatal accidents occurred in shafts. In one case the deceased was standing on a temporary platform in the shaft guiding some stage boards which were being raised by the winch at surface, when one of these caught and levered off one of the planks of the platform, and precipitated him down the shaft. In the second case the deceased tried to climb up a disused ladder-way in one of the Ivanhoe mine shafts at Boulder, though a length of ladder had been removed to prevent access to it, and fell therefrom with fatal result. No one could be blamed but himself. The third accident was caused by a fall of material in a shaft at Black Range, but full particulars are not yet available.

Miscellaneous underground.—Ten accidents occurred during 1906, causing the death of 11 persons, from causes grouped under this heading. Two men were smothered by a run of sand in a pass used for filling the stopes, under circumstances which showed that if there were any imprudent action which caused the run it must have been on the part of the deceased themselves. In another case one man was killed by an accidental run of mullock on which he was working owing to some supporting timber giving way. In a third instance the deceased had got down into a deep hole in a heap of mullock over a pass and was buried by a fall of the material. There was some conflict of testimony as to the facts of this case, but it seems most likely that the man went to the spot where he was killed either through mistaking his orders or in disregard of them. There

was no proof that any person except the deceased himself was to blame in the matter. Another man was killed while shovelling broken ore from a rill into a pass. A sudden rush of material down the rill either swept or caused him to fall down one of the passes and he was smothered. This accident indicates the necessity for not allowing the broken material on the rills to accumulate beyond a safe angle of repose, and to avoid undermining it when shovelling to such an extent as to cause heavy slides of material. This is a matter for ordinary care on the part of the workmen, and no fixed rule can usefully be laid down about it by regulations, but the mine officials and inspectors should be very careful to see that a safe practice is followed in this regard. Another fatal accident was also due to the rill system of working, through stones rolling down the rill unexpectedly: some of these leaped over the barrier at the foot placed to stop them and struck a man who happened to be waiting there, causing fatal injuries. The mere occurrence of such an accident seems to imply want of proper care in working, but the men working at the place agreed in their testimony that previously to the accident they had thought the barrier quite high enough for safety.

A somewhat unusual fatal accident occurred in the East Murchison field owing to a trucker being hit in the abdomen by a stone rolling rapidly down an ore pass which he was emptying, the blow causing rupture of the bowels and subsequent death.

Two deaths were caused by falls underground. In one case the deceased must have slipped and fallen about 7ft. into a stope over which he was making his way, but the inspector, after examination of the spot, did not consider that any negligence was shown or that the place was improperly protected, considering it was safe enough to be in accordance with ordinary good practice. Obviously it is impracticable to keep the progressive workings of a mine at all times in such condition that men walking through them will not occasionally run some risk should they stumble or slip. In the other case the deceased was in a bad state of health, but went to work, and was lowered by the windlass into a winze where eight shots had been fired about 10 hours previously. He was understood to call out that he felt ill, so his mate pulled him up again but he fell off before getting quite to the top of the winze, and was killed. On going down at once to assist him his mates did not notice anything wrong with the air, though they were in the bottom of the winze for longer than he had been, so it does not appear probable that the accident was due to fumes from the blasting, but was most likely due to faintness owing to deceased's bad state of health at the time.

One of the fatal accidents from miscellaneous causes is that at the Salisbury mine, Cue, referred to by Mr. Inspector Lander in his annual report as hardly to be chronicled as a mining accident. The deceased was a trucker and was found dead in the plat, but there was no evidence to show exactly how he met his death. He had evidently sustained a blow on the head and may have fallen against the corner of his truck, or, possibly, been struck by the truck descending the shaft, but it was shown by the medical evidence that his heart was in a very weak state, and that he might have died any time from natural causes. The injuries from the blow on the head were not of themselves serious. There was a curious

conflict of testimony in the case as to the position in which the deceased's cap was found, and the jury at the Coroner's inquest found that the place where the accident happened had been interfered with before the Inspector of Mines saw it. After full inquiry, however, no grounds could be found on which proceedings could be successfully instituted against any person for this breach of the Mines Regulation Act. The death of the injured man seems to have been due to a blow on the head causing failure of a diseased heart, and as the blow seems to have been the immediately determining cause of death, it has been thought best to include this case among the mining accidents.

Yet another accident, seems to have terminated fatally owing to the injured man being previously in a bad state of health. Deceased and his mate were sinking a shaft and fired two holes, but only one exploded, the other missing. About an hour and a-half afterwards he went down, plugged the missed hole, and began sending up dirt. As he was coughing very much his mate on the windlass changed places with him, and though he worked on top for some time and finished his shift the deceased fell sick afterwards, and became so ill that he had to be sent 50 miles to the Black Range hospital, where he died. The gelignite used was found on examination to be in bad order, the Government Analyst reporting it 'in such a condition that complete detonation could not be expected, but partial or complete burning would be almost certain to occur.' The *post mortem* examination showed that the man had been in a very bad state of health, and that death was due to nitrous fumes acting on an already very debilitated subject.

On Surface.—There were three fatal accidents during the year 1906, in the surface works of mines, two from men coming in contact with electric wires, and one from inhaling hydrocyanic acid fumes from acid treatment of zinc-gold slimes, obtained by the cyanide process. In the latter case the deceased did not carry out his instructions, which were to add the acid to the zinc after taking the treatment tub out into the open air. He did not do so, but treated the slime inside a room, with open doors. He must have breathed some of the poisonous fumes given off, as he became insensible, and soon died. He was a man of experience at the work, and no one was to blame but himself. The two accidents through touching electric wires occurred on the 'Eclipse' Mine at Boulder. In the first case, a man working in some stopes close under the surface climbed up a pass on to a sand dump at surface, and in some way took hold of an electric light wire which was there, only a short distance above the top of the dump. The wire was not carrying current at the time, but, unknown to anyone there, an accidental contact had been made in another part of the plant between this wire and another one, and the man's body completed a circuit from this to earth. The current was only of about 110 volts, which should not, as a rule, be dangerous to a man in good health, and with good boots on. This man, however, had broken boots, and was standing on damp sand, forming a better conductor than would usually be the case, and medical evidence showed that his heart was in a very weak state. Indeed, it is quite possible that the exertion of climbing may have been the cause of the heart's failure, and that the deceased grasped the wire in an endeavour to preserve himself

from falling. After close inquiry into the facts of this case, it was not considered advisable to take action against any person for negligence. The second accident, on the same mine, was due, in the first place, to the accidental fall of a sheet of galvanised iron, which cut the cable carrying electric current at 550 volts to a pumping plant. Two men began to repair the damage, both having some experience in electric work. One obtained a wooden door and placed it on the ground, which was very wet, from a leak in a launder overhead. The deceased then, in the temporary absence of his mate, must have used his pocket-knife to cut the insulating covering of the cable in order to make a splice, for on the other man's return he was found lying dead on the ground with the open knife close by, killed, according to the medical evidence, by an electric shock. There were nails through the wooden door on which he was standing which may have served as a conductor, or, it is possible that deceased was not standing on the door at all, as from his previous remarks to another man it would appear that he thought the voltage was only 110, and he did not consider that dangerous. He had had about four years' experience in electrical work in the employment of the Electric Power Corporation and Eclipse Mine. No one was to blame for the accident but the deceased himself.

SERIOUS ACCIDENTS.

It must be remembered in dealing with these that we recognise as a 'Serious' accident any in which the injury is such as prevents a man for more than fourteen days from following his ordinary occupation. A large number of injuries from cuts and bruises are, therefore, recorded which would not be considered serious injuries in ordinary parlance. It is noticeable from the table above given, that the districts returning the greatest proportion of serious accidents to the total recorded are East Coolgardie and Collie, being those which contain mostly large mines worked by companies, and in easy communication with the Inspectors. In the large gold mines the practice is nearly universal of insuring the companies against claims on, the part of the workmen for compensation under 'The Workers' Compensation Act, 1902,' 'Employers' Liability Act,' etc., and it is in any case necessary to report at once to the Insurance Companies all accidents which may become claims upon them, and very little more trouble to report them at the same time also to the Inspectors. At Collie there is the Accident Fund, on which injured men have claims. In both places there is more inducement to keep strict record of slight injuries than in the smaller mines away from the main centres. There is no doubt that if the less accessible mines reported slight injuries, sufficient to keep a man off work for more than 14 days, as carefully as is done in the larger centres, the number of men hurt would be even greater than is now shown by the table.

In the East Coolgardie District no less than 335 'Serious' accidents have been returned for 1906, but on going into the records it is found that only about 35 of these were cases of breakage of the larger bones, permanent injury to eyes or limbs, or injuries likely to have lasting disabling effects. The remainder show injuries such as broken and crushed fingers, scalds, jarred hands, poisoned cuts, strains, and wrenches, and cuts and bruises. Though pain-

ful and disabling for the time, these are rarely such as to affect for long the injured man's ability to follow his ordinary occupation. In comparing our statistics of accidents with those of other countries, it must be remembered that the practice of recording the minor accidents varies very much, not being quite the same in almost any two countries. In some cases the opinion of a medical man is taken as to whether the injury should be regarded as serious, in others the Inspectors of Mines decide the point, and in others again it seems to be left mainly to the manager of the mines. In this State we have tried to adopt, as far as possible, the principle that such an accident as entitles the injured man to compensation under the 'Workers' Compensation Act,' that is, that disables him from following his ordinary occupation for not less than fourteen days, should be regarded as serious, taking the fact of disablement for more than the fixed time as the measure of seriousness, and not anyone's opinion as to the nature of the injury. It is hoped by this means to be able to arrive eventually, with some accuracy, at the degree to which the accidents incidental to the miner's occupation affect his working efficiency and wage-earning capacity, as well as to ascertain how such injuries may be guarded against in the future.

Explosions.—As shown in the table previously given, there were 13 accidents from explosions recorded as serious. Two were from explosions of detonators while fixing to fuses, two from want of proper warning being given, whereby men were allowed to approach the place where blasting was in progress, five from charges exploding before they were expected to do so either from fuses being defective or too short, or from the men remaining too long in the face after firing, one from boring in the butt of a hole that had been fired, two from explosions of which full particulars have not been recorded, and one from a careless oversight of a previous worker in the same face who had put a plug of explosive in an uncharged hole when charging and firing some others and forgotten to remove it or tell the relieving shift about it. The injured man was one of those who followed, and when trying to clear the hole in order to charge it used a scraper to remove some pieces of stone that had fallen into it on account of the firing, and then took a drill to force a stone to the bottom of the hole, thus exploding the plug that had been dropped into it. The man whose forgetfulness had caused the accident was prosecuted and fined.

Falls of Ground.—Eighty-one persons received injuries classed as 'serious' from falls of ground. The great majority of these accidents occurred while stopping ore, or, in the case of the collieries, winning coal, comparatively few having happened during the excavation of shafts, drives, winzes, and rises. Thirteen of the injured men were hurt while taking down loose ground to make the working places safe, especially after firing. A great many of the accidents were of slight character, sufficient to keep the men from for more than a fortnight, but not of lasting consequence. Inquiry rarely showed any negligence, and improvement in the safety of the workings can only be expected from the general adoption of more careful practices in breaking and supporting the ground.

In Shafts.—Thirty-three persons received 'serious' injuries in shafts, from various mishaps.

Eleven were hurt by falls down shafts of material such as a block, a spanner, a bucket, stones dislodged from the sinking buckets, or falling from the higher parts of the shaft, and in one case a trolley. Thirteen were injured by accidents connected with the working of the cages, skips, and tanks, five of these being cases where the cage was lowered so as to crush bodies or limbs of men, two where the cage with men on it was lowered at full speed on to bearers in the shaft, thus injuring the men, three where a cage in one case, and a tank in another case, with men on them, became caught in shafts and then fell away, two where men in the shaft were struck by passing skips, and one where a man travelling inside the cage allowed his foot to project and had it caught by the framed sets of the shaft. Two men were injured by falling down shafts, and one by the fall of a penthouse which had been injured by blasting. The remaining six accidents were all due to mishaps which might happen in any part of the mine just as well as in the shaft, such as two cases of cuts on the hands in which blood-poisoning supervened, a hand jarred while sinking, a fall from the bar of a machine while sinking, and such like.

Miscellaneous Underground.—227 persons were injured by miscellaneous mishaps underground. In 63 cases the injuries were sustained while handling and loading trucks, through fingers or bodies being jammed against shoots or other trucks, toes and feet run over, bodies struck by upsetting of trucks, men slipping and straining themselves while trucking or lifting derailed trucks or material into trucks, big stones moving in the trucks and injuring hands, and so on, the injuries being mostly wrenches, sprains, bruises, and cuts. There were a great many cases of loss of finger tips from these truck accidents. In 38 cases the injuries were due to falling and moving loose rocks and stones, such as runs of ore and mullock while shovelling, and stones running down rills and ore-shoots, and 9 men received severe cuts while handling sharp stones. Twenty-seven men were hurt while handling rock drills, coal-cutting machines, and parts of same, and seven by the breaking down of the stages erected to work upon. Other falls in the workings, from stages, ladders, or rills, in passes, and so on, caused injuries to 26 men, and eight were hurt by falling tools and pieces of machinery. Flying splinters of stone and steel injured fourteen men, mostly in the eyes, and fifteen men were hurt while handling timber. The remaining cases were due to various causes, jarring of hands, blows from hammers, being struck by windlass handle, hurt by a horse, and so on.

Surface Accidents, including Machinery.—In and about the surface works of mines one hundred and twenty-six serious accidents were recorded for 1906. The causes were very various. Four men were hurt by chemicals, seven scalded by steam and hot water, seven burnt, two by getting into hot ore from roasting furnaces, one by touching a hot boiler while firing, one by a live electric wire, and one by a splash of molten white metal. Seventeen persons sustained injuries from falls, caused by missing their footing, slipping, and tripping. Twelve were hurt by trucks, by being jammed or struck by them, by their capsizing, or by the men sustaining strains while working them. Flying splinters injured three men, and four got jarred hands. Falls of timber, pipes, and other material while being handled accounted for 19 cases of injury.

Thirty-eight were caused by machinery in motion, nine of these being caused by handling belts in motion. Other causes of accidents were strains from lifting heavy weights, unexpected falls of stamps, a kick from a horse, poisoning of a cut finger, and so on.

A close scrutiny of the circumstances of all the above accidents shows that in the great majority of instances they were mishaps that could not be prevented by any ordinary exercise of reasonable skill and foresight. Doubtless very many of them were preventable in one sense, in so far as they need not have happened had the injured men been looking out for them, but it is just when men's attention is directed to something else that possible dangers are overlooked and mishaps occur, and it is not fair to ascribe these entirely to negligence. There have, however, been a few cases where was culpable negligence, and prosecutions have been instituted wherever negligence could be brought home to the offender. In a few instances where it is pretty clear that there was some negligence the fault could not be brought home to any particular persons, and it was therefore no use making a charge. On the whole, however, the accidents were mostly due to unpreventable mishaps incidental to the method of working. The great number of them which have occurred nevertheless shows that some of the methods of working in use require improvement. How this is best to be brought about is the question. In only a few of the cases recorded was there a breach of any express regulation, and examination of the causes of accidents shows that it would be impossible to deal with most of them by regulations. What is required is all-round more careful practice, and it should be the care of every mining manager to see that his men are well supervised in their work, and made to carry it out in accordance with careful and skilful practice, and careless and dangerous modes of working should be strongly put down. The occasional visits of an inspector cannot insure the constant observance of proper methods, though they do much to keep these up to a good standard and to bring about improvement, and it falls mainly to these mine officials in daily and hourly contact with the work to see that it is carried on with due regard to safety. They should closely watch the methods of working made use of by the men, and insist upon proper care being taken in every branch of the work, and make it their business to repress careless practices by punishment, if necessary. It is a weakness in the system of State inspection that it somewhat fosters the idea that attention to measures of safety is solely the business of the inspector, and that so long as he does not find fault all is well, while the great object of the mine manager and his officials is to raise ore at the cheapest possible rate and show a high return of 'footage' in development. The law gives no countenance to this view of the management's responsibilities, very clearly laying it down that the manager of every mine shall enforce the observance of all the provisions of the Mines Regulation Acts, and of all the rules and regulations thereunder, shall report breaches of the Act to the inspector, and shall be himself guilty of an offence, in case of a breach of the Act occurring, if he does not report it and prove that all reasonable means of enforcing the provisions of the Act, and preventing any breaches thereof, have been taken. Not only does this refer to specific regulations under

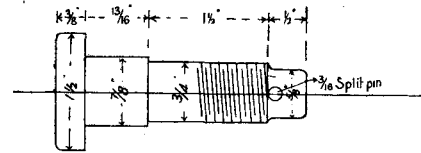
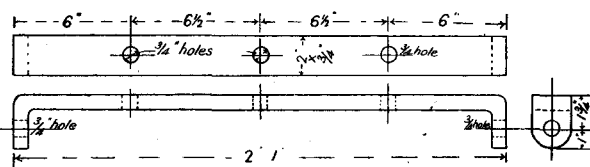
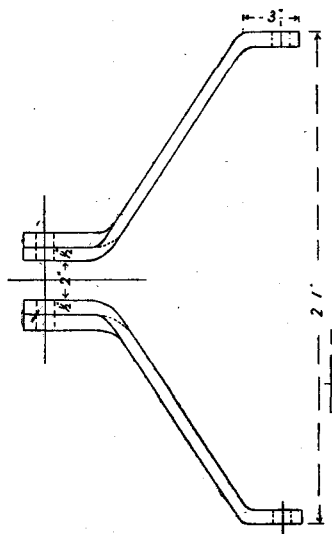
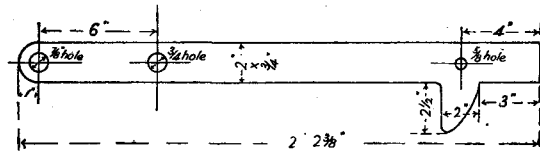
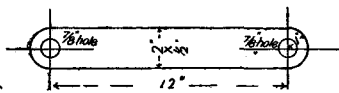
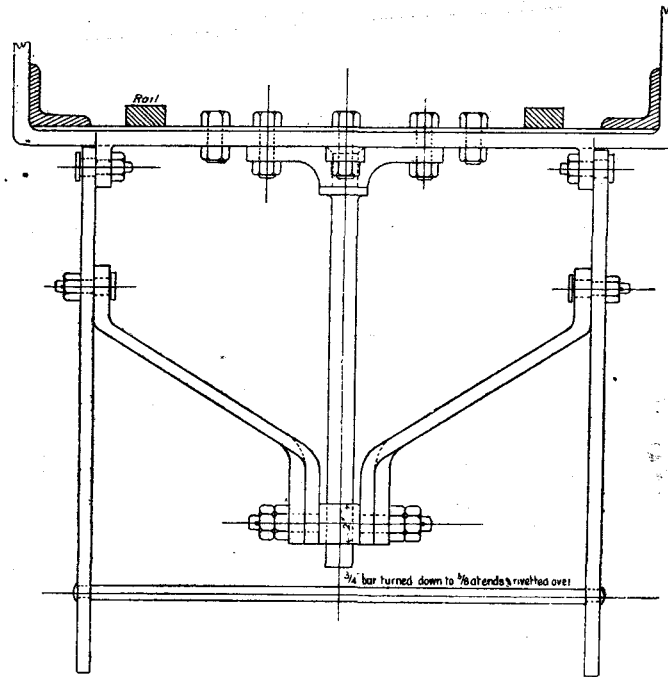
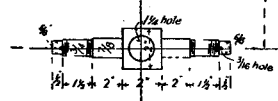
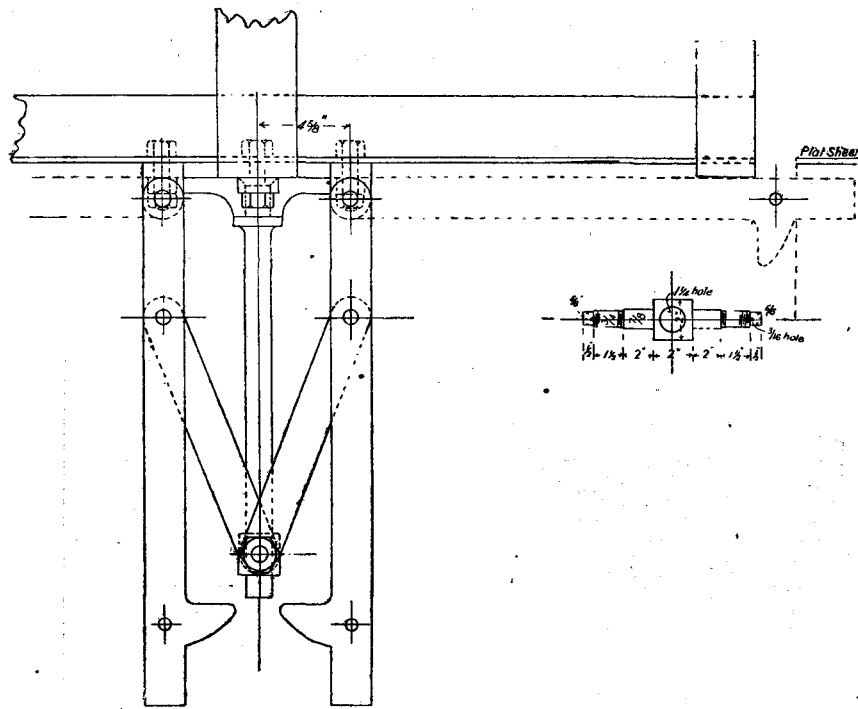
the Act, but also to the more general sections which demand that proper care shall be exercised by all persons in the mine to keep everything in a safe condition, and make an offence against the Act of any negligence causing personal injury, endangering the safety of persons, or causing risk or likelihood of damage to machinery or property. It is clear therefore that the law looks first of all to the manager and his staff to see that the mine is maintained at all times in the safest possible condition. If they would fully realise this and punish the careless practices, not only by dismissal of the offenders, but also by reporting them to the inspectors so that they might be prosecuted, there would be without doubt a great diminution in the number of accidents.

In connection with the return of mining accidents for the year, it may be of some utility to mention the following matters which have been brought under attention through them :—

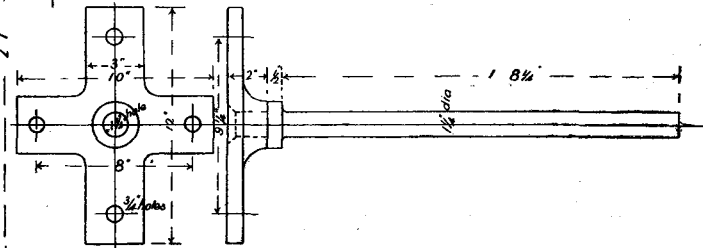
Ambulance Training.—The Coroner's jury in the case of a fatal accident at Coolgardie, recorded their opinion that Ambulance Classes should be formed in connection with mines so that victims of accidents might have first aid at the earliest opportunity, and so be saved unnecessary pain. It will be seen from Inspector Hudson's report that a good example has been shown in this regard by the 'Ivanhoe G.M.,' which it is to be hoped will be followed by other large mines. This movement in favour of Ambulance Training deserves every encouragement.

Men Working Alone.—This matter was referred to in my Annual Report for 1905, and attention has again been directed to it by several accidents during 1906. In the case of a man who was smothered by a run of mullock while shovelling in the Ivanhoe Mine, the Coroner's jury added a rider to their verdict to the effect that the man should not have been employed at such a distance from other workmen that an accident could happen to him without anyone being aware of it. In this instance help was very soon available, and the man was taken out alive, but in many similar cases a man might lie a long time unnoticed, and lose his life for want of help. Two other cases of accidents to men working alone, however, showed another aspect of the matter the men being tributers, and working single-handed by their own choice. In one of these cases the stope was too narrow for two men to work together, and the employment of two men could not have been reasonably insisted upon. The only feasible method of dealing with the danger that exists when men are working by themselves, appears to me to be to require that such men shall be so arranged as to keep as far as possible within hearing of each other, and when not so shall be visited at frequent intervals by other persons, and that whenever a man working by himself has more than three holes to fire at one time, he shall have the assistance of another man in doing so.

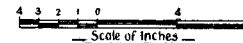
Premature Explosions.—It has been above mentioned that three men were fatally, and five seriously injured by premature explosions, usually attributed to defective fuse. When dealing with one of these cases the Chief Inspector of Explosives has submitted a minute upon the subject of defective fuse, which is of such interest that I have attached it hereto as an appendix (Appendix A). He shows that premature explosions may be due to other causes than defects in the fuse, and that 'running' of fuse is very unusual in his experience of testing. In all



— Full Size —



KALGURLI GOLD MINES LTD
HANGING CHAIRS



eight of the cases of premature explosions supposed to be due to bad fuse, the remainder of the coils was good, and it seems quite as likely that some other accidental ignition took place as that the fuse 'ran.' The lighting of too large a number of shots at one time is probably responsible for such accidents quite as often as defects in the fuse. In one case of accident it came out that the man hurt was lighting no less than thirteen holes. Another practice to be avoided is that of roughly folding up the loose end of the fuse, and thrusting the bunch so formed into the mouth of the hole, so as to protect it from being cut by earlier shots; there is a liability in doing this to injure the covering of the fuse so as to cause it to burst, when a jet of flame from one part of the coil may ignite the lower part of the fuse, or even the charge itself, if no tamping has been used.

Rate of Burning of Fuse.—In November, 1905, in consequence of the speed of burning of certain brands of fuse in use being found to vary to a dangerous degree, a Regulation was made forbidding the use of any safety fuse whose rate of burning is less than 80, or more than 100 seconds per lineal yard. There was some little objection to this at first, but the Regulation was soon admitted to be reasonable. The necessity for something like uniformity in rates of burning of fuses was shortly afterwards emphasised by a very narrow escape from an accident to two men firing in a winze on the 'Ivanhoe' Mine, Boulder. They had been using a fuse burning at 104 and one-third seconds per yard, and then obtained another brand whose rate was 79 seconds per yard, without being apprised of the difference in the speed, and were nearly caught by an explosion in consequence. As this was the first case after the publication of the new Regulation, no prosecution was instituted on account of the rates of the fuses being outside the prescribed limits, but the case was brought under the notice of the Chamber of Mines of W.A., which issued a circular to its members embodying the facts, and asking them to test all consignments of fuse received, so that reasonable limits might be fixed. This matter is still under consideration.

Fumes of Explosives.—The medical evidence on one of the fatal accidents above referred to as due to fumes resulting from partial combustion of explosives is of special interest for comparison of the *post mortem* appearances with those described in the paper by Drs. Macaulay and Irvine in last year's Annual Report, Appendix No. 1. This is the only case in this State, so far as I have been able to ascertain, where the results of *post mortem* examination of a subject who had died from the effects of fumes of burning explosives have been placed on the records of the accident, and the description given by Dr. Nutting, the District Medical Officer who made the examination, has therefore been considered of such public interest as to be worth printing, and is accordingly appended hereto. (Appendix B.) In connection with accidents from fumes of explosives, attention may here be drawn to Bulletin No. 2 of the Explosives and Analytical Department, on 'Gassing.' 'The cause and prevention of the ill effects due to the inhalation of noxious fumes by miners' which was widely distributed during the year 1906 throughout our goldfields. A copy of a paper by Roland L. Oliver on 'detonators, and their use in mining' reprinted from *The Engineering and*

Mining Journal of 13th October, 1906, has also been issued by the same department early in 1907 as Bulletin No. 4, and contains much valuable information as to the causes of production of noxious fumes.

Insufficient warning when Firing.—Two accidents occurred from this cause, both fortunately without fatal results. In consequence of these and similar accidents previously, a new general rule has been introduced into 'The Mines Regulation Act, 1906,' and a corresponding regulation made under 'The Coal Mines Regulation Act, 1902,' specifically requiring warning of firing to be given to all persons in dangerous proximity to the shots and all approaches thereto to be guarded.

Accidents from touching Live Electric Wires.—The two fatal accidents above attributed to electric shocks show the need of close attention to the security of all parts of the electric circuits used in mines, now that electricity is becoming so commonly used as a motive power. Such accidents have as yet been uncommon in our mines, but they are met with somewhat frequently in countries where electricity is largely used, and their experience ought to serve for a guide to us. Thus in the British Mines and Quarries General Report and Statistics for 1905, Part II., on pages 84 and 85 particulars are given of five fatal electrical accidents underground, and it is mentioned that there were seven in 1904, and in the annual report for year ending June 30th, 1905, of the Government Mining Engineer of the Transvaal, page 20, five accidents are recorded from this cause, resulting in the deaths of five persons and serious injury to one other. Regulations are proposed to be issued during the present year under 'The Mines Regulation Act, 1906,' for the purpose of securing better protection of persons against electrical accidents.

Poisonous Fumes from Cyanide Processes.—No serious accidents were recorded during 1906 from fumes arising from the use of cyanided sands for filling the stopes of mines, but there were some narrow escapes, five men in a mine at Southern Cross and several in another at Leonora being temporarily overcome, and there have been complaints in some other instances. The use of tailings fresh from the vats has been strictly forbidden, and the Inspectors of Mines are keeping careful watch over the practice of the various mines in this regard. A special regulation on the matter is to be brought into force under 'The Mines Regulation Act, 1906,' requiring a good current of air to be maintained in all workings which are being filled with cyanided sands.

"The one fatal accident previously referred to from fumes arising from the acid treatment of zinc-gold slimes was due mainly to thoughtless or negligent conduct on the part of the deceased himself, but again gives forcible warning of the need for the greatest care in this work and for having it so arranged that the fumes cannot escape to the injury of the attendants.

Gates to Cages in Shafts.—A bad accident occurred in the Ivanhoe mine, Boulder, of a type of which there have been too many instances, a man being hurt while the cage was travelling up and down in the shaft through allowing some part of his body to project. In this case seven men were descending, when one of them had his toes trodden on and moved his foot, which caught one of the framed sets and was disjointed at the ankle so that it had to be

amputated. Since the beginning of the present year there has been a somewhat similar accident in another Boulder mine, resulting fatally, a man falling in the cage probably from faintness and being caught by the shaft timbers. These accidents have drawn attention to the advisability of having gates on cages to prevent men's bodies from projecting. This is a question which has been attracting special attention lately in several other countries. For example, the report of the State Mine Inspector of South Dakota, U.S., for 1905, mentions a case of a man being killed by falling from a cage in the Homestake mine, since which, the company has provided the cages with safety gates which make it impossible for men to fall outside of the cage. Several accidents have been prevented during the year by this arrangement. In his report for 1906 the same Inspector says, 'I would also suggest the passing of a law providing for the placing of wire screens around the cages when workmen are being lowered or hoisted. These screens to be of not less than No. 8. (B. & S.) wire, and extending from the cage bottom to the height of five feet. These screens will prevent workmen from falling from cages while they are moving. The screens can be so constructed as to be readily removed from the cages.'

The report of the Government Mining Engineer of the Transvaal for year ending 30th June, 1905, page 17, mentions that '15 cases occurred of persons falling out of cages, skips, or buckets while travelling. One of these was a most serious case, five 'boys' being killed owing to the neglect of the onsetter to properly close the door of the cage in which they were travelling.' Also on page 18 he says '16 cases occurred of persons meeting with accidents due to their coming into contact with the sides or roof of the shaft while travelling,' and on page 24 he refers to the 'unsatisfactory doors or gates on the cages.' The latest Transvaal Mining Regulations require that 'cage entrances shall be fitted with doors so as to prevent any portion of the body of any person riding therein from accidentally coming into contact with the timbering or sides of the shaft, and the doors must be constructed in such manner that they cannot open of themselves.'

The question has also been before the recently appointed British Royal Commission on Mines at their sitting on 27th June, 1906, when Mr. Malcolm Delevingne gave evidence on behalf of the Home Office, bringing up the necessity of providing the open ends of the cage with some kind of gate or bar. He said, 'These are not compulsory at present, and there are occasional accidents through men falling out of the cage. Eight lives were lost in 1904 from men falling out of the cage whilst riding in the shafts. The Home Office suggests for the consideration of the Commission whether they shall not be made compulsory. In Germany, I believe, the provision of gates is compulsory under the law. Mr. Gerrard and Mr. Walker also refer to this matter in their reports for 1905, and give illustrations of the kind of gate in use.' These reports are those of the Inspector of Mines for the Manchester and Inland District (Mr. Gerrard), and for the Yorkshire and Lincolnshire District (Mr. Walker) for the year 1905, published by the Home Office. Mr. Gerrard shows a photograph of Houghton's safety device, in operation at a number of coal pits. The inventor claims that 'the gate will not open by pressure from the inside. To open the gate it is

pushed inwards a little, the lower part raised about its hinges so as to clear the recess, and then swing outwards. The gate generally falls into its locked position by gravity when released. Out of use the gates are slung under the roof of the cage.' Mr. Walker's report gives drawings of the gates used at Cadeby Main Collieries, and says, 'Such an arrangement is highly desirable when persons are being raised and lowered, and especially is this so where the cages travel at a high rate of speed.'

Safety Catches on Skips in Inclined Shafts.—In last year's report a drawing was given of Mr. M. Taylor's safety skip, and herewith another device is figured, invented by Mr. Frank L. Bell, of the Cumberland G.M., Norseman. The inventor gives the following description:—'In carrying my invention into practice I employ a draw-bow of the usual pattern, except that it is slotted at the ends where it fits over the pins of the skip, so that it is capable of a small longitudinal movement relative to the skip. Two springs are attached to the bow, one at each end, *i.e.*, one at each side of the skip. One end of each spring is seated on a bracket attached to the bow, and compression is applied by means of a bolt passing through each spring; one end of this bolt is attached and has bearing on the skip pin, and the other has washers and lock-nuts for adjusting the spring. The springs are protected by a shield. By means of these springs and rods the bow is pulled backwards when the strain is taken off the winding rope and bow. Two toothed cam or other shaped grippers are pivoted on brackets fixed to the back of the skip. These grippers are attached one to each end of the bow by small connecting rods, so that any movement of the bow turns the gripper on its pivot.

'Two extra or guide rails of wood or other suitable material are secured in the shaft upon the legs of the sets or suitable brackets, so that they are over or approximately over the rails upon which the skip travels.

'Sufficient space is left between these two sets of rails to clear the skip wheels, so that the said wheels pass under the extra rails.

'The grippers attached to the skip usually pass over the top of the rails, but if the weight is taken off the bow, the springs attached to it will cause it to move relatively with the skip, which in turn causes the connecting rods to turn the cam-shaped grippers, so that the teeth thereon engage with and grip the extra rails and thereby hold the skip from falling to the bottom of the shaft.

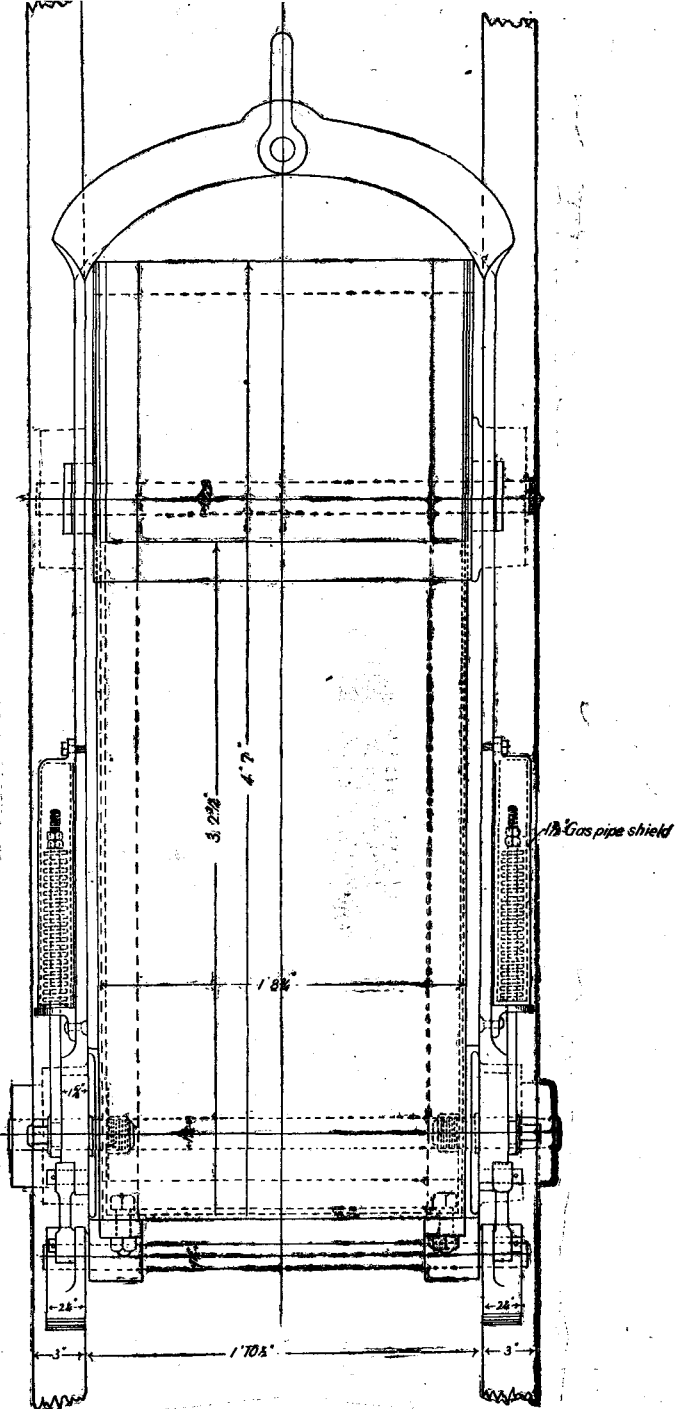
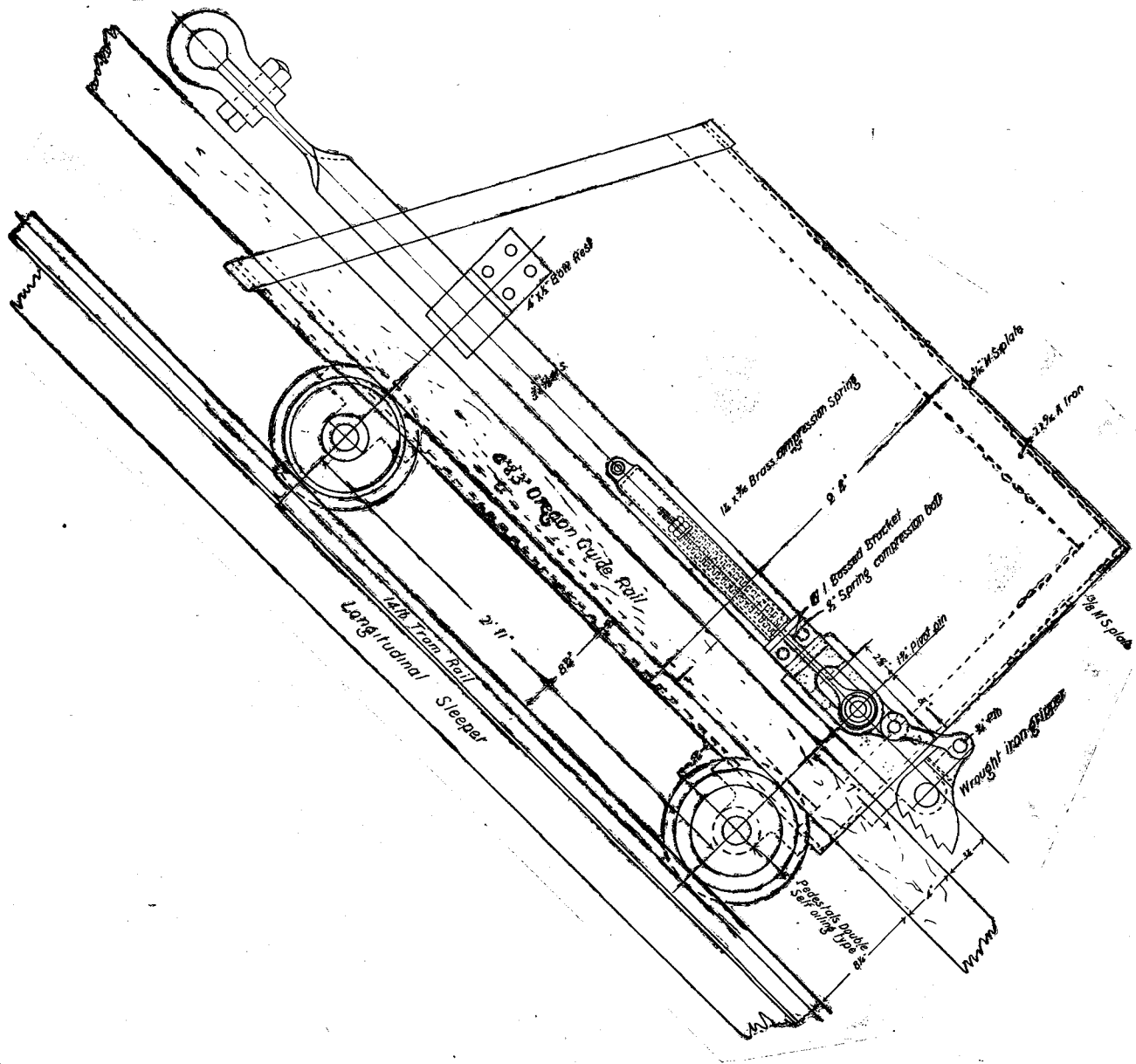
'When my invention is attached to a skip of the self-dumping type, the tipping movement of the skip at the top of the shaft causes the gripper to lift quite clear of the extra or guide rails.' This skip was tried before Mr. Crabbe, Inspector of Mines for the district, who reports thereon:—

'The first trials were in an old abandoned shaft of very irregular grade, and in places the bends were very sharp; in one place a change from 54deg. to 70deg. from the vertical occurred within a distance of two feet. The skip passed all the curves except one just mentioned. At this place the cams came in contact with the guides and stopped the descent of the skip. The cams were not affected, or were not raised as expected; this was found to be due to the cams being too far in advance of the bottom set of wheels, and it was decided to make the

— HALF TON SELF DUMPING SKIP FOR UNDERLAY SHAFT —

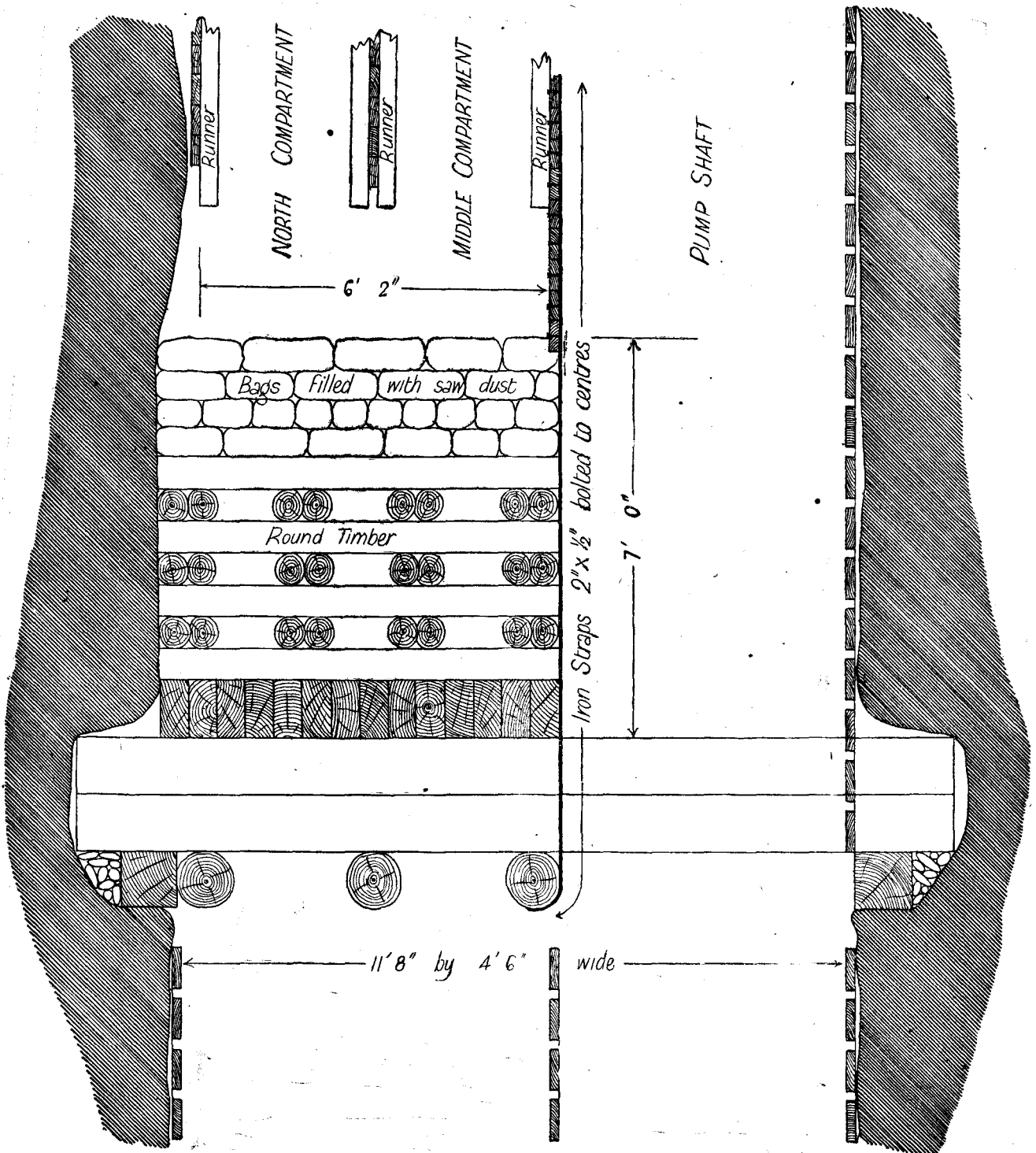
— WITH SAFETY GEARING ATTACHED —

Scale of Inches



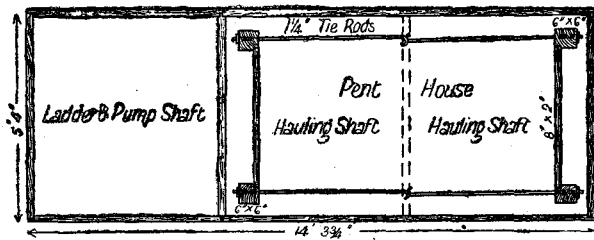
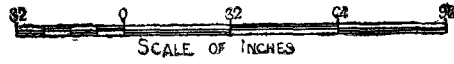
GREAT BOULDER PROPERTY C. M.

Section of PENTHOUSE



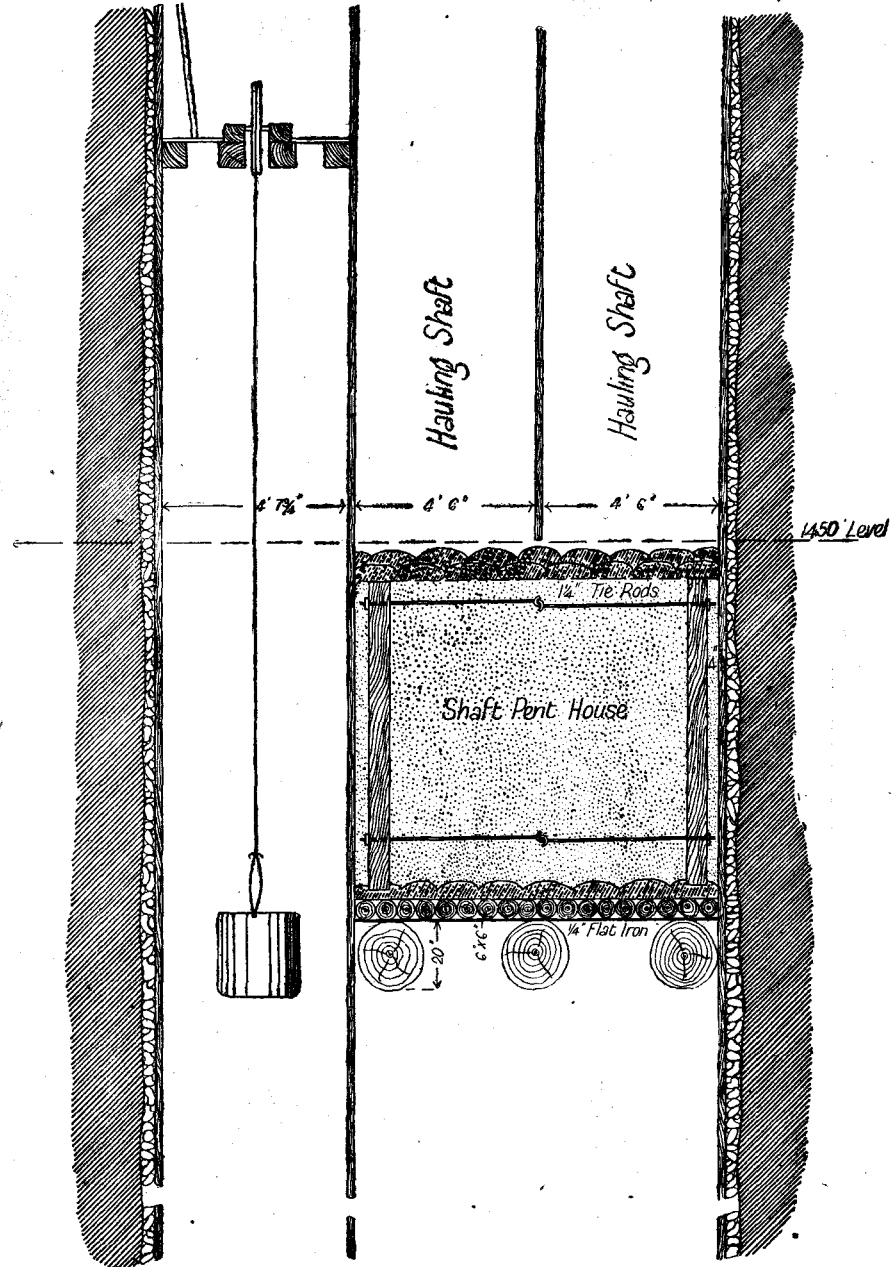
GREAT BOULDER PERSEVERANCE C. M. PENTHOUSE

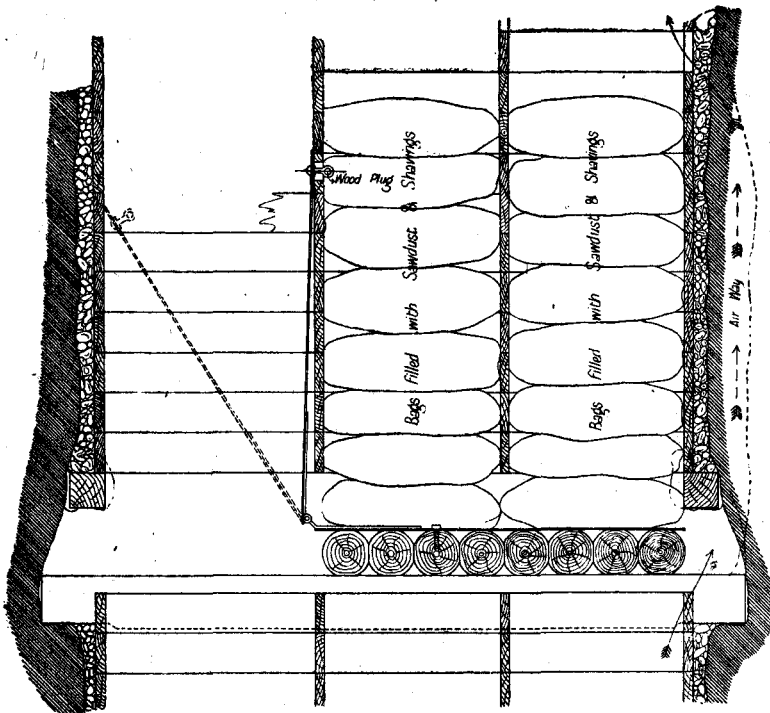
at 1450 ft Level



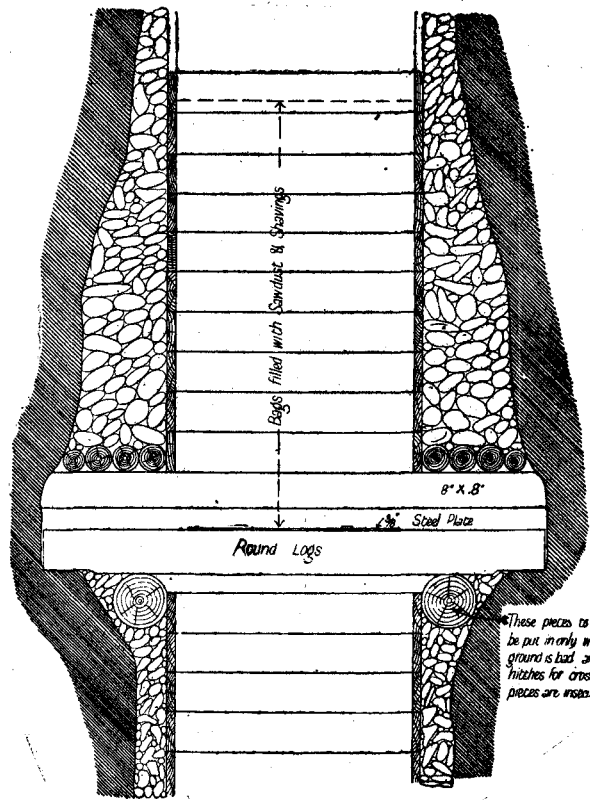
PLAN

SECTION



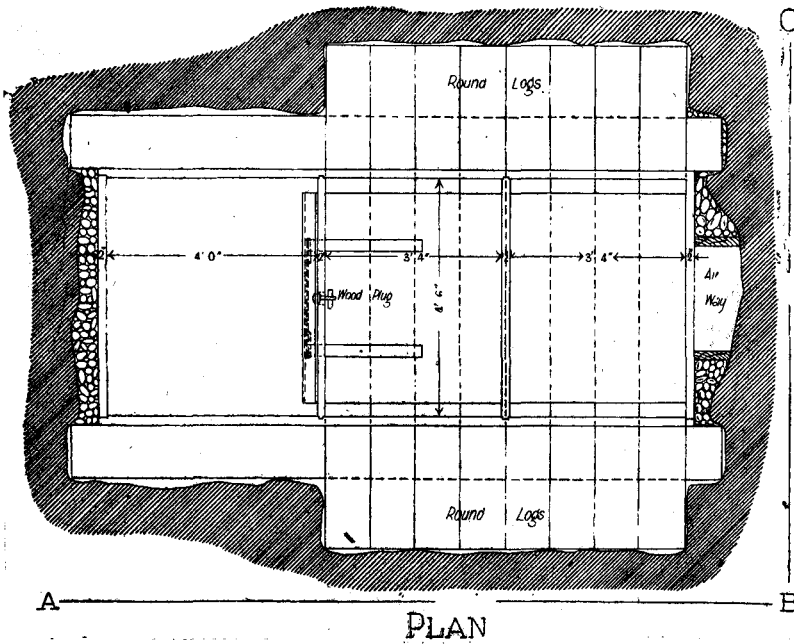


SECTION A B



These pieces to be put in only when ground is bad, and hitches for cross pieces are required

SECTION B C



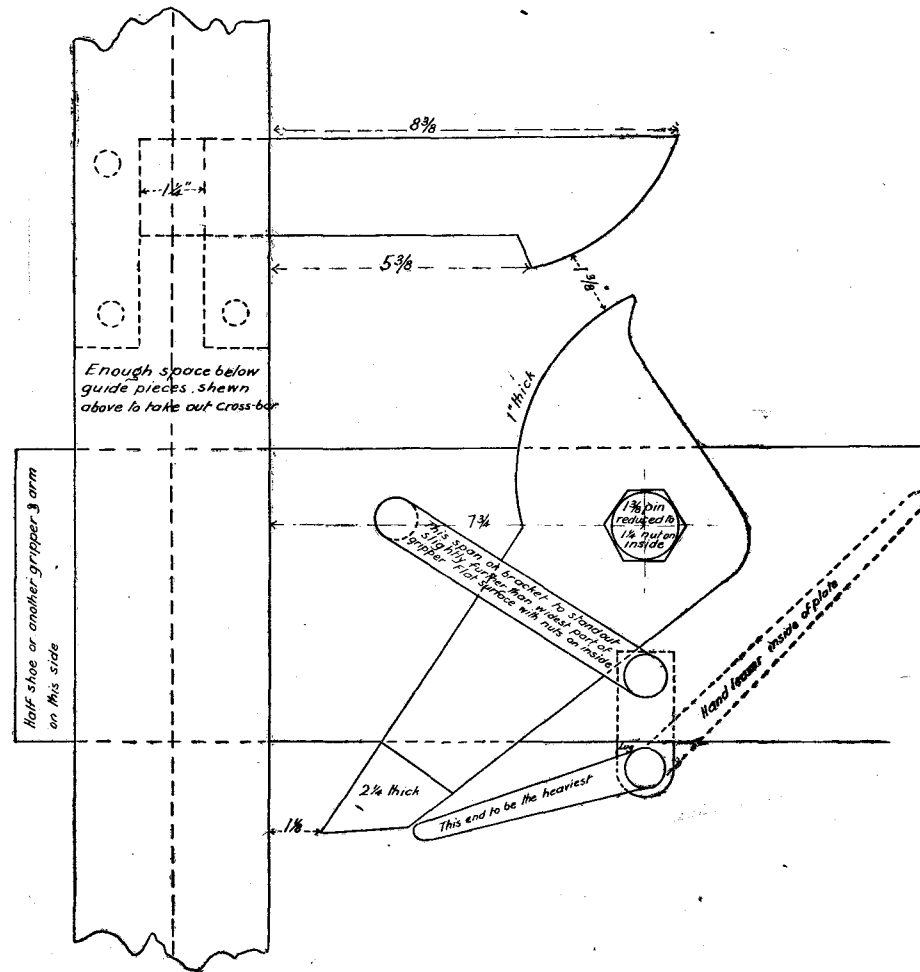
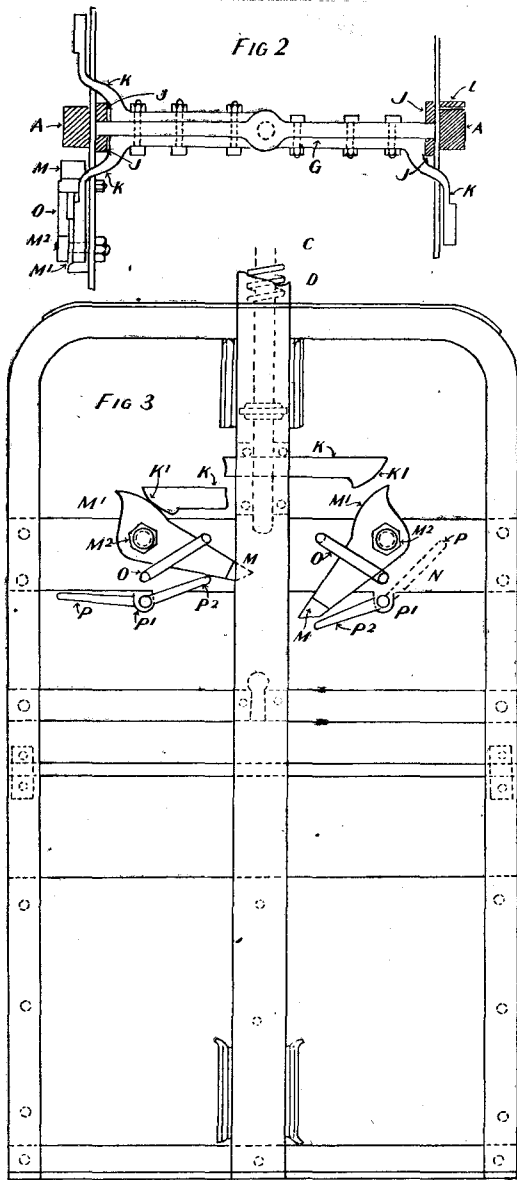
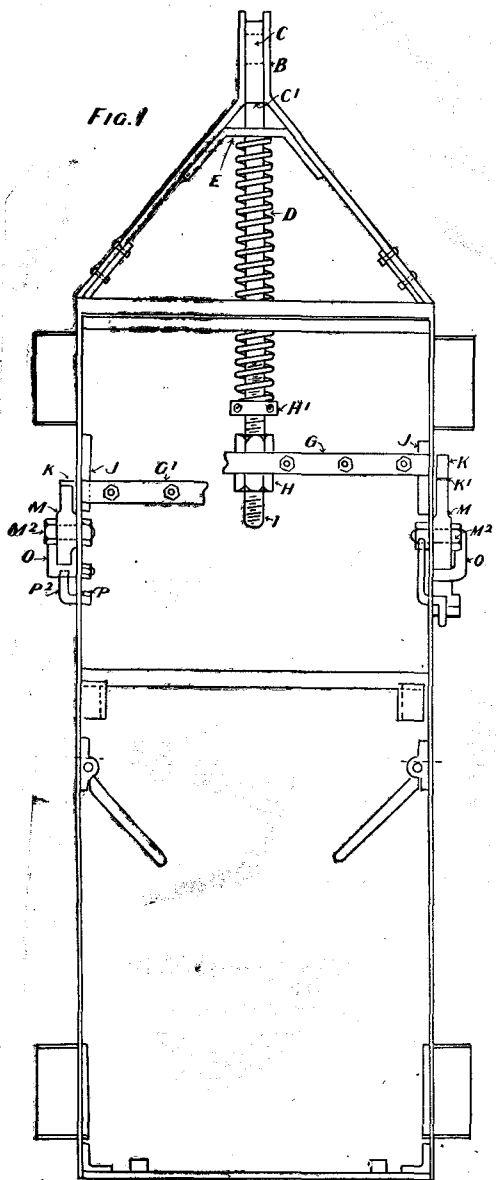
PLAN

THE KALCURLI C. M^S L^D
PENTHOUSE
 for Main Shaft



THOMPSON'S PATENT SAFETY MECHANISM

FOR CAGES LIFTS AND THE LIKE



necessary alteration before making any further tests. After this alteration had been effected it was found that the cams would pass over the guides and allow of $1\frac{1}{2}$ in. clearance. On completing the tests on the incline a frame was constructed and so arranged on the surface that the skip could be tested at any desired angle. The trials carried out in this frame proved that it would not work satisfactorily at much less than 20deg. from the horizontal, at a lesser angle than this it was found that there is not sufficient pull on the bow to counterbalance the force of the springs which act upon the cams.

"The gripping capability of the appliances were tried at various angles, and were found to be satisfactory.

"After a careful examination and repeated trials, I am of opinion that the skip will work satisfactorily in inclines varying in inclination from 20deg. from the horizontal."

Although the difficulty met with in applying safety catches to skips working in grades which vary from say 10deg. to about 80deg. has not been overcome by Mr. Bell's invention, still I think it will meet with the majority of the cases that are likely to arise.

It will be seen that Mr. Bell's device, like Mr. Taylor's, requires the use of a second pair of rails or guides in addition to the rails on which the skip wheels run, and so involves considerable expense, but so far as I am aware no effective appliance has yet been brought forward which dispenses with some such extra guide and makes the rails themselves sufficient. The Inspectors of Mines were asked during 1906 to report upon the frequency of derailment of skips and the best way of preventing this class of accident. From their replies it appears that in the underlay shafts using wheeled skips derailments have not been altogether infrequent, though no persons were injured. One case in which there was a very narrow escape from accident to persons in the skip was attributed to winding at excessive speed, and the engine-driver was dismissed by the manager. In another case derailment was attributed to a stone having fallen on the rails. The reports were unanimous that where men are raised and lowered guides or skids should be used that would prevent derailment of the skips. It seems, therefore, proper to insist in future on this provision for safety, by requiring guides or runners to be provided in the shafts, and safety catches on the skips.

Safety Catches in Vertical Shafts.—A drawing is attached of Thompson's safety catch for cages, which has been lately much used in the mines of Bendigo, Victoria, whence a model and drawings were brought here by Mr. Inspector Greenard. This catch has the grippers detached from the actuating apparatus attached to the rope, so that a considerable amount of 'surging' of the load is possible without the grippers being driven into the guides. If the rope breaks, however, the springs are strong enough to force the strikers against the grippers and make these catch the guides.

The appliance gets over to a great extent the liability of the catches to act unexpectedly, as sometimes happens in deep shafts, through the 'surging' of the rope. The grippers are also provided with a strong stop to prevent any possibility of their turning upside down and losing hold of the guides as has been known to happen with catches unpro-

vided with stops. A hand lever is also provided for enabling a man in the cage to throw the grippers into action at any time, but the utility of this is a matter on which there is much difference of opinion, it being questionable whether a new source of danger is not introduced more than compensating for any extra safety secured.

Breakage of Ropes.—Only one breakage of a winding rope was recorded during the year, and this fortunately without injuring any person. The thimble had been put on with a splice eighteen inches long, and water had here got into the rope and corroded it, causing the rope to break, and letting the bucket fall 80ft. The inspector of the district remarks in his report that no external examination of the rope in this case would detect the deterioration internally, strengthening the arguments in favour of occasionally opening ropes for examination, and for frequent reapplying of winding ropes.

In my report for year 1904 allusion was made to the necessity for the occasional internal examination of winding ropes, a practice to which strong objection is frequently made by managers on the ground that it injures the rope. Evidence is however accumulating that internal examination can be effected without detriment to the ropes, and that even if it does do some injury the internal condition of the ropes cannot be ascertained without it. The evidence of Mr. Wm. Walker, H.M. Inspector of Mines for Yorkshire and Lincolnshire, before the Royal Commission on mines, on 18th October, 1906, is strongly in favour of opening the ropes. He gives his opinion that winding ropes should be re-capped at least every three months, and that 'the oftener you see the inside of a rope the better.' He mentions an accident whereby seven men were killed by the breaking of a rope, on account of internal corrosion which could not be seen by any external examination.

Electric Signalling.—Electric systems of signalling are coming more and more into use in the larger mines in preference to knocker-lines. A description of the Kalgurli G.M. installation is appended. (Appendix C.)

Penthouses.—Drawings are attached hereto of penthouses in use in three of the principal Boulder mines.

Bravery in Rescuing Victims of Accidents.—The men who go to the rescue of men injured by accidents often themselves run great risks, and it is probably the exception rather than the rule that their bravery receives any recognition. Two cases, have, however, been reported by the Inspectors of Mines in which the brave conduct of the rescuers has been specially alluded to. One was in the instance of a fatal accident at the Vale of Coolgardie mine, where three men were killed by a heavy fall of ground. The Inspector of Mines says of the action of three men, William Beaver, William Dunstan, and Albert Babley Hanlon:—"The risks that were taken by these men in the initial stages of the rescue work were very considerable, so much so they were in constant danger of sharing a similar fate to that of their unfortunate comrades, as the timbers which formerly served as a protection were carried away by the first fall, consequently they were exposed to a large area of unsupported dangerous ground.' You will note in the evidence taken at the

inquest that while they were attempting to rescue Milroy several tons fell around about them, portions of which knocked Beaver down, still they continued with the rescue work, seemingly regardless of the terrible danger they were exposed to, until Milroy was rescued.

This is one of the bravest deeds of rescue that has come under my notice, and one which, in my opinion, is deserving of recognition in some way.

The other instance was reported by Inspector Lander from the Great Fingall mine at Day Dawn, where a man was rendered unconscious through breathing fumes resulting from the firing of explosives in a rise. The man's own mate could not bring him down so called Walter Mackey who went up and rescued him. The manager rewarded the rescuer by giving him £25. To give some official recognition of bravery in rescue work it has been decided to issue a certificate from this department to men whose action is strongly commended by the inspectors.

Prosecutions under the Mines Regulation Acts.—There were nine prosecutions during 1906 for breaches of the Mines Regulation Acts. In the East Coolgardie field there were three cases. In the first a mine manager was fined £2 and costs, £3 18s. for allowing a surface dump to be worked in an unsafe manner. In the second, a miner was fined 10s. and costs, £2 6s. for using an iron tool to tamp explosives; and in the third, a miner was fined 2s. and costs 2s., for negligence in leaving a loose plug of gelignite in a supposedly empty hole and giving no warning to those following him. The light penalty in this case was due to the man owning his fault, and explaining the matter when otherwise the cause of the explosion would have been a mystery, and no charge could have been brought home to him.

In the North-East Coolgardie Field a manager was fined £1 and £8 costs for neglect in enforcing the use of proper signals, whereby an accident was brought about. In the North Coolgardie Goldfield a manager was prosecuted for failure to keep an open shaft properly fenced, whereby a man sustained injuries through falling into the shaft. Owing to the injured man's inability to identify the particular shaft when in Court the case was dismissed, but without costs against the Department. In the Mt. Margaret Field a manager was fined 10s. and costs, £4 6s. 6d., for negligence, in allowing a bad arrangement to exist at his shaft whereby a trolley was allowed to run into the shaft and caused serious injury to a man. There were extenuating circumstances which justified the smallness of the penalty. In the Murchison Field there were two prosecutions, one of a miner for being careless in handling explosives for which he was fined £2 and 2s. costs, and the other, of a manager, for neglecting to keep his signal code properly posted up. He was fined £2 and 4s. costs. At Collie Coalfield there was only one prosecution during the year, a manager being proceeded against for employing men for more than eight consecutive hours underground. The case was dismissed without costs, the Justices before whom it came interpreting the Act in a manner with which this Department does not agree.

Sunday Labour in Mines Act, 1899.—Two prosecutions under this Act were conducted by the police.

In one case the owner of a battery at Cue was proceeded against for employing a workman to cart quartz from the Agamemnon Gold Mine to the Light of Asia Mine on a Sunday. The Resident Magistrate dismissed the case, holding that Section 2 of the Act did not apply. In the other case the manager of the Transvaal Mine at Southern Cross was fined 1s. per man for nine men employed, and costs, for working his battery on Sunday. He contended that his case came within the exceptions in Section 4 of the Act, but the Resident Magistrate ruled against him. In both cases questions arose as to the interpretation of the words of Section 4 of the Act 'reduction plants using cyanide or chemicals in a continuous process,' and the decisions given are not easily reconcilable with one another, the two Magistrates apparently taking opposite views of the meaning of the words 'continuous process.' The intention of the Legislature was, without doubt, to prohibit all labour on Sunday not strictly necessary for successful ore treatment, but to allow such labour as must be employed to ensure continuity of treatment without a break on Sundays in such parts of the processes as cannot be interrupted without serious detriment to the successful working of the treatment plant. The language used, however, expresses a great deal more than this intention, and no distinction is drawn between a 'continuous process' which is such, because, as a matter of fact, it is carried on continuously, but which might nevertheless be interrupted for a day without any harm accruing to the treatment (e.g., crushing with stamps), and one which must be carried on unintermittently to ensure proper treatment (e.g., certain parts of the cyanide processes).

When the 'Mines Regulation Act, 1906,' comes into force this year it will repeal the 'Sunday Labour in Mines Act, 1899,' but itself embodies the principal provisions of the latter with some amendments. One effect of the change is to bring the supervision and regulation of Sunday Labour on the mines under the Inspectors of Mines.

'The Mines Regulation Act, 1906.'—This measure was passed during last session of Parliament in 1906, and will come into force during the present year. Numerous alterations and additions have been made to the provisions hitherto in force, which it is hoped will tend to greater safety of persons engaged in the mining industry. Regulations under the Act have also been prepared, and will also be brought into effect during the present year. An important section of these Regulations is based on the recommendations of the Royal Commission on the ventilation and sanitation of Mines in 1905.

Advances under 'The Mining Development Act, 1902.'—Attention to applications for advances in aid of mining development under the 'Mining Development Act, 1902,' has been an important part of the work of this office during 1906, and has also involved a great deal of work to the Inspectors of Mines in addition to their duties under the Mines Regulation Acts. Applications have been very numerous, and are becoming increasingly so year by year, as the willingness of the Government to grant assistance is more widely known and realised. In Appendix E hereto, notes are given upon the various cases in which advances were authorised or expended wholly or in part during 1906, but there were also a considerable

number of instances in which advances were authorised, but no payments were carried to account during the year. Particulars of these are, therefore, deferred until next Annual Report. There were also many applications which were refused, and several in response to which advances were authorised, but were not taken advantage of, by the applicants owing to various causes.

The figures given in the appendix do not include the expenditure on erection of State Batteries, which is dealt with elsewhere by the Superintendent of State Batteries in his Annual Report, or on the Phillips River Smelting Works, these having had special votes against which the expenditure was charged. State Batteries and Smelting Works nevertheless are authorised under Part IV. of the 'Mining Development Act,' and the expenditure on them is a very large portion of the Government Expenditure in directly assisting mining, and should, therefore, be added to the figures given in this Report to attain a truer measure of the extent of the State assistance.

STATE SMELTING WORKS, PHILLIPS RIVER GOLDFIELD.

At the end of 1905, a new smelting plant was in course of erection on a site considered by the manager to be more suitable than the old one. The smelting furnace was to be delivered on 11th March, but did not come to hand till some weeks later. In the meantime, however, a powerful syndicate had been formed by Mr. Charles Kaufmann, of London, which acquired all the largest producing copper mines of the district, and entered into negotiations for the purchase of the smelting works. The syndicate had control of the principal mines then producing sulphide ores, and if it erected its own plant the other mines of the district would not, on their present or immediately probable future production, be able to keep the furnace running more than a short time in each year. An agreement was therefore entered into whereby the syndicate should purchase the Government Works, and take over the obligation as to smelting for the mines of the district on the Government terms for two years from the time of starting smelting. The syndicate had now become 'The Phillips River Gold and Copper Company, Limited,' so far as this matter was concerned, and the agreement between this Company and the Government was executed on 6th July, 1906, the former becoming the owners of the Works for the sum of £5,000, and undertaking to buy all ore and stores on hand at a valuation, and to continue for a term of two years to purchase all ore presented for sale by the public on the same terms as the Government had been offering at the time of the sale.

The value of the ore on hand was arrived at as follows:—

Net weight of Ore	1098-5404 tons
Total Copper contents	160-9227 "
" Gold "	391-5783 ozs.
" Silver "	1351-3280 "
Copper paid for	129-9723 tons
Gold "	289-8619 ozs.
Silver "	27-248 "

Value of Metal paid for:—

Copper at £77 10s.	£10,072 16 2
Gold " 4 Os.	1,159 9 0
Silver " 0 2s.	2 14 6
	<hr/>
	£11,234 19 8
Less Smelting' charge of £3 per ton of Ore	3,295 12 6
	<hr/>
	£7,939 7 2
Amount standing Smel- ter Books on account of rough black copper in hand, approximately containing 5 tons. Pure Copper	393 0 4
	<hr/>
	£8,332 7 6
Sampling charges at 2s. per ton on 1098-5404 tons	109 17 0
	<hr/>
Amount payable	£8,442 4 6

The following summary shows the prices finally agreed:—

Ore	£8,442 4 6
Coke	3,809 6 8
Stores	655 9 9
Horses, vehicles and harness	185 15 6
Chemicals	33 7 3
Smelting Plant and Buildings	5,000 0 0
	<hr/>
Total	£18,126 3 8

Since the beginning of the present year there has been a further payment of £106 17s. 6d. on account of purchase of firewood, of which the amount had been unsettled.

The Company is now regularly purchasing ores and smelting.

MINING CENTRES VISITED.

During the early part of 1906 I visited several centres in the Goldfields, going to Kalgoorlie in January and March, and in the latter month also to Kanowna, Kalpini, Gindalbie, Bulong, Randells, and Mt. Monger. Reports were prepared on the progress of mining in the Kalpini, Randells, and Mt. Monger Districts, which were published in the daily Press at the time, and are now appended hereto.* In April and May I visited the Murchison Goldfield to look over the suggested routes of the proposed railway to Black Range, going to Mt. Magnet, Boogardie, Black Range, Montague Range, Cue, Erroll's Find, Barrambie, Gum Creek, Gabanintha, Meekatharra, and Nannine, on the tour. A report is appended hereto* on the Districts on the proposed routes of railways to Black Range, and also separate ones* on the Gum Creek and Meekatharra Districts. At Nannine I had the misfortune to sustain a severe accident to my knee while driving round the mines, which confined me to my home for five months, and did not permit of resumption of active outdoor work during the remainder of the year.

I have the honour to be

Sir,

Your obedient servant,

A. MONTGOMERY,
State Mining Engineer.

* Appendices F, H, I, K, L, M hereto.

APPENDIX "A."

Minute of the Chief Inspector of Explosives on the case of a fatal accident to J. R. Phillips, on the 28th July, 1906, at the "Lake View Consols" Mine, Boulder, through premature explosion of a charge, attributed to faulty fuse.

"The Under Secretary for Mines,—

"This case having attracted considerable attention, and possessing some special features, I take this opportunity of commenting on it at some length. My special reason for doing so being that reflections have been cast upon the supervision exercised over the fuse imported into this State.

"1. *Reported faulty fuse—three or four days before the accident.*—It is said that this fuse was reported a few days previously as having run—the evidence for this statement is very unsatisfactory. It seems to have been based on the fact that holes exploded while men were going up the winze. This seems to have been partly explainable by the fact that a big round of ten holes had been fired, and the men were warned by the shift boss, James, not to work such big rounds. Gaughan himself states that the fuses were cut in different lengths to regulate the explosions, and there is just as much probability that he made an error of judgment in cutting the fuses, as that the fuse ran.

"2. *Circumstances of the Accident.*—Some of the evidence on this point seems unreliable. McDonald, the engine-driver, says that the first explosion occurred about half a minute after Phillips left the bottom of the winze to fire the shots, and that there were three shots altogether. According to this, Phillips must have walked 10 feet along the crosscut, 50 feet along the lode, and fired at least three holes in half a minute.

"McDonald's estimate of the time which elapsed between the first and remaining shots was nearly three minutes, while Knight's statement says a minute.

"Too much dependence cannot be placed upon estimates of time of this sort in any case, but especially when men are waiting for holes to explode. I know from my own experience that under such circumstances one's ideas of time are very unreliable

"That the fifth fuse was found unlighted is a convincing proof that the first explosion occurred before Phillips had finished firing the round, but this is explainable on more than one supposition.

1. That the fuse ran.
2. That the fuse was made too short by an error of judgment.
3. That the fuse may have been coiled, and in lighting it (especially if a candle was used) the coil was, so to speak, 'short circuited' by one of the inner coils being ignited.
4. That one of those unexplained cases of absence of mind on the part of the workman occurred which led to unconscious delay in the completion of his work.

"Such cases have occurred where a miner having some difficulty in firing his second fuse unconsciously spends more time over the remainder of his work than was reasonably safe while a fuse was burning beside him.

"While it is impossible to say definitely which of these causes was at work in this case, it is not reasonable to jump at the conclusion that the fuse ran in view of the facts given below.

"3. *Quality of the Fuse—and Explosive* :—Samples of the explosive in use have been examined and found to be of a good quality, and nothing more need be said on this point as it does not appear that this could in any case have made the explosion premature.

'As regards the fuse, the following samples have been received from the Inspector of Mines.

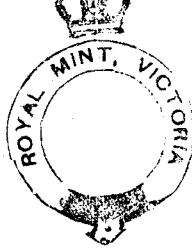
- (a) Portion of fuse that was in one of the charged holes but had not been lighted. Placed in Inspector's bag by underground manager.
- (b) and (c) Two pieces taken from men's smaller tin underground. These were capped when taken from tin. Length of each piece, 5ft. 7in.
- (d) Coil of fuse taken from men's larger tin underground. Length 23ft. 9in.
- (e) Coil from cask on the mine. Length 23ft. 6in.

"All these samples were manufactured by Bickford, Smith & Co., and were what is known as Bickford's double tape fuse. Their rate of burning was as follows :—

- | | | | | |
|-----|----|---------|-----|-------|
| (a) | 88 | seconds | per | yard. |
| (b) | 86 | " | " | " |
| (c) | 89 | " | " | " |
| (d) | 92 | " | " | " |
| (e) | 90 | " | " | " |

"The maximum variation is therefore 6 seconds per yard. This is very uniform. The regulation speed for fuse is 80-100 seconds per yard. The fuse in every way burnt in a satisfactory manner and was of first class quality.

"4. *Running of fuse* :—Mr. Lightly in his report on this case refers to a previous accident which was ascribed to quick fuse. I presume he is referring to an accident in the South Kalgurli mine on 16th November 1904 (Mines Jacket 3908/04) which is the only case I can recollect. At the inquest Mr. Lightly said he could only ascribe the accident to faulty fuse but this opinion was expressed in spite of the fact that he had not been able to detect any fault in the fuse. Samples examined by me were also satisfactory, and in my opinion there were no real grounds even in that case for supposing that the fuse had been too quick.



“Inspectors of Mines and experienced miners alike have frequently informed me that they have never known a fuse to run. It is practically unknown as the tendency in the manufacture of fuse, if any faulty process, is to slow down the rate of burning or cause constrictions of the core which may give rise to explosions—these explosions however are local, do not run through the fuse, and are of very rare occurrence, and cannot account for this accident.

“All shipments of fuse arriving in this State are examined and the following figures show the samples tested during the last six years :—

1900	..	..	186
1901	..	..	170
1902	..	..	174
1903	..	..	144
1904	..	..	129
1905	..	..	198
			1,001

“Amongst the thousands of samples tested during the last eleven years in this State I have never encountered a single sample which “ran,” and can only recollect two instances where explosions occurred. In one of the latter cases the following steps which were taken will illustrate the precautions observed. One hundred casks were concerned. Fresh samples were taken from every cask, and as

these all burnt perfectly, the particular cask suspected was retained and the entire cask was burnt. No further signs of faulty fuse were discovered—the shipment was therefore released.

“Occasionally slow fuse is encountered, and this has led to the recent regulation of which a copy is attached.

“Conclusion :—It will thus be seen that whatever faults may be found in the fuse used here, they are very few. The fuse is of a high order of quality, and too rapid burning is certainly not one of them.

“Of course it must be remembered that if there is only one yard of quick fuse in a hundred miles, the chances of its detection by inspection are infinitesimal, while it will sooner or later be encountered in actual use. This is an accidental occurrence which cannot possibly be guarded against, but while this is possible even such a case is certainly not more probable than carelessness or negligence on the part of the miner. And in this case I am therefore justified in saying that there is no evidence that the accident was due to faulty fuse, and that every possible precaution is taken to prevent faulty fuse coming into the State.”

E. A. MANN,
Chief Inspector of Explosives.

27-8-06.

APPENDIX “B.”

Extract from letter of the District Medical Officer, Black Range, to the State Mining Engineer, relative to the death of Arthur Thompson, on February 26th, 1906.

“I will endeavour as simply and clearly as possible to describe the case of Arthur Thompson from the evidence available, his condition before death, and that of the organs noticed on making the *post-mortem*.

“His previous history was that of a chronic alcoholic. About three weeks before his death he had a heavy drinking bout, but subsequently walked between 40 and 50 miles, obtaining work at the mine where he was taken ill. On 24th February, after an explosion of dynamite (the length of interval between which and Thompson’s descent into the mine I do not know), Thompson went down the shaft and sent up thirty buckets of stuff, his mate winding on top. He then came up and complained of the *smoke* below. His mate then went down and sent up fifteen buckets, Thompson doing the winding on top.

“This completed their work at 3 p.m., and at 5 p.m. Thompson was noticed sitting under a tree with his head in his hands, coughing, and his breathing affected. When interrogated as to what was the matter, he replied that the smoke had been bad below. From that time forward he gradually got worse, and was brought in a distance of 50 miles

to Black Range, arriving at about 6 p.m. on the evening of the 25th. The symptoms throughout were difficult breathing and prostration. After the first symptoms were noticed, until I saw him, alcohol of various kinds was freely administered, *i.e.*, for about 25 hours. Note Drs. Macaulay and Irvine’s remarks on this point.

“Thompson’s mate, who went down the shaft subsequent to him and sent up fifteen buckets of stuff developed no symptoms whatever, but this evidence is not of much value as to the shaft being free of noxious gases and smoke when Thompson went down, as the period was much later, and the bucket had been up and down thirty times before he (Thompson’s mate) descended. Thompson clearly stated that the smoke was bad while he was below.

“When I first saw Thompson he was in a state of more or less collapse. He was pale with the exception of his lips, which were dark coloured, he wore an anxious expression, and was very restless. He had a short hacking cough, and expectorated small quantities of clear frothy spittle, and he was bathed in perspiration.

"Heart sounds very rapid and feeble (of a class known as tick-tack to doctors), and his pulse averaged between 130-140 per minute, feeble in character.

"Respiratory system.—Respiration very rapid, about 60 per minute, and of a panting nature. On listening to the lungs moist sounds could be heard over both bases, posteriorly, and there was dullness also on percussion over this area, indicating that fluid existed at these points in the air-cells and small bronchial tubes.

"Temperature was just below normal, *i.e.*, 98F. There was no muscular paralysis, nor dropsy of the extremities or abdominal cavity apparent.

"I gave him at once ammonia digitalis and strychnine, all heart and respiratory stimulants. He improved somewhat during the first hour, but later became very restless, and said he felt no better. At 10 p.m. I again examined him and found no improvement in heart and pulse, while the dullness and moist sounds over the base and posterior of lungs had extensively increased, and I then remarked that I thought he would die of suffocation through the filling of his lungs with the watery portion of his blood. I again saw him after 12 a.m., he was then drowsy, sleeping restlessly at intervals, but there was no improvement in pulse or respirations, and the rattle of the fluid in his lungs was quite audible during respiration. At 4.30 a.m. his attendant informed me that he was dead, but that he had noticed him alive and spoken to him about a quarter of an hour previously.

"Postmortem revealed blood throughout the body, dark and venous in character (*i.e.*, deoxidised).

"Heart enlarged, dilated and flabby, containing *antemortem* clot, *i.e.*, showing that he had been slowly dying for some hours. There was no valvular disease, and the dilatation was almost certainly due to alcohol.

"Respiratory system.—Windpipe and large bronchial tubes darkly congested.

"Lungs very dark throughout, showing passive congestion, and sodden with watery exudation which filled air-cells and bronchial tubes.

"Stomach quite empty, and mucous lining darkly congested.

"Liver much enlarged, and in the condition known as nutmeg liver or hypertrophic cirrhosis, *i.e.*, alcoholic liver.

"Kidneys much enlarged, irregular in shape, darkly congested, and capsule adherent. With the exception of the congestion, this abnormal condition was probably due to an attack of Bright's disease at some previous date.

"Intestines and Bladder revealed nothing of importance. There was no dropsy whatever of the extremities or in the abdominal cavity.

"In reply to your question as to whether Thompson's death should be considered due to natural causes or attributed directly to fumes, I am of opinion that though from the diseased condition of his organs he would not have lived long, he did *not die* from natural causes. If he had he would most probably have died, either suddenly from over-exertion, etc., as an individual does with a failing heart. Or, after a protracted illness during which well marked symptoms such as dropsy of the abdomen and extremities supervene, with a heart, liver, and kidneys in such a condition as his were. In either case the *post mortem* appearance of the organs would have been different.

"On the other hand, the circumstantial evidence that Thompson was exposed to fumes, the symptoms which, to a great extent, corresponded with those noticed by Doctors Macaulay and Irvine with those exposed to gases and the *post mortem* observations I made, point, in my opinion, to the fumes as being the direct cause of death in an already very debilitated subject."

(Signed) P. H. NUTTING,
D.M.O., Black Range.

16th April, 1906.

APPENDIX "C."

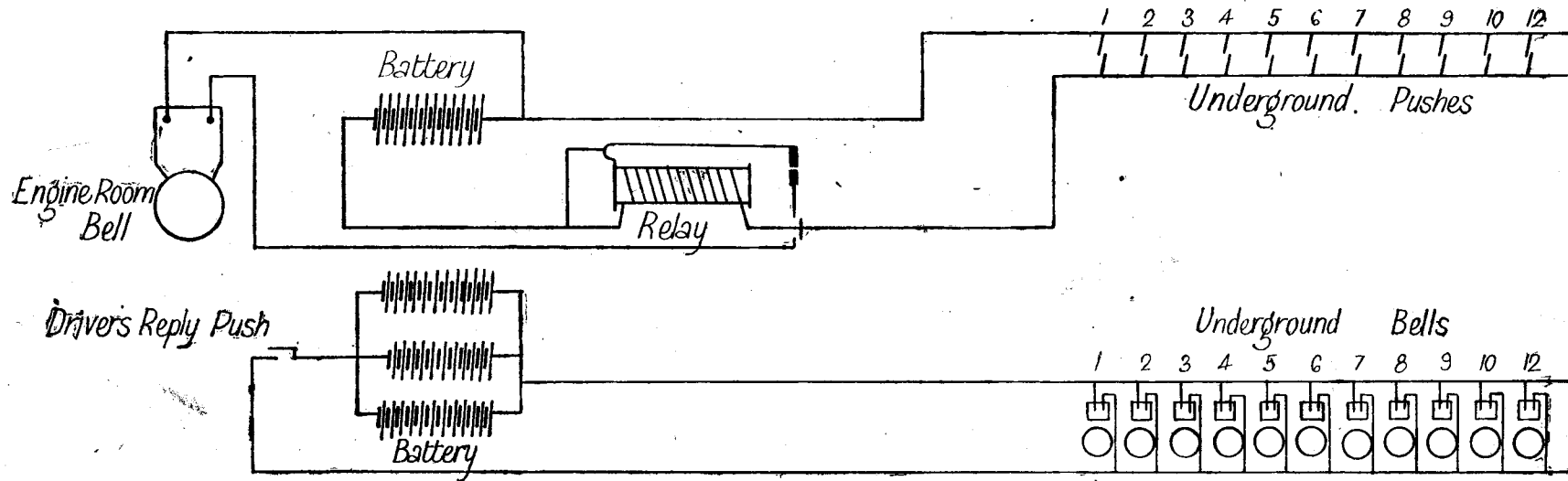
Description of Electric System of Signalling at the "Kalgurli" Gold Mine, appended to Annual Report of the Inspector of Mines, East Coolgardie Goldfield, Mr. J. O. Hudson.

"The bells are of the single-stroke type, which at each ring, give one clear and distinct sound—the bells on other systems having a trembling sound which makes it hard to distinguish between the knocks. An indicator is provided for registering the number of knocks signalled by the platman. A level indicator, for the driver to be able to reply back to the level from where he was signalled, one push for replying to platman, and one push to work

the indicator and one bell and a two-way switch, are placed in a convenient place for the engine-driver.

"The cable is the best procurable, being steel armoured submarine, and consists of eight strands each insulated from each other. This cable is placed in the ladder compartment of the shaft, and at each level enters a cast-iron junction-box—this box is 10in. x 8in. overall, and is perfectly water-tight and

South Kalgurli G. M^s Ltd
UNDERGROUND ELECTRIC SIGNALLING SYSTEM



R. B. Ludd. Electrician.

well insulated. From this box connections are taken to the bell and push—the cable used being also submarine, but of two strands. This procedure is followed out at each level. All entrances to junction-boxes, bells, and pushes are sealed with a pitch compound, thereby making everything thoroughly water-tight. The system is one supplied by Strelitz Bros. The mode of working is as follows:—The platman, we will say, is at level No. 5, and he wants to proceed to level No. 7, the signals he knocks for these levels are 2—2. The bell gives four distinct rings—the pause between is to be understood—the knocker indicator will also register four on the dial. The driver will now shift his pointer of level indicator to No. 5 (or whatever level he is signalled from) and reply the same number of knocks as he received. In order to bring his knocker indicator back to

zero again he simply presses a button and it flies back at once.

“The advantages claimed for this system are that the bells, being of the single-stroke, are easily detected, and the knocks are also registered on the indicator, so that the driver cannot mistake them, and the reply is only rung at the level from where signalled.

“The current of working this system is derived from a small 110-volt dynamo which is driven by a small three-phase induction motor, and if anything should go wrong with these machines the system can still be maintained, as a standby is provided in a large battery capable of working the bells eight hours. The method of connecting on to the batteries is done by simply throwing a switch over on to same.”

APPENDIX “D.”

Description of Treatment Plant of the “Associated Northern Blocks (W.A.) Limited, Kalgoorlie, appended to Annual Report of the Inspector of Mines, East Coolgardie Goldfield, Mr. J. O. Hudson.

“This treatment plant is of the ‘Dry Crushing Type,’ for treatment of the sulphotelluride ore obtained from the ‘Iron Duke’ chute.

“The following are the headings into which treatment is divided :—

1. Breaking and storage.
2. Milling.
3. Roasting.
4. Grinding and classification.
5. Agitation and cyaniding.
6. Filter-pressing.
7. Disposal of residues.
8. Precipitation and clean up.
9. Retreatment.

“*Breaking and Storage.*—The ore from the mine is tipped upon a grizzly, the fines pass through and the larger stones go into a No. 5 Gates’ Breaker. This breaker is capable of breaking 500 tons of rock per day, and so is only run on day-shift. The product of breaker and grizzly meet at the foot of the machine, and fall on a Robins conveying belt, which distributes the ore evenly over the storage bin, which is of 350 tons capacity.

“*Milling.*—The ore is now fed from the bottom of the coarse ore bin into a row of three Ball Mills, size No. 5, by means of automatic bump feeders. These mills crush from 38 to 44 tons of ore per day, according to the nature of material being handled, and reduce it to 50 per cent., passing a 150 mesh sieve. The crushed ore, falls from mill, through a

chute into a spiral conveyor, which passes it along to the fine ore elevator, and is then stored in a bin holding about 60 tons.

“*Roasting.*—The fine ore is fed from the bin, to a double push conveyor by means of another screw, and this in turn pushes it along the line of six Merton Roasting Furnaces. These furnaces have a capacity of 20 tons per day on ore running 4.5 per cent. of sulphur. The sixth furnace is a new addition to the roasting plant, and has only been running about 8 months. It was installed mostly through the sulphur contents of the ore becoming greater. The ore, after roasting, is conveyed by another push conveyor to a Krupp elevator, of the chain and bucket pattern, and this elevates it to the height required for all future handling in mill.

“*Grinding and Classification.*—The hot ore falls from the mouth of the elevator into a vortex mixer, where it meets a stream of weak cyanide solution, and is here converted into a pulp consisting of one ton ore to five tons of solution, and this gravitates to a row of eight Forwood-Down grinding pans. Here the grinding is carried on until, approximately, 93 per cent. of the total product will pass a 150 mesh sieve. Mercury is also added to the pans, and this collects a quarter of the gold contents of the ore, in the form of crude amalgam. This passes on to the clean-up room for further treatment in the amalgamating barrel, and from here the clean amalgam is pressed into balls and retorted, Bullion averaging £4 per oz.

“The overflow from pans runs to the ‘settlers’ where four parts of the solution is separated, and again returned to mixer, for treatment of a further quantity of ore. The thick pulp is drawn through

taps at the bottom and passes on to the agitation plant.

*“Agitation and Cyaniding.—*Here we have six vats, each 22ft. diameter and 6ft. deep. One is used solely for retreatment purposes, and the other five for ordinary slime. The pulp is kept agitated here for 16 to 18 hours with cyanide solution, of strength .06 to .08 per cent. cyanide.

*“Filterpressing.—*Here we have three 5-ton presses, and the pulp is charged into these by a three-throw plunger pump, and the washing is done by another pump of the same type. The gold solution after being separated from the ore runs into a large storage tank.

*“Precipitation and Clean Up.—*The gold solution is elevated by centrifugal pumps to another tank at a height of 30ft., for the purpose of having a steady pressure on the clarifying press. This press removes all fine mud from the solution, and it then goes to the extractor boxes. After gravitating through the boxes it is deprived of 97 per cent. of the gold contents, and is again ready for use in the plant as weak solution.

“For the purpose of Clean Up we have the following :—

- One leadlined acidling tank.
- One gold slimes filter-press.
- Two muffle roasting furnaces.
- One tilting retort furnace.
- One refining wind furnace.

“These only come into operation once a month.

*“Disposal of Residues.—*This is done by men trucking from chutes directly underneath presses, and up to the present has been an exceedingly cheap method, but owing to growth of dump, it has been found necessary to alter this arrangement. This alteration is at present going on, and in the course of a few weeks the tailings will be dumped by means of a ‘Belt Conveyor.’ This will elevate to 60ft., and the belt is arranged at an angle of 27deg.

*“General.—*The plant has run pretty much the same during its three years of work. The chief addition is the one Merton’s furnace, which started work in July, 1906, with the result that the tonnage has been increased to 3,600 instead of 3,400 per month. The extraction has also been improved to 94.8 per cent.”

APPENDIX “E.”

ADVANCES GRANTED DURING 1906, UNDER “THE MINING DEVELOPMENT ACT, 1902.”

PIONEER MINING AND PROSPECTING.

“1. *Oversight G.M.L. 957Y, Bulong :—*In last year’s annual report an account was given of the advances made in this case to end of 1905. Finding little encouragement in their Eastern crosscut at the 300ft. level, the syndicate crosscut West 90ft. through hard diorite, and found a small lode carrying gold on which they then drove North and South, also sinking a winze on it and putting up a rise. Further advances up to £250 were approved by the Minister, bringing the total amount authorised to £850. The lode remained small and poor, and work at the 300ft. level was suspended while the lode was tested at the 150ft. level. Where struck by the crosscut at this level the values were good, but on driving on the vein it again became small and poor. Since the end of 1906 the syndicate has had to stop operations for want of capital, their sworn declaration showing a total expenditure of £5,686 11s. 9d. The payments by the Government during 1906 amounted to £372, making a total since inception of operations of £822.

“2. *The Ninety-eight G.M.L. 951Y, Bulong :—*Particulars of this case were given in last year’s report, the amount advanced to end of 1905 being £188 6s. 2d. out of £250 promised. Further payments were made during 1906 of £61 1s. 7d., making a total advance of £249 7s. 9d., but the work turned out unfavourably, and the venture ended by the lessee throwing up his lease.

“3. *The Monkland G.M.L. 1127X Gindalbie :—*Reference was made to this advance in the report for 1906, work being still in progress at the end of 1905.

“The shaft was sunk to 238ft. and became very hard, whereupon the owner of the mine made a crosscut 30ft. in length at 194ft., and cut the reef about 20in. wide, carrying payable ore, 130 tons being crushed for 126ozs. 11dwts. of gold worth £334 16s., by amalgamation only. A further advance of £100 was then authorised, making the total £500, and a crosscut was put in 36ft. to cut the lode at the 238ft. level, where it was found to be about 3ft. wide and of payable value, 25 tons crushed yielding 53ozs. 13dwts. 12grs. of gold. The advances made during 1906 were £136 6s. 3d., completing the total of £500 authorised.

“4. *The Sunbeam G.M.L. 1121X, Kanqwna.—*The position of this advance at the end of 1905 is shown in last year’s report. During 1906 a further sum of £430 16s. was advanced, making a total of £903 0s. 6d. since the start of the work. The mine has been working all through 1906 with rather poor success, 240 tons of ore being crushed for a return of 376.29ozs. of gold, but the latest reports are rather more encouraging.

“5. *Chadwick’s Reward G.M.L. 641, Yilgarn.—*Since last year’s report a final payment of £25 has been made on account of the sinking of the shaft to test the reef on this lease, making the total advanced £100, together with £5 expended in paying portion of charges for a trial crushing.

“6. *The Eclipse G.M.L. 1047X, Gindalbie.—*An advance of £250 was authorised during 1906 for the purpose of sinking the main shaft a further depth of 100ft., and also £200 under Part IV. of the Act to assist in removal and erection of a bat-

tery and purchase of a boiler on condition that the battery would be available for crushing for the public. At the end of the year payments had been made to the amount of £104 7s. 2d., and work was still in progress.

"7. *The Great Northern G.M.L., 4175E, Kalgoorlie.*—An advance of £200 was approved by the Minister in November, 1905, to the owners of this lease, to enable them to sink their shaft from the 100ft. to the 200ft. level, and drive on their lode at 200ft. : 100ft. of sinking and 223ft. of driving were done but the reef proved unprofitable, and the lessees abandoned it. The amount of advances paid to them was £186 10s.

"8. *The West Australian Sluicing Syndicate, Ltd., Coolgardie.*—A few particulars of the operations of this Company are given on page 60 of the Annual Report of the Department for 1905.

"Since then another paddock was sluiced with unpayable results, and the company went into liquidation. The payments by the Government during 1906 were £299 5s. 9d., making a total advance since the beginning of operations of £494 16s. 3d. There was also, however, a further sum of £83 17s. paid by the Department to the Goldfields Water Supply Administration on account of water granted to this company.

"9. *The Lost and Found M.L., 374, Greenbushes.*—Assistance under Part III. of the Act up to £150 was approved by the Minister for the purpose of sinking a vertical shaft, 6ft. x 3ft., to a depth of 150ft. to test a tin lode, at the rate of half the cost of the work, but not exceeding 15s. a foot for the first 50ft., and 22s. 6d. a foot for the next 100ft. After sinking 74ft. wet weather set in, and the party obtained permission to postpone the remainder of the work until the dry season. The amount advanced during 1906 was £64 10s.

"10. *The Kalgoorlie Syndicate G.M.L., 1223W, Paddington.*—The owners of this lease having made application for advances to the extent of £1,000 to assist them to open up their mine, a loan was approved by the Minister of £700, under Part II. of the Act, £285 to be applied to sinking the main shaft to the 250ft. level, £210 to be spent on machinery, and £205 on crosscutting and driving. Considerable work was done until the syndicate exhausted their funds, when the mine was let on tribute. The amount paid to the syndicate during 1906 was £243 4s. 5d., there being further claims outstanding at the end of the year. The mine shows a good deal of promise, according to reports.

"11. *The Coolgardie Opal, M.L. 53, Coolgardie.*—Some precious opal of fair quality having been discovered about three miles from Coolgardie, this M.L. was taken up to prospect the deposit, assistance at the rate of £1 for £1 up to £50 being approved by the Minister to be expended under the supervision of the Inspector of Mines. The total sum approved was subsequently increased to £100. Several shafts were sunk and small quantities of the opal obtained, but as a rule it was in thin flakes, and of little value. The deepest shaft was 70ft., but nothing of value was got below 40ft. The total amount advanced in 1906 was £78.

"12. *The Kangaroo G.M.L., 5258Z, and P.A. 280Z, formerly the Occidental Lease.*—These properties were taken up by the Menzies Prospecting and

Development Co., No. Liability, formed locally in Menzies for the purpose of prospecting and opening mines in that district. To assist this venture the Minister approved an advance of £1,125 to be expended at the rate of 30s. to each £1 spent by the company, the Government thus advancing three-fifths of the total cost of approved mining operations. Work was begun on both the above holdings, but after 31st October, the advances were confined to sinking a new main shaft on the Occidental mine to a depth of 250ft, and crosscutting and driving therefrom. Up to the 31st December, 1906, a sum of £265 4s. 8d. had been advanced.

"13. *Rollo's Reward Gold Mining Co., Kanowna.*—Early in 1906 a local company was formed in Kanowna to sink a shaft and develop the auriferous deposit found by boring during the previous year, described on pages 68 and 69 of last year's Annual Report. An advance at the rate of £1 for £1 up to £300 was approved for assisting in the sinking of a shaft and opening out therefrom. At 31st December the payments made amounted to £39 9s. Gold-bearing material has since been found in the bottom of the shaft.

"14. *The Alicia G.M.L., 140F, Mt. Morgans.*—An advance of £245 was approved for the purpose of enabling the owner of this lease to further prospect his mine, £50 in assistance in sinking to 100ft. and £195 in sinking to 230ft. Owing to water becoming heavy the shaft was not sunk quite the full distance agreed upon, and the lessee was allowed to crosscut to the reef at a somewhat shallower depth than originally proposed. Some very good ore has been obtained. The advances to 31st December, 1906, amounted to £195.

"15. *The Malcolm Prospecting Coy. No-Liability Mt. Malcolm.*—This Company was formed locally in Malcolm to reopen the old 'North Star' mine there, and obtained a promise of advances from the Minister up to £1,050, at the rate of 30s. to £1 expended by the Company. Machinery was purchased and erected, the mine pumped out, and underground work resumed with fairly promising prospects. The enterprise of this local company is very commendable. Further capital has since been raised in order to extend developments and procure a battery. The sum expended by the Government during 1906 was £919 17s. 4d.

"16. *The Haddon G.M.L. 552, Yilgarn.*—In continuation of the work mentioned in last year's report, a further allowance of 100,000 gallons of water was made to this mine during 1906, the expenditure amounting to £59 2s. 4d. for the year, or a total from the first of £71 8s. 4d.

"17. *Assistance in erection of Batteries and Treatment plant: The 'Lady Isobel,' P.A. 203z, Menzies.*—The owners of this holding obtained an advance of £150 under Part IV. of the Act to assist them in erecting a small battery which would be available for public crushing up to 20 tons a month. Payments to the amount of £147 11s. 7d. had been made up to the end of 1906.

"18. *The Never Never, G.M.L. 665, Yilgarn.*—To assist Mr. D. Hatt in erecting a battery at the "Never Never" mine, south of Southern Cross, and to secure crushing for the public thereat on rates and conditions approved by the Minister, an advance of £1,000 was authorised and expended. The battery is a very complete one with cyanide plant.

"19. *The Spring Hill, G.M.L. 721, Parker's Range.*—Mr. W. A. Patterson obtained assistance to the extent of £655 to enable him to erect a battery at Parker's Range, on condition of crushing for the public at prescribed rates and terms for 10 days in each month. He purchased part of the State Battery, at Southern Cross for the sum of £305, and at the end of the year was nearly ready to begin crushing. The total payments were £654 16s. 5d.

"20. *The Ora-Banda, G.M.L. 1288W., Waverley.*—Messrs. Friedman and Johnson having applied for assistance to enable them to remove their 10-head battery from Paddington to the Ora-Banda Leases, and the prospectors of the district having supported the application, an advance of £1,000 was authorised, on condition that the mill would be available for public crushing at prescribed rates and terms. The battery was erected and in good working order by 18th October, but owing to deficiency in the water supply little crushing was done

for the remainder of the year. The owners then arranged to sink the water-shaft deeper, the Government paying for this work, which was in progress at the end of the year. The total advances on removal and re-erection of the battery amounted to £998 0s. 10d.

"21. *The Gladsome, G.M.L. 590N, Gum Creek.*—Advances were approved up to £350 to Messrs. Nicholson, Mahoney, and O'Donohue to assist them in erecting a battery at Gum Creek, and up to 31st December a sum of £347 14s. 2d. was advanced. The owners were bound to crush for the public on approved terms and did so for a time, but at the end of the year very few prospectors remained on the field.

SUBSIDIES TO PRIVATE CRUSHING PLANTS.

"22. The following table gives particulars of the subsidies paid to various owners of treatment plants to induce them to crush for the public at prescribed rates:—

Subsidies to Batteries for Twelve Months ended 31st December, 1906.

Place.	Name.	Name of Battery.	Tonnage.	Rate.	Amount.
				s. d.	£ s. d.
Paddington	Allsop & Co.	Allsop's	5,066	1 6	273 4 0
Coolgardie	F. W. Bow	Bow's	1,102	1 6	82 13 0
Montagu	J. J. Bryant	El Dorado	251	2 0	25 8 0
Paddington	F. F. Carter	Venture	7,058	1 0	486 10 6
Marble Bar	W. H. Cooper	Stray Shot	386½	5 0	96 19 1
Southern Cross	Crooks & Jameson	Haddon	20	10 0	10 0 0
Mt. Morgans	R. Davies	Guest's	1,986½	2 0	198 13 0
Kanowna	J. Donnan	Donnan's	876	1 0	41 16 0
Murrin Murrin	R. Evans	Malcolm Mines	46½	1 6	3 9 9
Paddington	N. A. Friedman	New Arrow	3,358	1 6	259 7 0
Kanowna	J. P. Hallahan	Robinson Works	4,318	1 0	218 18 0
Mt. Morgans	W. C. Hill	Princess Iris	663	2 0	66 5 9
Paddington	A. M. Howells	Paddington Consols	1,318	1 6	112 6 6
Black Range	J. J. Kelly	Bryant's	94	2 6	11 15 0
Murrin Murrin	Malcolm Mines, Ltd.	Malcolm Mines	515½	1 6	38 14 0
Kanowna	J. Martin	Martin's	10,339½	1 0	517 3 0
Gum Creek	Nicholson, Mahoney, & Donohoe	Nicholson's	490½	...	61 18 0
	C. F. J. Hall	(Cartage)	...	...	0 4 10
	J. Maher	(Freight)	...	...	3 16 0
Paddington	D. Northey	Mt. Cortive	777	1 6	58 5 0
Waverley	Ora Banda G.M. Syndicate	Ora Banda	290	3 0	43 10 0
Edjudina	Pauley & McCoy	Pauley & McCoy	207	2 0	20 14 0
Paddington	F. P. Phillips	New Arrow Proprietary	738½	1 0	36 18 6
Lawlers	H. Poole	Cinderella	1,435½	2 0	166 7 0
Kanowna	Reidel & Norton	Reidel & Norton	7,754½	1 0	387 15 0
Lawlers	Smith & Langford	Smith & Langford	938	2 0	93 17 6
Black Range	Spencer & Thompson	Spencer & Thompson	2,399	2 0	240 0 0
Siberia	H. Trémlett	State	34	3 0	5 2 0
Waverley	F. L. Thomas	Thomas	323	1 6	24 4 9
Paddington	T. Wilson	Allsop's	5,229	1 6	392 3 6
			58,014½	...	£3,977 18 8

BORING.

"23. *Messrs. McIver, Stuart, & Rollo: Boring at Kanowna.*—Particulars of this work were given in last year's report, but a balance of £15 was paid during 1906, making the total advanced £250. The concern has since been taken over by the Rollo's Reward G.M. Coy., N.L.

"24. *Heath and Party: Boring on North Lead, Kanowna.*—A small balance of £1 19s. 10d. has been paid on the work described in last annual report, making the total expenditure on this £64 17s. 3d.

"25. *The Paddington Prospecting Syndicate: Boring at Paddington on P.A. 34W.*—This syndicate

having applied for assistance in boring for a deep lead at Paddington, a plant was loaned to them and a subsidy approved of £1 for £1 up to £200 on the expenditure. Eleven bores were put down and demonstrated that there was deep ground, and the syndicate then sank a shaft to test the "wash," but results were unsatisfactory. The total payments by the Department were £149 13s.

"26. *Boring for Coal at Mullewa.*—At Mullewa the Department carried on boring operations for coal, at a cost of £158 5s. 11d. for 1906. The annual report of the Government Geologist gives further information on this work.

"27. During 1906 the sum of £334 14s. 5d. was expended in purchase of boring plant parts.

PURCHASE OF BORING PLANT.

"28. *Providing means of Transport.*—The expenditure for 1906 in purchase and maintenance

of camels, horses, drays, and other exploration equipment and furnishing outfits for prospecting parties amounted to £976 9s. 8d.

Summary of Expenditure on Mining Development.

"A"—UNDER "THE MINING DEVELOPMENT ACT, 1902."

Expended 1906.

ADVANCES IN AID OF MINING WORK—

	£	s.	d.	£	s.	d.
1. Oversight, Bulong	390	10	0*			
2. Ninety Eight, Bulong	61	1	7			
3. Monkland, Gindalbie	136	6	3			
4. Sunbeam, Kanowna	430	16	0			
5. Chadwick's Reward, Yilgarn	25	0	0			
6. Eclipse, Gindalbie	104	7	2			
7. Great Northern, Kalgoorlie	186	10	0			
8. W.A. Sluicing Syndicate, Coolgardie	299	5	9			
9. Lost and Found, Greenbushes	64	10	0			
10. Kalgurli Syndicate, Paddington	243	4	5			
11. Coolgardie Opal, Coolgardie	78	0	0			
12. Menzies Prospecting and Development Coy., Menzies	265	4	8			
13. Rollo's Reward G.M., Kanowna	39	9	0			
14. Alicia, Mt. Morgans	195	0	0			
15. Malcolm Prospecting Coy., Malcolm	919	17	4			
16. Haddon G.M., Southern Cross	59	2	4			
				3,498	4	6

ADVANCES TOWARDS ERECTION OF BATTERIES AND TREATMENT PLANT—

17. Lady Isobel, Menzies	147	11	7			
18. Never Never, Yilgarn	1,000	0	0			
19. Spring Hill, Parker's Range	654	16	5			
20. Ora Banda, Waverley	998	0	10			
21. Gladsome, Gum Creek	347	14	2			
				3,148	3	0

22. SUBSIDIES TO PRIVATE CRUSHING PLANTS

3,977 18 8

BORING—

23. McIver, Stuart, & Rollo, Kanowna	15	0	0			
24. Heath & Party, Kanowna	1	19	10			
25. Paddington Prospecting Syndicate, Paddington	149	13	0			
26. Mines Department, Mullewa	158	5	11			
				324	18	9

27. PURCHASE OF BORING PLANT PARTS

334 14 5

28. PROVIDING MEANS OF TRANSPORT

976 9 8

Total

£12,260 9 0

"B"—MISCELLANEOUS UNDER DEVELOPMENT OF MINING VOTE.

Road, Parker's Range, Yellowdowie	28	3	0			
Drainage, North Lead, Kanowna	51	0	0			
Preliminary Questions and Examination, Water Rights	64	10	0			
Subsidy Hydraulic Sluicing Coy., Coolgardie	83	17	0			
Expenses Inspection of Mining Properties	8	15	2			
Survey Lawlers-Berrigrin Road	392	5	2			
Development Work in Mines	296	16	3			
Testing Collie Coal	9	8	2			
Subsidy carting Stone long distances	265	10	6			
Miscellaneous	17	1	2			
				1,217	6	5

WATER SUPPLY.

Meekatharra, General Supply	787	18	9			
Friedman & Johnson, Battery Supply	224	0	0			
Bulong Water Supply	2,504	11	7			
				3,516	10	4

GRAND TOTAL

£16,994 5 9

* Inclusive of £18 10s. included in last year's report but not carried to account till 1906.

APPENDIX "F."

NOTES ON MINES AT KALPINI.

The Kalpini Mining Centre lies 26 miles North-East of Kanowna, with which town it is connected by a good road. The country along this road is seen to belong to the usual greenstone (diomite, amphibolite, etc.) formation of our goldfields, and frequently contains veins of quartz. About 19 miles from Kanowna good discoveries of gold have lately been made on the ground cleared by the firewood cutters along the Westralia Timber and Firewood Company's railway.

The mining done at Kalpini has been principally on a small group of leases lying close together, but containing several separate lodes. The principal mine is on the "Camellia" lease, 434X, which was worked for a time on a fairly large scale by the Atlas G.M. Company, who erected winding plant and a ten-head battery upon it. This Company having gone into liquidation the plant was sold to Messrs. Silverthorne and Adair, of Kalgoorlie, the present owners, who have lately been advertising it for sale.

There were eight parties of men at work on the field at the time of my visit on 8th instant, and much anxiety was expressed by them that steps should be taken to retain a battery in the district. Without crushing facilities on the spot there is no hope of the lease owners being able to do any good with their mines, the cost of cartage to Kanowna (26 miles) or Gindalbie (14 miles) being prohibitive.

The following notes on the mines will more clearly explain the position of affairs and the prospects of the district :—

Camellia 434X.—The main shaft on this lease is sunk to 300ft. on the underlay. The lodes strike about North 75deg. East, with underlay to North about 1 in 2. At the time of my visit the water was in the mine to within 25ft. of the 200ft. level, and the lower workings could therefore not be seen. I was informed however that there was a small amount of stoping ground not yet worked out, estimated to yield about 600 tons of ore worth crushing. Deeper sinking would then be necessary to obtain more ore. The mine makes about 300 gallons of salt water per day, and in the lower level the country is very hard. Formerly there was an air compressor in the plant and rock drills were used, but the compressor has been sold and removed. The ore from the mine is hauled up the inclined shaft in self-dumping skips, which discharge it on to a gyratory crusher. From this the broken rock is carried by a short belt conveyor into a hopper behind the stamp mill, furnished with ratchet ore-bin gates, and shoots by which the stone runs into two Challenge feeders, which feed it into the mortar boxes. The stamp mill has 10 heads of fairly heavy stamps, made by James Martin & Co. After the crushed material has passed over the amalgamated copper tables the tailings go to a tailings wheel, which raises them to four square wooden elevated sand vats, provided with over-flow into four square wooden slime boxes. From these the excess of

water passes to a dam and is then pumped back into the battery. The slimes are said to have been rather too poor to treat further, and were allowed to run out of the collecting boxes when these became filled. The sands were shovelled out into trucks and tipped from these into five 16ft. diameter galvanised iron leaching vats, for treatment with cyanide. All vats are raised well from the ground so as to allow of a good dump for the residues. The whole mill is well designed for cheap handling of the stone, and is still in its main parts in pretty good order, though the removal of rails from the truck ways in the cyanide plant and the disrepair incidental to a mill which has not been working for some time, would require some little outlay before it could be set to work efficiently again. It could however be easily put in order, and would answer admirably for all present needs of the district, if arrangements could be made for its retention and working.

The fresh water supply for the boilers is obtained from a large dam about half a mile from the battery. It contained about 100,000 gallons at the time of my visit, but is said to hold 1,000,000 gallons when full.

Ore for public crushing brought to the battery is tipped from the carts down a pass to the 100ft. level, whence it is wound up in the skip to the rockbreaker in the same way as the ore from the mine. The pass affords a certain amount of storage room for ore, and the stone is taken into the mill conveniently and cheaply. At the time of my visit the battery was being got ready to crush about 200 tons of ore that were awaiting milling, the charge being 20s. a ton.

Camellia Extended 878X.—Work was in progress on this lease in a shaft 60ft. deep on the Camellia reef, about 5 chains West from the main shaft. The reef is from 3in. to 2ft. wide, and would average 9in. to 12in. in width. The stone raised in sinking and driving is said to have returned 19dwts. per ton, and there were about 20 tons of stone at grass which the owners estimated would yield close on one ounce to the ton. The reef has been traced Westerly by shallow holes on the outcrop for some little distance, but remains small.

Going North from the Camellia main shaft about 5 chains we see two small shafts sunk some years ago on a parallel to the above, known as the "Middle Reef," in which some gold is said to have been got by the early prospectors. About three chains further North there is yet another parallel reef, the "Black reef," on which two shafts about 40ft. deep have been sunk and connected. No work has been done on this for some years.

Gem 946X.—The reef in this lease runs about North 25deg. West with underlay to North-East, and has been worked upon for about 300ft. in length down to about the 50ft. level. There are several shafts, the principal one being 75ft. deep. The stone is about 12in. wide on the average, and has been of very good value at times, one crushing sent to Kanowna returning 4oz. per ton. The country is decomposed green-

stone, fairly soft and easy for working, but will doubtless get hard in depth.

North Brilliant, 1037X, otherwise Primrose.—Two whip shafts have been sunk on this lease to a depth of 185ft. on the underlay of a reef running North 60deg. West, with underlay to North-East. The workings have reached the water level, and the country lower down must now be expected to become harder. The reef is rather irregular in thickness, from two inches to four feet, but averages about 18 in. Some very fair stone has been got from this, and the owners estimate the stone they are now working upon as worth an ounce to the ton. There is a good deal of stone ready for stoping. The ore from the upper levels is said to have been sent to Kanowna for treatment some seven or eight years ago.

Brilliant, 898X.—This lease has a reef parallel to that of the North Brilliant, which has been worked upon for 170ft. in depth on the underlay. The vein is rather small, averaging rather less than a foot in width, but yields some very good stone. A good deal of stone is opened up ready for stoping.

Gambier, 1050X.—No one was in this mine at the time of my visit, and it was not possible to get through the underground workings. The surface workings show a somewhat wide "lode formation" of broken oxidised ironstained country, with veins of iron oxide and quartz running about North-North-West, and underlaying North-East. One sampling of this mine is said to have given an average value of 12dwts. to the ton, but I cannot in any way vouch for this. The returns given below show that 464 tons crushed returned 245.52oz. of fine gold, equal to 10.6dwts. fine gold per ton. A deep shaft has been sunk some 130ft. in hard greenstone rock, but it does not appear from the dump whether the lode was cut or not. The mill record of this mine seems to point it out as worth attention, but not having been able to get underground in it, I am unable to express any opinion as to its prospects.

Official Returns.—The Statist has supplied me with the following statement of the production of gold from the Kalpini leases to end of February, 1906 :—

Nos.	Name.	Alluvial Dotted.		Milled.		Silver.
				Ore treated.	Gold therefrom.	
		Fine oz.	Fine oz.	Tons. 2240 lbs.	Fine oz.	Fine oz.
434x, 878x, 898x, 981x	Atlas G.M., Ltd. ... ..	...	...	8,007'00	3,378'99	...
898x	Brilliant ... ..	...	27'45	48'00	56'56	...
434x	Camellia ... ..	...	...	242'50	325'82	...
434x	Camellia ... ..	...	...	7'00	7'91	...
1050x	Gambier ... ..	...	...	464'00	245'52	...
946x	Gem ... ..	...	7'50	73'00	209'91	07
681x, 873x	Primrose Leases ... ..	...	...	201'00	186'38	...
	Sundry Claims	14'68	...	110'00	57'19	...
	Total... ..	14'68	34'95	9,152'50	4,468'28	07

From the above description it will be seen that the reefs of this district are generally small, and not particularly rich. As they get down into the hard country below the water level, it is very doubtful if they can be made to pay. The known reefs of most value have been pretty well worked out above the water level, and though some hundreds of tons of quartz could yet be got out, there is certainly no inducement to put up a State Battery to afford crushing facilities. The main hope for the field seems to be that either new discoveries will be made, or that some of the known veins will prove larger as they go down. Though small, they are well defined fissure reefs, and it is quite probable that some of them may be of workable size in the hard country. This will no doubt be made plain as the working out of the ore now in sight proceeds.

The great drawback to this district is, and has been, the want of crushing facilities. While the Atlas G.M. Coy. were working, they did not crush for the public, and since the plant was sold the position has not been much better. It is to be hoped, therefore, that some arrangement may be come to with the present owners of the mill, by which it may be left where it is, and made available for public crushing for sufficient time at least to enable the lease owners to realise the stone now ready for stoping in their mines, and to prove if these are worth carrying deeper into the hard ground.

A. MONTGOMERY,
State Mining Engineer.

Department of Mines, Perth, W.A.,

28th March, 1906.

APPENDIX "H."

REPORT ON THE MINES OF THE RANDELL'S DISTRICT (KARNILBINIA).

The *Karnilbinia* or *Randells* mining centre lies about 33 miles (35 miles by road) South-East of Bulong, with which town it is connected by a good road. A little mining and prospecting has been done at various places along this road, principally at the "Majestic" leases, about half-way to Karnilbinia, where an English company some years ago did a considerable amount of work, sinking several shafts, one of which is said to be 200ft deep. At the time of my visit very little work was being done on these leases. The country seems rapidly to become hard in depth. As it did not seem to be the usual "greenstone" of the goldfields I sent a sample of it to the Government Mineralogist and Assayer, who classes it as a "Hornblende porphyrite" and describes it thus:—

"Consists of a fine grained felspathic base with some free quartz, in which are embedded phenocrysts of plagioclase, ilmenite, and hornblende, the latter altered in places to biotite. This rock resembles the porphyrite of the Western parts of the Kalgoorlie field."

The country at Randell's is also not the usual "diorite" of our goldfields. It is a dense, hard, dark coloured rock, which often outcrops at surface almost unaffected by weathering, but in other places is much decomposed to a considerable depth. It is traversed by strong joints in several different directions. The outcrops assume rounded shapes, much like those of granite and not at all like the scalenohedral forms usually assumed by the superficial fragments of the ordinary greenstones. Two samples of this rock were examined by the Government Mineralogist and Assayer, who describes them thus:—

"1854, No. 2.—Surprise G.M. Mica-porphyrity. Consists of a fine grained ground mass of felspar with a little quartz, numerous phenocrysts of biotite and an iron ore (magnetite or ilmenite). A somewhat similar rock occurs at Norseman."

"1855, No. 3.—Santa Claus G.M. Quartz-mica-porphyrity. Consists of a fine grained felspar base with phenocrysts of quartz, iron ores, and biotite, the last-named very abundant. Probably part of the same rock mass as 2."

So far as my observation went the whole of the mines in the Randell's district were in the mica-porphyrity country. The rock is much traversed by quartz veins and by several more important lines of lode. The lode-stuff frequently shows a very distinct lamellar structure, and usually contains a great deal of chlorite and magnetite. Below the oxidised zone there is a large amount of arsenopyrite in the ore, with occasional pyrite, and chalcopyrite in small amount. The common presence of chlorite gives the ore a very distinctive appearance, quite unlike any I have hitherto met with in other goldfields of the State.

The mines are in three groups, well shown by the lease plans. The Easternmost may be called the

Santa Claus group, the Santa Claus being the most important mine upon it. There are several lines of lode running about N.N.W. by S.S.E. Nearly two miles S.W. from this group is another set of lodges also running N.N. Westerly which may be called the Flagship group. Towards its North end this is joined by a third set of lodges running a N.N. Easterly course known as the Surprise group. The first two groups are each about two miles in length, while the Surprise line appears to be somewhat longer.

New Santa Claus G.M. Co., Ltd., 805Y, 990Y, 892Y.—The main workings of this company are on lease 805Y on a large lode formation from 40 to 60ft. in width, running N. 20deg. W. with Easterly underlay about 1 in 4. The North shaft, 10ft. x 4ft. has been sunk on this 110ft. and a crosscut driven West 67ft. In this crosscut there are several walls, and the whole of the rock seems to be more or less shattered and altered to lode stuff by passage through it of mineral bearing solutions. One part of it is stated to give average assay values of 10dwts. of gold per ton for 14ft. in width, but the bulk of the rock passed through is poor. In the South shaft there is nearly 6ft. in width of good quartz said to give 15dwts. gold per ton by amalgamation, and to assay about 35dwts. per ton. The manager gave me the following as the returns from crushings at the State battery:—

107 tons for	78oz.	7dwt.	17gr.
235 " "	159oz.	12dwt.	0gr.
183 " "	54oz.	8dwt.	0gr.
97 " "	25oz.	1dwt.	0gr.
<hr/>			
622 tons for	317oz.	8dwt.	17gr.

The residues are shown by the battery manager's table quoted hereafter to be worth about 25s. a ton by assay, or say 6½dwts. per ton. The ore contains a good deal of arsenical pyrites. The mine therefore evidently contains some ore of fair value. It is not an altogether easy proposition to handle, however, as there is a large amount of crosscutting and driving required to cut through the large formation and dissect out the payable veins. At the present stage it seems to me rather a promising prospect, but a lot of prospecting and development work is yet required before it will be possible to judge if it is likely to become a good permanent mine.

Floradora, 960Y.—A good deal of shallow work has been done on the outcrop of a lode of laminated quartz chlorite and silicious iron oxide, which passes through this lease on a line parallel to but considerably to the West of the Santa Claus line of lode. A shaft has been sunk 40ft., reaching sulphide ore at that depth. No one was working on this ground at the time of my visit.

Brown's.—West of the Floradora about four chains some gold was got in a similar lode near the North-East angle of old lease 986Y. The workings were known as Brown's Show locally, but I did not learn the proper name, no one being on the ground. The shaft is down about 40ft., and sulphides were met with.

Father Christmas, 992Y.—Brown's lode is trenched along on surface into this lease and seems to be the same as the Father Christmas lode, which is one lying further West than the Floradora line. The lode is from 18in. to 10ft. wide of laminated quartz chlorite and iron oxide.

North of the Santa Claus a great deal of loose quartz is seen on the surface of the ground, and there has been a good deal of dryblowing work done. Four shafts have been sunk, in one of which, 110ft. deep, soft lode material was met with the whole way down, said to be worth 12dwts. of gold to the ton, but none had been subjected to the test of battery treatment. In the other shafts hard laminated lodestuff was obtained with but little gold. The soft lodestuff, if of the value stated, should be worth treating.

At the time of my visit the Santa Claus mine was the only one that was being worked in this Eastern portion of the Randell's district. The stone is crushed at the Randell's State battery, cartage to which costs 4s. a ton.

Mighty Rumble Extended, 956Y.—Three shafts and several fences have been sunk on this lease showing that for 250ft. in width the ground is traversed by numerous veins of quartz and iron oxide, being apparently a zone of shattered country which has become charged along the fractures with lode matter. In one shaft about 60ft. deep there is a drive some 50ft. on a well-defined lode running N. 10deg. E., about 3ft. wide, of chlorite, laminated black quartz, quartz magnetite, and brown iron oxide. Though the prospects are said to have been very showy the return from the battery was poor, and the work was stopped in consequence. About 2½ chains to the North of this shaft is another one about 50ft. deep on what is probably a parallel vein, and over 3 chains to the West a third shaft is down 40ft. on yet another lode. The crushing of 95 tons mentioned hereafter in the battery manager's statement of crushings came partly from the first and partly from the last of these three shafts.

Mighty Rumble, 826Y.—On this lease there is a shaft down about 80ft., but I could only get down about 40ft. on account of the lower ladders having been removed. A good deal of work has been done on a large lode of laminated quartz, brown oxide of iron, chlorite and magnetite, which in the bottom carried much pyrite and arseno-pyrite. There are also several shallow trenches which show that there is a wide belt of shattered country carrying lodes and veins of lodestuff. The crushings from this lease gave somewhat poor returns.

Flagship, 875Y.—About 150ft. South of the Mighty Rumble shaft there is a shaft 55ft. deep on the Flagship lease which has struck hard blue porphyrite country, and about 160ft. East of it there is another shaft 37ft. deep, from which a crosscut was driven 157ft. West towards the first-named shaft. This crosscut is said to have intersected seven lodes, but I was unable to get into it, the ladders having been removed. Twenty-five tons of the oxidised material are said to have given a return of 4dwts. per ton at Berry's battery. The main shaft on the Flagship lease is down 100ft., and struck the footwall at 80ft. where a crosscut East is all in lode matter without reaching the hanging wall for 24ft. A short distance has been driven North and South on the

lode at about 70ft. The oxidised ferruginous material from this lode gave a return of about 3dwts. of gold per ton over the battery plates. Gold is freely visible in some of the iron oxide in a trench close to the shaft at surface, but is in very light thin showy flakes. There is evidently a large amount of lode matter in the Flagship lease, but its value has hitherto been very disappointing. The great number of the lodes is troublesome, as the work of the prospectors becomes dissipated over first one and then another, showing very little visible result for a considerable expenditure of time and labour.

Albion, 925Y.—On this lease also there appears to be a large amount of lode stuff, the surface being covered with quartz and iron oxide. A shaft has been sunk about 90ft., and has reached sulphide ore, the lode stuff being often very distinctly laminated. The course of the lode seems to be about North 15deg. West. No one had been working here for some time, and the shaft was not in a fit state to go down in. Milling results have been poor.

South Flagship Extended, 927Y.—This lease was being worked by two men when I visited it. There are workings on two lines of lode parallel to one another about 70ft. apart, striking North-North-West and South-South-East. The Eastern lode has two shafts on it, 25ft. and 60ft. deep, and is a strong well-defined lode, 2½ft. to 3ft. wide, Sulphides come in at about 15ft. in depth. The stone from this lode has been rather poor. On the West lode there is a shaft about 50ft. deep, from which 450 tons have been crushed for an average return over the battery plates of about 6dwts. of gold per ton. The lode has been stoped down for about 40ft. in length and 6ft. wide. Sulphides came in at 25ft. in depth. The men at the time of my visit were working on the outcrop of this lode further to the North, taking out a trial crushing.

Royal Purple.—This ground was not being worked when I visited it. Very little had been done, and the workings all shallow. One small crushing is said to have been taken out.

Agnes, 910Y.—Two men were working on this lease in a shaft 90ft. deep. There are also two shallower shafts, one 50ft. deep. At the bottom of the 90ft. shaft the lode has been driven on for 45ft. North, and the same distance South, and at the 30ft. level, 90ft. South. Sulphides were met with at about 50ft. The party have crushed about 800 tons of ore for an average return of about 10dwts. per ton. The lode is well defined, and about 5ft. to 6ft. in width, and runs North-North-West by South-South-East, with slight underlay to the West. Some good values have been got in parts of this mine, and it seems possible that it may turn out well. The heavy arsenical pyrites in the ore requires concentration and special treatment to extract the gold.

Maxwell, 945Y.—This lease is not being worked. There is a shaft down about 40ft., which reaches the sulphides about 25ft. The results of a crushing were poor.

Recovery, 947Y.—The deepest workings on the field are on this lease, the shaft being down 135ft. to the water level. At the bottom a short distance has been driven North and South on the lode, and a winze connects with the 65ft. level. The lode strikes North 10deg. West, with slight underlay Eastward,

and is 3ft. to 4ft. wide, of laminated chlorite and quartz with arseno-pyrite. Crushing returns have been about 7dwts. of gold per ton, and the party were nearly ready to send in another crushing. This seems a nice strong lode, and worth persevering with.

Surprise.—No one was working on this mine, crushings from which are said to have returned about 9dwts. of gold per ton. There are a lot of shallow workings along the outcrop of a lode running North-North-East and South-South-West, from 3ft. to 6ft.

wide, of laminated chlorite and quartz with flat cross veins of white quartz. The country is very hard dense mica-porphyrite

State Battery Returns.—The following statement of tonnages crushed, values recovered, and total assay values of parcels crushed at the Randell's State Battery was forwarded to the Department by the Manager, Mr. T. A. Butefisch, with a report on the state of the field dated February 9th, 1906, since which time very little crushing has been done:—

Lease No.	Name of Lease.	Tons. 21 cubic feet.	Value recovered per ton.	Approximate total value per ton.	Remarks.
960Y	Floradora	105	£ s. d. 0 14 1	£ s. d. 1 4 4	At present held as P.A.
		10	1 11 4	1 15 4	
		29	1 3 1	1 14 11	
826	Mighty Rumble	12	0 17 0	1 7 10	Abandoned.
		45	0 12 7	1 1 1	
		17	1 5 5	1 15 7	
		24	1 8 4	2 0 0	
1,010	Accumulator	16	1 4 0	1 15 10	do.
		18	1 3 7	1 13 7	
		28	1 8 5	1 19 5	
956 990.	Rumble Extended Santa Claus	30	1 4 7	1 16 3	do.
		95	0 11 8	0 19 8	
910	Agnes	108	2 14 6	3 19 10	Worked by New Santa Claus G.M. Co. Allowance made for gold contents of concentrates., Lately worked by one man. Syn- dicate seem to be in treaty with capitalists who are now sampling.
		235	2 7 6	3 15 4	
		183	1 8 1	2 10 9	
		100	1 1 4	1 13 2	
		164	0 12 4	1 8 4	
P.A. 297	38	1 13 5	1 18 5	Abandoned.
		52	1 8 0	1 15 0	
		55	0 10 1	0 19 0	
		16	0 17 2	1 5 2	
925	Albion	24	0 12 8	1 2 2	do.
P.A. 299	13	0 10 9	0 19 3	do.
974Y	Recovery	53	0 10 9	1 0 1	Worked by two men driving at 140ft.
		10	1 3 4	1 7 7	
942	Doris	17	0 13 7	1 1 7	Surrendered.
945	Maxwell	74	0 11 2	0 19 4	Abandoned.
927	South Flagship Extended	72	1 8 0	2 1 6	Latterly worked by one man break- ing ore at shallow depth.
		51	1 3 2	1 8 4	
		65	1 4 0	2 1 4	
		52	0 7 3	0 17 5	
		33	0 16 10	1 8 6	
P.A. 279	160	1 1 6	1 9 2	Abandoned.
		46	1 2 8	1 12 10	
		39	1 5 10	1 19 8	
987	Birthday Gift	74	2 10 2	3 6 2	do.
992	Father Christmas	86	2 8 9	3 6 1	Represents 10 months' work by two men. Lately abandoned.
1,000	Surprise	48	1 9 5	2 3 5	Lately abandoned.
875	Flagship	56	0 9 10	0 17 10	Forfeited.
P.A. 305	25	1 13 9	2 3 9	Abandoned.
		37	1 6 1	1 16 1	
1,006	Waterloo	29	2 4 2	2 14 6	do.
		14	1 19 6	2 9 6	
986	New Chum	32	1 14 0	2 1 8	Not working.
P.A. 316	42	2 0 10	3 4 2	Abandoned.

From these figures it will be seen that the total value in the ore sent to the battery has usually been quite low, and that the recovery in the mill has been by no means a satisfactory percentage of that value. With a better recovery of the gold it is possible that several of the leases that have been abandoned could again be worked, and give a living to the men employed on them.

State Battery.—The battery consists of 10 head of stamps, which are fed by hand. The battery was an old one when purchased, and has given a lot of trouble, but is now in fairly good order. The tailings from the amalgamated tables pass on to a Wilfley table, which separates out a quantity of concentrates, mostly arseno-pyrite when sulphide ore is being treated, but largely magnetite when the

oxidised ore is going through. The concentrated sulphides contain fair values, but the magnetite concentrates are pretty poor. At present there are no means of adequately treating the concentrates. The single Wilfley table is not sufficient for the heavy mineralised stuff that comes from some of the mines, and a second one is required to assist it. The tailings from the concentrator run out into collecting vats where the slimes are separated and run into storage pits, and the sands are then shovelled into leaching vats for treatment with cyanide solution.

Improvement of Treatment.—It is difficult to say without considerable experimenting in what way the mill treatment can be best improved. It is clear that unless a much better extraction of the values can

be made there is little hope for the field so far as the lodes yet known are concerned, while though the ore is poor there seems a fair chance that several mines can be kept going if the recovery of gold at the mill were brought up to a satisfactory figure.

The difficulties in the case are :—

1. The low average value of the ore, precluding roasting or any other expensive method of treatment.
2. The large percentage of slimes in most of the crushed material, especially that from the oxidised portions of the lode. Assays at the battery show that these slimes are mostly of low value, and do not warrant the erection of an expensive plant to treat them.
3. The sands do not give a good extraction by leaching with cyanide solution, partly because finer grinding is required to set free the gold, and partly on account of the magnesium salts in the very dense water which is all that is available.
4. The concentrates are not rich enough to send to Kalgoorlie for treatment, and are not produced in sufficient quantity to keep a local roasting furnace economically employed.

The most suitable treatment under the circumstances seems likely to be found in fine grinding and more perfect amalgamation, followed by agitation treatment of the sands and slimes with cyanide and bromo-cyanide solutions and filter press treatment. To carry this out to advantage the tailings from the amalgamated tables of the battery should be elevated sufficiently to run through spitzluten, which would separate the coarser sands requiring re-grinding, thence pass on to a Wilfley concentrator to separate sulphides from the finer material as far as possible, then into compound spitzkasten in which the finer sands and slimes would be settled and separated from the return water. The spitzluten product, consisting of coarse sand and heavy sulphides should go over a concentrator to separate the sulphides, and the tailings should be finely ground and amalgamated in a fine grinding pan. The pan tailings should then join the first spitzluten overflow and pass over the first-mentioned concentrator. The sulphides caught on the concentrators would of course, from a merely technical point of view, best be roasted, but as this would not be economical with the comparatively small quantities produced by the mill, the next best treatment would probably be prolonged fine grinding and amalgamation in pans and subsequent agitation and leaching with cyanide solution. It would be advisable to have this course of treatment tried experimentally on a small working scale before proceeding to erect full-sized plant, which could be done by means of the Berdan pan, which forms part of the existing plant.

Should the field develop and its output of ore become considerable, the treatment of concentrates by roasting would become an economical possibility and the recovery would doubtless be much improved. Under existing circumstances, the only hope seems to be to push fine grinding amalgamation and raw cyaniding to their utmost. While the supplies of ore are small and there is not enough work for a filter press plant it would probably be best to separate the fine sand from the lightest portions of the slimes by a spitzkasten so as to obtain a product capable of being leached in ordinary percolation vats, leaving the very fine slimes for future treatment when sufficient quantity shall have accumulated to be worth filter pressing.

Outlook for the Field.—At the present moment the prospects of the district are very far from bright, and there is much fear that it will be almost entirely abandoned before long. The Santa Claus, Agnes, Recovery, and South Flagship Extended mines, however, seem well worth persevering with, especially the first named, and the prospecting being carried on in them may lead to more important developments. There appear to be large bodies of low-grade material in many of the abandoned mines that would pay their way if an 80 per cent. extraction could be got in the battery, and the sulphides lying below these bodies have as yet hardly been tested. The field is therefore by no means a hopeless failure. But it requires opening up in a more extensive manner than is possible to prospectors without capital, and its future development must depend very much on getting capital into several of the mines.

Diamond Drill Boring.—Recognition of the necessity for getting outside money into the field has led to a request from the residents of the district that a diamond drill should be sent by the Government to bore on some of the lines of reef with the object of proving them in depth. This is a very commendable project, but to be of real service to the field it would have to be carried out on a considerable scale. Two or three bores are of little use, and if the boring were undertaken it would be necessary to begin with a determination to put down not less than twelve bores to depths of say 400 feet on the average, involving a cost of between £3,000 and £4,000. Before entertaining such a project, I would recommend that the workings now open should be thoroughly and carefully sampled, and maps prepared showing how the values are distributed through them. The published results of such a sampling would of themselves, if favourable, attract the attention of investors, and so might render the boring unnecessary, and would in any case furnish data for locating the bores.

I am, etc.,

(Sgd.) A. MONTGOMERY, M.A., F.G.S.
State Mining Engineer.

APPENDIX "I."

REPORT ON THE MINES OF THE MOUNT MONGER DISTRICT.

The Mount Monger mining centre lies about 28 miles S.E. from Kalgoorlie in a direct line, and can be reached by road from Lakeside, or less directly but with a better road *via* Bulong. The distance to Bulong is about 19 miles by road. The mining leases are not very near to Mount Monger, which lies rather more than 9 miles further to the South-East.

The district first opened up about ten years ago, when a large number of leases were taken up on a belt of country about $4\frac{1}{2}$ miles in length by from one half to one mile in width, running in a general north-easterly direction. Through a good deal of this area quartz lodes are very plentiful, usually running more or less parallel to one another on courses between N.N.E. and E.N.E. They are not, as a rule, very large, being generally from 1 to 4 feet wide, but are well defined and persistent, their outcrops being readily traceable for considerable distances. A large number of shafts were sunk on the leases, mostly to depths of from 60 to 100 feet, and it is evident that a good deal of work was done, some of the dumps showing paddocks of up to 100 tons of quartz that had been raised by the old leaseholders. Owing to want of water locally, and high cost of carting and crushing when the ore had to be taken to Bulong and Boulder, the first holders of the leases were unable to make the mines pay, the quartz not being of very high grade. The field was therefore almost abandoned until lately, when attention was again directed to it through the extension of the Kalgoorlie and Boulder Firewood Company's railway to the S.E. from Lakeside offering a possibility that the stone could be cheaply sent in to Boulder for treatment. Several leases and prospecting areas were rapidly taken up and active work is now again in progress.

The country rock in this centre is greenstone (diorite amphibolite, etc.) of the types usual in the Eastern Goldfields, and in the oxidised portions of the lodes opened up till the present, is much weathered and fairly soft. In some of the shafts hard diorite has been met with, and in depth doubtless the country will be usually found to be fairly hard. According to the evidence yet available in the shallow ground there is, however, no reason to expect this to be a difficult field to open on account of hardness of the rock; on the contrary, the expectation is that the ground will, on the whole, be pretty good for working.

There is an excellent supply of good firewood and mining timber in the district and for miles round it, and a sufficient area has been reserved as a State Forest to provide for all likely requirements of the field for years to come.

None of the shafts yet sunk have obtained any considerable supply of water, and it seems probable that a good deal of boring and sinking will have to be done before a water supply can be secured, and it may be necessary to go some distance from the mines before any considerable supply can be got. Under ordinary circumstances, the provision of a local water supply would be one of

the first essentials for the progress of the mines, but in this case the proposed extension of the railway line on to the centre of the field would provide for supply of fresh water and for carriage of ore to existing mills so well that the requirements for local water supply might fairly stand in abeyance until the mines are in a very much better developed condition.

The following notes on the leases visited by me will serve to give some idea of the state of progress at which the field has now arrived:—

Mayday Hill (408Y).—This old lease has been recently held as a prospecting area, but is about to be again taken up on lease. There is an old shaft on it over 100 feet deep, possibly a good deal deeper, but not at present accessible for examination. At surface the lode worked shows as a vein of quartz 12 to 18 inches wide, running N. 32deg. E., and there is another one parallel to this about 100 feet to the West. I was informed that a crushing at the Queen Margaret Mine at Bulong, in the first period of the field's activity, returned 16 dwts. to the ton by amalgamation only.

Providence (512Y).—This lease was the next one to the N.E. from the Mayday, and had two old shafts 110 feet and 70 to 80 feet deep on two reefs. A crushing of five tons about 8 years ago is recorded to have returned 1.81 ounces fine gold, equal to 7.2 dwts. per ton by amalgamation, and it was stated to me that 3 dwts. to the ton were left in the tailings.

Tamerlane (3099E).—A new lease is about to be applied for on this old holding, on which there are shafts 103 feet, 94 feet, and 70 feet deep. There are several parallel reefs, and a large quantity of stone, estimated by the present prospectors at about 700 tons, is on the various dumps ready to be sent to the mill. The owners expect a return from this stone of 8 to 9 dwts. per ton.

Geyer and Party have a prospecting area also on the old Tamerlane, property, in which there are several lodes, running N. 40deg. to 50deg. E., from 1 to 3 feet in width. One old shaft is down 60 to 70 feet, and has about 70 tons of quartz lying beside it, considered by the present owners worth sending to Boulder for treatment, being from 7 to 8 dwt. stone. The present owners have not yet had time to do very much work, but their costeans show that the ground contains a wonderful number of lodes, all carrying more or less gold.

Herbert (974Y).—This was an old 24-acre lease to the east of the Tamerlane. It contains several strong lines of quartz reef. From a reef $3\frac{1}{2}$ feet wide in an old shaft about 50 feet deep, a crushing of 15 tons is said to have returned 8 to 10 dwts. per ton. West of this shaft about 3 chains there is an old shaft down 90 feet, on a reef 2 feet wide, and a little further west again there is one 20 inches wide from a shaft on which (35 feet deep) a crushing of 32 tons is said to have returned 14 dwts. per ton. Two more reefs are seen a short distance still further to the west, and another old shaft 70 to 80 feet deep.

Priest and Party.—On the prospecting area held by this party there are several strong lodes, on which open cuts have been made. Two crushings have recently been taken from these reefs, one by Ryan Brothers, who crushed 10 tons at Kalgoorlie for a return of 15 dwts. per ton by amalgamation, and another by the present holders who got 10 ozs. 14 dwts. from 12 tons, or at the rate of 17 dwts. 20 grs. per ton, by amalgamation, the assay of the tailings being 5 dwts. 15 grs. per ton.

Avondale (1031Y).—On this lease there is an old shaft 120 feet deep on a lode 3 feet wide, said to be fair stone.

Inverness (948Y) (formerly "Stanley").—There are a great number of lodes traversing this lease. The manager said he knew of twenty-seven distinct veins carrying gold, over 6 inches in width, and though I did not count them, I am quite prepared to accept this as correct. A good deal of work has been done; on one lode, 18in. to 30in. wide, there is a tunnel driven on the course of the reef for 250 feet, obtaining about 40 feet of "backs." From this tunnel a crosscut 20 feet to the north has cut another reef 2ft. 6in. wide, and a little to the north-west of this there is a strong outcrop 5 to 6 feet wide of yet another reef. On the top of the small hill into which the tunnel is driven there is an underlay shaft down 90 feet, on a reef up to 3½ feet in width. At the bottom there is a crosscut 107 feet N.W. and 137 feet S.E.; at 107 feet N.W. a reef 2½ feet wide was cut, and at 20 feet S.E. one 7 feet wide, both carrying gold, and stated by the owners to be payable. The course of these reefs is about N. 75deg. E. with dip about 60deg. to N.W. Two more shafts are seen further to the north, 90 feet and 25 feet deep, on a strong reef. There is also a whip shaft 106 feet deep, sunk between the lines of reef seen in the tunnel and underlay shaft above mentioned. A crosscut has been driven north and south for 110 feet at the bottom, cutting one of the reefs, over two feet wide. At the time of my visit work was in progress on one of the central reefs on which a shaft had been sunk on the underlay for 102 feet, the reef showing all the way in the shaft as a solid, well defined body of quartz 2 feet to 3½ feet wide. The owners expect about an ounce to the ton from this reef, some of which has been sent to Kalgoorlie for treatment, but had not been milled when I saw the mine. At the 80ft. level the reef has been driven along for about 132 feet. In 1902 this lease, then the "Stanley," is recorded to have crushed 161½ tons of stone for 133.69 ozs. of fine gold, equal to 16½ dwts. fine gold per ton. Lately 22 tons were crushed at the Croesus South Battery, Boulder, for a return of 18 dwts. per ton.

Inverness Consols.—On this lease, adjoining the Inverness, a shaft was in progress, 43 feet deep, in rather hard diorite country, to pick up the Inverness Central lode, but had not yet reached it.

Galatea (339).—On this old lease there is a shaft 90 feet deep, on a reef 3½ feet wide, said to be worth 12 dwts. to the ton.

Minerva (434Y).—Here a strong reef 2 to 3 feet wide was seen, on which there was a new shaft 40 feet deep. I saw gold in some of this stone pretty freely, and also a little copper pyrites and indigo copper. There is a good deal of quartz at grass from old workings on several reefs, besides that lately raised.

Royal Oak No. 2 (539Y).—An old shaft 110 feet deep and a newer one 40 feet deep have been sunk on this old lease. The reef runs N. 30deg. E. with slight underlay to S.E., and was 4 feet wide when I saw it. The last old crushing from this reef is said to have given 15 dwts. over the plates. There is a good deal of stone at grass, both from the old and new workings, and there are several lodes on which a good deal of work was done in the early days of the field. The owners of this ground were good enough to show me the charges paid by them on a parcel of 34 tons lately crushed at Boulder, viz.:—

	£	s.	d.	=	£	s.	d.	
34 tons—Carting to Woodline	28	4	0	=	0	16	7	per ton.
Carting from line to Battery	2	11	0	=	0	1	6	"
Charges on Government Railways	5	5	7	=	0	3	1	"
Charges on Woodline	3	18	4	=	0	2	4	"
Ore Bags	2	0	0	=	0	1	2	"
Battery Charges	17	0	0	=	0	10	0	"
Total	£58	18	11	=	£1	14	8	per ton.

The return was 3lozs. 7dwts. 18grs., worth £96 8s. 7d. About 10 chains further North-East, along the line of the lodes, there are several old shafts, in one of which I saw a strong lode, but nothing was being done in them.

Rule and Party, P.A. 333.—Two strong outcrops of quartz, said to be of fair value, according to owner's prospects, have been cut into a short distance, and there is also an old shaft 60ft. deep.

Goodenough, 176Y.—This old lease is at present held as a prospecting area. There are strong outcrops of quartz, two reefs being traceable for some 500ft. There are two old shafts about which a considerable amount of quartz is lying ready for crushing. The present owners were raising stone at the time of my visit from a shaft 40ft. deep on a reef 18in. to 2ft. wide, of strong clean quartz.

Huffa and Gessner.—On this party's ground there is an old shaft 50ft. deep, with a reef in it 2ft. to 3ft. wide, stated to be worth 12dwts. to 15dwts., according to local estimates.

Kosciusko, 443Y.—This old ground has only lately been again taken up, and very little new work has yet been done on it. There are several old shafts on a reef of quartz which appears to be about 15in. wide, running North 65deg. East, with underlay about 1 in 3 to the North. I was informed that 100 tons were crushed at Bulong in 1902, for a return of 80ozs. by amalgamation. There is a good deal of stone lying about on the various dumps that is locally considered to be payable if cheap transport to a battery were available.

Champion, 1024Y.—This lease lies North of the line of the foregoing lodes, and its lodes are of a different character. There is a flat-lying rubbly ironstone "formation" running about North and South, with cross-leaders running into it, which is said to give good prospects of gold. A good deal of work has been done in former years, and a large amount of dirt has been raised, which the present owners consider worth sending to a mill if the railway is extended to Mount Monger. The auriferous "formation" has not been at all well defined by the work as yet done, but seems to be up to 30ft. in width sometimes. It requires very careful cross-cutting and sampling to determine its values.

Near the Easternmost angle of this reef there is a small hill covered with brown iron ore, the upper portion being pretty pure limonite, the lower a

ferruginous cemented gravel and grit. This is a superficial alluvial deposit, although crystalline gold of secondary origin can often be seen in the iron oxide. The lower part of the cement, with "wash" immediately under it, has mostly been worked out by dryblowers, and part of the upper ironstone also has been crushed with hammers by them and treated for gold. One slug of 7oz. in weight is said to have been got in the ironstone. There seems a good deal of probability that much of this ironstone mass would be worth treating in a battery if cheap transport were available. This deposit is a relic of

alluvial deposits which have existed at one time over many areas of these goldfields, but have been mostly removed by erosion. It is quite similar to Thornett's deposit, and Hannan's Find at Kalgoorlie.

I was informed that in 1902, 22 tons of stuff from the Champion lease were treated at the Lake View South battery, Boulder, for a return equal to 14dwts. per ton over the plates.

Official Returns of Gold.—The officially recorded returns from the Mount Monger centre are as under :—

Year.	Lease.	Alluvial.	Ore Treated.	Gold therefrom.	Total.
		Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
1898	Providence, 673Y	...	5.00	1.81	1.81
1899	Great Charters Towers' 685Y	...	9.00	.81	.81
1899	Sundry claims	...	59.00	24.63	24.63
1901	Do.	...	16.50	15.69	15.69
1902	Do.	...	30.00	21.13	21.13
1902	Stanley, 841Y	...	161.50	133.69	133.69
1903	Sundry claims	215.60	99.50	82.70	298.30
1904	Do.	...	7.00	6.39	6.39
1905	Do.	...	13.15	13.20	13.20
	Totals	215.60	400.55	300.05	515.65
			Average, 15dwts. fine gold per ton.		

The Sudden Jerk group of leases lies to the East of the principal lines of lodes of the Mount Monger group, the centre of the group being about four miles East-North-East from the Inverness. At the time of my visit only one party was working, viz:—Messrs. Chappel and Troup. They had a shaft down 200ft. in weathered diorite country to cut a North and South leader, 3in to 12in. thick, which has

from time to time yielded very rich dollying stone. A lot of work has been done in this vicinity on gold-bearing leaders, and there has been considerable dry-blowing of the surface dirt. At this point, however, there do not seem to be the strong persistent quartz reefs that characterise the Mount Monger centre.

The official returns are :—

Year.	Lease.	Dollied and Specimens.	Ore Treated.	Gold therefrom.	Total Gold.
		Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
1900	Nonesuch, 753Y	275.90	14.00	13.51	289.41
1901	Do. 846Y	...	33.50	72.83	72.83
1902	Struck Oil, 753Y	56.25	7.50	48.36	104.61
1902	Hibernian, 834Y	...	15.10	10.84	10.84
1903	Struck Oil, 846Y	...	4.00	8.28	8.28
1905	Black Cat, 985Y	5.74	...	...	5.74
	Total	337.89	74.10	153.82	491.71

It will be seen from the above description that a large amount of work was done on the Mount Monger field by the original leaseholders, showing that they considered the prospects to be good, and it is reasonable to accept as correct the local explanation of the abandonment of their efforts that at that time there was no hope of making the mines pay with the grade of ore found, say, 10—15dwts. per ton, unless perhaps with batteries on the spot, for which unfortunately there was no water supply available. The avidity with which the ground was again taken up as soon as there seemed a possibility of getting the ore cheaply to a mill by means of the wood line—in many cases by prospectors who had been on the field before—also speaks well for the estimation in which the district is held by practical

men. My visit was much too short to do any sampling, but I was very favourably impressed with the prospects. I saw washed, the battery returns already obtained, and the ease with which it was possible to find stone in the dumps showing visible gold. The quantity of stone in sight, too, is very satisfactory, the great number of the reefs making it very easy for a large output to be secured from a shallow depth. I cannot remember ever to have seen anywhere so many separate reefs in a small area as at Mount Monger, the ground being seamed with them in a really remarkable way.

The Kalgoorlie and Boulder Firewood Company have offered to extend their line on to the Inverness lease, which is near the centre of the field, and to carry ore into Boulder at very reasonable rates.

This report is not the place for discussion of the terms of their proposal, so I will only say here that if these can be satisfactorily arranged, the scheme will afford an excellent means of developing this very promising district, and enabling it to be thoroughly well proved at a much less cost than by erection of a State battery. Local crushing will in due course doubtless become necessary, but the railway scheme

is in the meantime quite able to meet the demands of the district very satisfactorily.

At the time of my visit there were about 60 men working on the field.

I have, etc.,

A. MONTGOMERY, M.A., F.G.S.,
State Mining Engineer.

APPENDIX "K."

REPORT ON THE PROJECT OF CONSTRUCTING A RAILWAY TO THE BLACK RANGE DISTRICT WITH NOTES ON THE STATE OF PROGRESS OF THE MINING CENTRES CONCERNED.

To the Under Secretary for Mines, Department of Mines, Perth.

Sir:—

For the information of the Honourable the Minister for Mines, I have the honour to submit the following report on the project of connecting the Black Range district by railway with the Northern and Eastern Goldfields railway systems. As I understand that reports are also being obtained from the Railways and Public Works Departments on the probable traffic for such a railway, the cost of running it, and the estimated cost of its construction, it will be unnecessary for me to specially take up these aspects of the question, and I shall therefore deal with it principally with regard to the needs of the mining industry and the effect it would have in stimulating and promoting expansion of mining in the districts to be benefited by the proposed railway.

At the present moment the Black Range field is the one whose active development most strongly demands such facilities, but in considering the route that should be followed, if a railway is made, it is necessary to try to forecast also the future of adjacent fields so that in the event of their becoming important they also may be served by the line. The Montagu Range field to the North of Black Range particularly demands consideration, as the developments there are of much importance, and there seems great likelihood that an extension of the railway to it would before long be required. Then there is also the new field opened up at Barrambie and Erroll's Find, to the South-West from the Montagu field, which promises well, and may soon become important. Its probable early claim for railway connection has therefore to be kept in mind when choosing a route. When the Montagu Range and Barrambie fields are taken into account it is seen also by inspection of a map of the Murchison fields that the shortest connection with the Northern railway system would be to some point on the Cue-Nannine Section, and that a line connecting Barrambie and Nannine could readily be made to serve known gold-bearing country at Quinn's and Burna-

kura, and would pass near enough to Gabanintha to be of great assistance to that district.

The Murchison field between the Mount Magnet to Nannine railway and the Leonora to Wiluna Road has now been a good deal prospected in all directions, and it seems probable that the most favourable country for gold-bearing reefs has already been located. The geological structure is a great guide in this respect, as the universal experience of the Murchison fields has been that the auriferous reefs are found either in or close to the greenstone areas, no important mines having been found in the granite country except in the vicinity of the greenstones. The patches of greenstone country are therefore *prima facie* the favourable ground for occurrence of gold, and it is unlikely that wide and extensive tracts of granite will prove valuable as goldfields. Though doubtless there may be patches of greenstone country concealed under some of the alluvial flats and spinifex-covered sand dunes that are common throughout the region under consideration, it seems most probable that outside the already known goldfields the bulk of the country is granite. This rock is seen at short intervals all the way along the road from Mount Magnet to the foot of the Black Range, again from Cue through to Erroll's Find, between the Gum Creek and Gabanintha fields, and between the latter and Nannine. To the East of the Black Range it is found nearly all the way from a little East of the Maninga Marley group of leases to Lawlers. There seems little probability of any extensive new goldfield having been overlooked in the region to be served by the railway, and we have therefore some assurance in laying out a route to serve the already-known fields that it is not likely that future discoveries will demonstrate that a much more suitable line of country might have been followed with advantage.

Before discussing further the question of routes it will be useful to give an account of the present state of progress of the fields to be served, so as to

enable a good idea to be formed of their present condition and future possibilities.

BLACK RANGE FIELD.

This field has been described at an early stage in its history by the Assistant Government Geologist, Mr. Gibson, in the Annual Progress Report of the Geological Survey for the year 1903, and a few notes have also been published on it in my Annual Report for 1904 (pages 62-63, Annual Report—Department of Mines, W.A., 1904). The field is an extensive one, the Maninga Marley group of leases being nearly 16 miles to the South-East of the townsite of Nunngarra and the "Sandstone" group about 7 miles North-North-Easterly from it. The leases that have been taken up are a good deal scattered and show that gold occurs over a very wide area. The principal country is greenstone (diorite, amphibolite, etc.), both massive and schistose, traversed by occasional intrusive granitic to felsitic dykes. It is much covered in many parts by deep superficial loamy soil, and in others by cappings of very ferruginous conglomerate, belonging to the superficial formation of which the numerous "breakaways" and table-topped hills of the Murchison fields are so commonly composed. The age of this formation is uncertain. To the South of the townsite of Nunngarra, near the Lady Jackson lease, I also noticed another brown iron ore deposit, consisting mainly of concretionary bog iron ore. This is of later age than the foregoing, and seems to be the same as is found plentifully in most of the 2-Mile Hill alluvial claims above the bottom. It appears to be quite similar to the brown iron ore deposits found covering the Kanowna, Norseman, and several other deep leads. The country to the South of the Nunngarra townsite where this deposit occurs seems, in my opinion, well worth prospecting for deep alluvial gold by boring and sinking, but has as yet received very little attention.

The field is traversed by a large number of huge "jasper bars" similar to those so common in the Boogardie and Lake Austin fields. These are really lodes, and often carry a little gold, but have as yet rarely been found payable. They consist of much laminated quartz and black to red jasper, dark colours predominating, and often carry very highly ferruginous bands, frequently approaching pure hematite. In the Black Range district these jasper bars appear to cut off the auriferous quartz lodes, as seen in the Black Range and Lady Ellen mines, unlike those described by the Assistant Government Geologist, Mr. Gibson, in Bulletin No. 14 of the Geological Survey, at Lake Austin and Tuckanarra, where the quartz reefs often cut through the jasper bars. As the intersections of the quartz reefs and jasper bars in the Black Range district become further developed it will be interesting to observe if the same distinction can continue to be drawn. In the case of the Black Range Company's reef, it is cut off clean by a jasper bar at the North end, as if the jasper were the lode of later date formation, while, at the South end the same reef turns round alongside another jasper bar as if deviated by this, which would then seem to be the older.

The quartz reefs usually consist of clean solid quartz with a little iron pyrites, enclosed between smoothed well-defined walls. Lodes of auriferous

schist do not appear to have been found yet, to any great extent in this district, though some of the schist in the wall of the Maninga Marley reef carries values in gold worth milling. The reefs so far as observed have no regular strike or dip, varying very much in both respects.

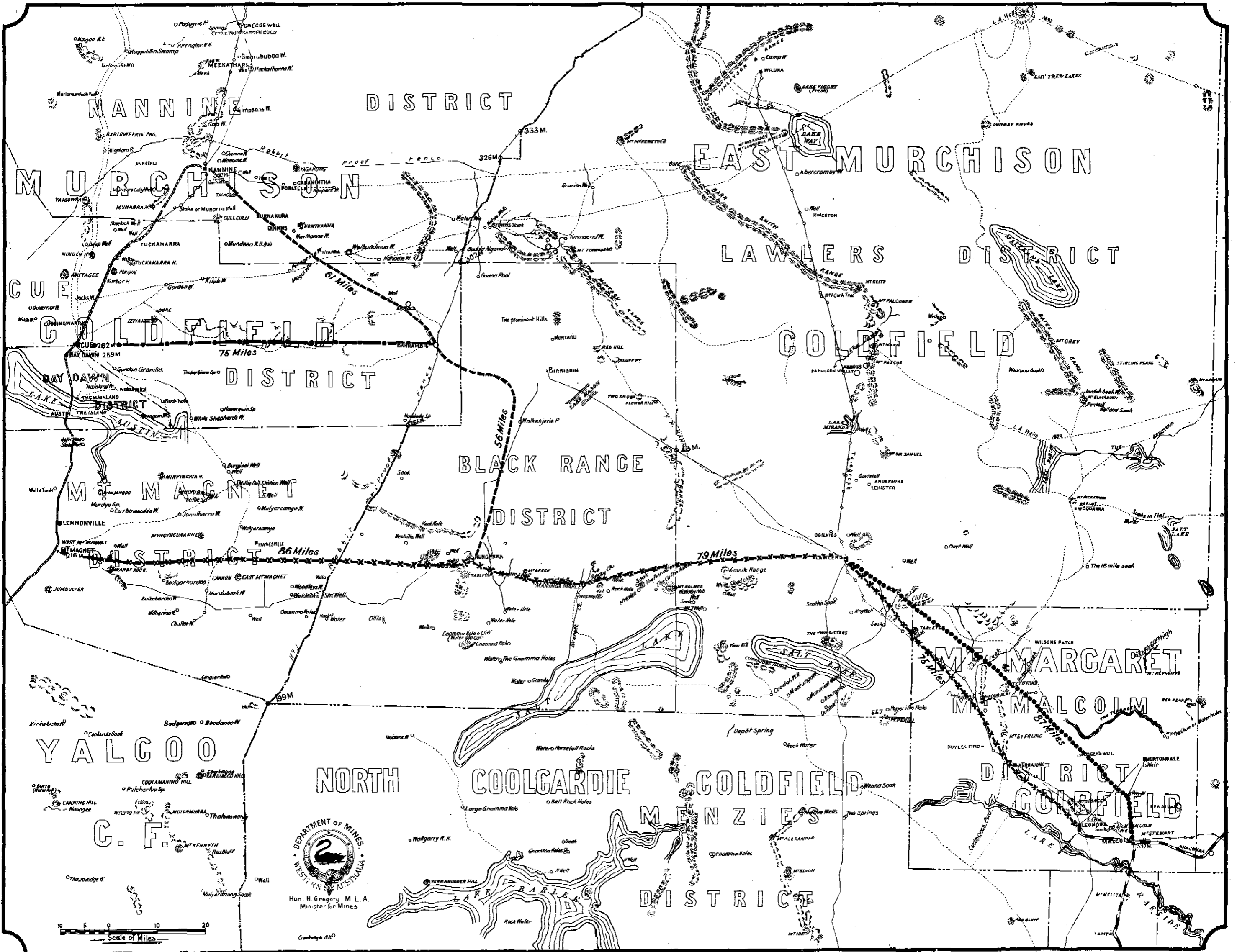
Alluvial Gold Deposits.—Several "patches" of alluvial origin have been worked for gold in the Black Range district, the largest being the "2-Mile Hill," to the North-East of Nunngarra, and the "6-Mile" to the East of it. Very little work is now being done on any of these deposits. In the "2-Mile" and "Howie's" patches much of the gold was enclosed in cemented brown iron ore, requiring milling for its extraction. This gold is frequently crystalline and angular, and has evidently been deposited in the ironstone from solution, not carried into it mechanically. A good deal of the gold won from these deposits therefore appears in the gold returns as obtained from ore by milling, not as alluvial.

At the time of my visit (April, 1906) the principal work at the 2-Mile Hill was that of Messrs. Kelly and mate on the South slope of the hill. They have done a very large amount of work, prospecting for deep alluvial ground and for reefs below the alluvial. Seven shafts have been sunk to depths of from 45ft. to 70ft., and Mr. Kelly informed me that the drives therefrom would total over 1,000ft. in length. The alluvial ground is mostly concretionary, often pisolitic, brown iron oxide, and is up to 40ft. in depth, below which is very much weathered greenstone country with frequent quartz veins. The ironstone is often gold-bearing, and Mr. Kelly told me that from his prospecting it he considered that a large amount of it would pay to crush if he had a battery on the ground. Some of it was crushed by hand by the dryblowers and treated in their shakers. One crushing of 50 tons is stated to have returned 7½dwts. of gold per ton by battery treatment by amalgamation alone and another (of tonnage not stated) 12dwts. per ton. It is impossible to form a decided opinion as to the amount of payable material available at this place without very extended and careful sampling, but there seems reason to think that with cheap milling facilities on the spot a large tonnage of low-grade material might be successfully treated.

The 2-Mile Hill is evidently the head of a deep lead, which seems to be running Southward into the flat ground South of the Nunngarra townsite. Next to nothing has yet been done towards testing the flats by boring or sinking, though it seems to me that there is good inducement for prospecting in this direction. The brown iron ore conglomerate will most likely prove a good guide as to the position of the leads, being an aqueous deposit in the old valleys.

Auriferous Reefs.—A good many leases have been taken up in the Black Range district in addition to those mentioned hereunder, and several more or less promising reefs have been opened upon them, but many of these were not working at the time of my visit, and were not seen by me. The following notes describe the principal "shows" that were being actively worked:—

Wirraminna Central G.M.L., 182B.—On this lease two small shafts have been sunk, one vertical, 65ft. deep, the other on the underlay of the reef 75ft.



deep, to the water level. The reef runs nearly North and South, with underlay Eastward about 1 in $3\frac{1}{2}$. It has been driven upon just above water level for about 100ft. North and the same distance South of the underlay shaft, averaging about nine feet in width between the walls. The reef is composed of quartz often much broken, and white kaolin, being sometimes almost entirely quartz and in other places a mixture of kaolin and quartz. A little pink quartz is found, and is considered specially favourable for gold. Numerous flat-lying quartz veins penetrate the lode and pass into the walls, but are stated to carry gold only when in the lode channel. The country is soft white kaolinic matter, probably a decomposed porphyry dyke. The owner of the lease gave me the average assay value of the lode as about $8\frac{1}{2}$ dwts. of gold per ton, varying from 6dwts. to 12dwts., and said that 420 tons had been crushed for a return of 12dwts. per ton by amalgamation, with tailings assaying 3dwts. per ton. No stoping has been done yet, and a fairly large tonnage of ore could be rapidly raised from between the bottom level and the surface.

Under the present circumstances this lode seems hardly rich enough to be payable as the ore has all to be carted $4\frac{1}{2}$ miles to the State battery, but with its own mill on the lease there should be a margin of profit. The figures of this mine so far as it has been opened make a very favourable showing, and there is good reason for being very hopeful that it will prove a payable concern and attain considerable magnitude. Development below the water level is now the main desideratum.

Wirraminna South G.M.L., 183B.—This lease has the same lode as the Wirraminna Central, and a shaft has been sunk to the water level. The reef is more clayey than in the neighbouring property, but this feature is probably merely local and likely to disappear. Lately the lease has been worked by tributaries, who have been taking out stone close to surface and picking over the dump. Fifty tons of ore have been milled for a return by amalgamation of 42 oz. of gold, equal to 16dwts. 9grs. per ton. I was not able to ascertain the assay value of the tailings.

Lady Jackson G.M.L., 51B.—The workings on this lease are on its Eastern boundary close to a shaft about 40ft. deep, put down to water level on the adjacent Eureka Lease (36B), which was not being worked when I saw it. A shaft has been sunk about 25ft., which passed through about eight feet of cemented ironstone gravel, and then met with a mass of broken quartz more or less cemented together by iron oxide, on which an irregular excavation about 20ft. long, 12ft. wide, and eight feet high, has been dug out. A crushing of 21 tons is said to have returned 11dwts. of gold per ton to the owners of the Eureka Lease, who then held the ground, and the present holders have had a crushing of $25\frac{3}{4}$ tons for 7dwts. 11grs. of gold per ton by amalgamation without cyanide treatment. The stone lies very flat, and as it is immediately under the alluvial ground, it seems most likely that the rubbly mass worked is really part of the broken down outcrop of a reef, which will be found by following the quartz, or by sinking through it and crosscutting. It seems likely that the reef will be of fair size, but it has not yet been seen in solid country, and neither strike, dip, nor size can be yet made out. Cartage costs 7s. a ton

from here to the State Battery, and the prospectors have not been able to mine and crush the stone with any profit. The reef seems well worth persevering with, however. Prospecting in this vicinity is retarded by a heavy superficial covering of brown ironstone.

Six-Mile.—Near the so-called Six-Mile Well (which is, however, only four miles from Nunngarra) on the road from Nunngarra to Lawlers, a large amount of shallow alluvial work has been done, and outcrops of quartz veins are very numerous, but though gold-bearing quartz "specimens" have frequently been picked up over quite an extensive area, no good reef of importance has yet been found. It seems probable that rich leaders must be fairly common in this vicinity to account for the surface gold and "specimens," and some of the larger reefs may yet prove valuable.

Black Range Main Reef G.M.L., 3B.—This, and two adjoining leases are commonly known by the older name of "The Butcher's" Mine, and lie about two miles East of the Six-Mile Well. A strong quartz reef about four feet thick runs North-Easterly through the leases, and has been proved gold-bearing at several points along its outcrop for about 400ft. in length. Several shafts have been sunk to water level, about 64ft., and three crushings have been taken out, returning 215 ounces of gold from $117\frac{3}{4}$ tons of stone. Below the water level there was too much water for the prospectors to cope with without machinery, so a main shaft was sunk and a vertical boiler, engine, and small-gear pump provided. The shaft has been sunk 107ft., and a crosscut driven at 100ft., passing through the reef and reaching what seems to be its footwall at 24ft. in. The shaft and crosscut pass through much weathered schistose-greenstone country, which doubtless will become rapidly harder in depth. The reef was cut in the crosscut only a very short time before my visit, and had not been driven upon. The quartz vein was from six inches to two feet wide where cut, but the hanging wall seemed much shattered, and the whole width of the lode-channel is probably a good deal greater. The quartz was rather poor where cut, but I have no doubt that driving on the reef will soon be successful in finding better ore, corresponding to the shoot from which the crushings were taken. The pumping plant was raising about 2,000 gallons of water per hour at the time of my visit, but the flow seemed to be diminishing pretty rapidly, and probably there will be much less water to contend with before long. The water is fresh, and drinkable. The mine has, I think fair promise of success, but requires a good deal more prospecting development before its value can be regarded as demonstrated. The machinery now on the ground is very good for the time being, but will have to be replaced by a heavier outfit for serious mining.

Eclipse G.M.L., 211B.—This lease is about three miles South-East of the last-mentioned one, and $7\frac{1}{2}$ to 8 miles from the State Battery. Carting quartz to the mill costs 11s. per ton. A shaft has been sunk to 100ft. to water level on a reef running a little North of West and South of East. The underlay is slight, the reef being nearly vertical. It is a well-defined quartz vein with smooth clean walls, in weathered greenstone schist country. The average width in the ground stoped has been about 15in. of quartz and 24in. from wall to wall, but in the bottom

of the shaft it seems to have a tendency to increase. At the bottom level the reef has been driven upon 90ft. to the West and 110ft. to the East, and is mostly stoped out for about 85ft. in length up to 25ft. from the surface, where it becomes rather poor. The stone from the bottom drive is stated to have averaged about an ounce of gold to the ton. The returns from this lease show a total of 259 tons crushed for a yield of 206 ounces of gold. The owner informed me that the tailings from one crushing yielding 27dwts. per ton by amalgamation assayed nearly 6dwts. per ton.

South-East of the shaft, about 150ft., there is a large lode of brown iron oxide and quartz, which has been cut in a shallow costeen, and runs about North-West and South-East. This is also cut in a shaft about 40ft. deep. It contains a little gold, estimated by the prospector at about 6dwts. per ton. The quartz lode worked in the shaft should intersect this one, and as the junction has a fair chance of being richer than elsewhere, it should be located if possible.

The Eclipse lode is only a small one, but has shown fair values. The quartz is often distinctly laminated, with the faces of the laminae striated and smoothed, as if they had endured strong friction, so the reef is probably found on a fault fissure in the country. There is a good deal of water in the bottom of the mine, too much for the prospectors to deal with without machinery.

Passing from the Eclipse to the Maninga Marley Leases, several large outcrops of quartz are seen a little distance from the road, and a strong jasper bar is crossed containing much dark laminated quartz and fine red jasper.

Manninga Marley Leases (G.M.L. 53B, Maninga Marley; 100B, Maninga Marley Extended; and 77B, Daphne).—These leases are about 16 miles in a direct line from Nunngarra, but by road the distance is usually given as about 19 miles. Cartage to the Nunngarra State Battery costs 20s. a ton. The Maninga Marley reef runs North 65 degrees to 80 degrees West, with underlay Northerly about one in seven. It is a large strong reef of solid quartz, with in places a band of schist under the footwall which also carries gold enough to be considered part of the lode. At the 50ft. level in the main shaft where the reef is cut through, it shows about four feet of good stone on the hanging wall separated by a divisional plane (wall) from four to six feet of poorer quartz, with two feet of auriferous schist on the footwall. The average width from the smooth hanging wall to the footwall of the schist is about 10ft. in the shaft, where the lode is completely cut through.

The main shaft is six feet by three feet in the clear, and has been sunk to 110ft., and levels opened from it at 50ft and 100ft. Water was met with first at about 40ft.; it is fresh and drinkable, but not sufficient in quantity for a battery supply. While sinking the shaft the amount of water raised was only about 4,700 gallons per week. At the 50ft. level the reef has been driven upon some 60ft. to the East and 18ft. Westward, and at 100ft. level 136ft. East and 32ft. West. The quartz becomes broken up in the West end, and poor. The shoot of good stone is stated to be up to seven feet wide in the bottom level, and to average quite three feet, but

the level was under water, and could not be inspected at the time of my visit.

Two hundred and twelve feet East from the main shaft another shaft has been sunk to a depth of 100ft. on the reef, but this is pinched at this point, and no driving has been done at the bottom level. At the 50ft. level the reef was driven along for 40ft., showing four to five inches of quartz of fair value. Further East, about 160ft., the reef outcrops, and a shallow hole has been sunk on it, showing it to be three feet wide, but of rather poor value. In the Daphne Lease there is another outcrop on much the same line, on which a shaft is down 23ft., and some 27ft. of crosscutting have been done in poor lode material. The water level is at 30ft. in this shaft, and the flow is greater than in the main shaft at 100ft.

There had been two crushings from the Maninga Marley up to the time of my visit—80 tons for 32dwts. gold per ton, and 142 tons for 26dwts. per ton. The extraction of the gold by amalgamation was very incomplete as the tailings of the first crushing were stated to have assayed 25dwts. of gold per ton, and those of the second 24dwts. The gold is in fine particles, and evidently cyanide treatment is necessary to obtain a good extraction. About 300 tons of stone are stacked on surface waiting the completion of the company's own battery of 10 stamps which is being erected. A winding winch has also been obtained for working the main shaft, and preparations were being made for sinking to 200ft., for the dual purpose of opening the mine and obtaining a water supply for the battery.

I was informed that the cost of carting the machinery from Leonora was £6 10s. a ton, but that this was a special price due to favourable circumstances, most of the carriers quoting about £9 as their rate. Cartage from Mount Magnet costs about £6 a ton.

Havilah G.M.L., 203B and 243B.—This mine has two shafts close to one another, one sunk 70ft. on the underlay of a reef dipping to the Northward, the other 19ft. vertically to cut the cap of the same reef. From the bottom of the vertical shaft a winze is carried down to the level from the bottom of the underlay shaft. Immediately under the cap of this lode, however, another lode was struck in the vertical shaft, dipping Southerly very flatly, but apparently roughly parallel in strike with the Northern reef. Both reefs run a little to the North of West. The flat reef bends about a good deal both in strike and dip. It shows from 2ft. to 4ft. of solid quartz of good value, estimated at from 1oz. to 4ozs. per ton, and is being followed to the dip by an irregularly-shaped stope. The Northern reef contains from 1ft. to 3ft. in width of good quartz, averaging about 2ft. of stone estimated to carry over an ounce of gold per ton. On the hanging wall of this good stone there is another splice about 2ft. 6in. wide of poorer stone, estimated by the prospectors to be worth about 7dwts. per ton. Twenty-seven and three-quarter tons of stone, mostly from the North reef, were stated to have been crushed for a return of 34dwts. per ton by amalgamation, with tailings assaying 15dwts. per ton. Since my visit another crushing of 150 tons is reported in the newspapers to have given the splendid return of 3ozs. 1dwt. per ton.

Towards the Western side of the holding there is another more or less parallel reef lying North of the above line, about 4ft. in width. Very little has been done on it but the prospectors judge it to be about 9dwt. stone.

Maninga Marley North G.M.L., 788B.—A lot of shaft-sinking and crosscutting has been done without success on this holding, in prospecting for the Maninga Marley reef. The Havilah flat reef has however been struck in a shaft about 16ft. deep close to the boundary, and followed downwards for 25ft. on the underlay. This is very flat, the dip being only about 6ft. in a horizontal distance of 25ft. The reef is 3ft. to 5ft. wide of good strong quartz, carrying pyrites and very good values in gold. About 120 tons had been raised, estimated by the owners to be worth 30dwts. to 40dwts. of gold per ton. The reef is a strong good-looking lode of quartz, in weathered greenstone schist country, and though flat-lying, seems likely to be very persistent. Its underlay seems to become a little steeper as it is followed downwards.

Maninga Marley Deep G.M.L., 123B.—About 150ft. North of the last-described workings a shaft has been sunk 46ft. to water level, and a reef has been cut, which is, however, not likely to be either of those worked in the Havilah and Maninga Marley North. This reef was said to be poor, but no one was working at the time of my visit and I did not see it.

The Maninga Marley Centre looks very promising at present, and buildings are rapidly being erected for business purposes. Prospecting is carried on at some disadvantage owing to the surface soil being often pretty deep, necessitating deep costeaning to cut the lode outcrops. The erection of the Maninga Marley battery will enable the reefs to be tested without the long cartage which has hitherto been such a drawback to these mines.

Welcome G.M.L., 47B, and Worker G.M.L., 18B.—These two leases are now about to be worked together by the owners. They lie about 2½ miles slightly North of East from the State battery. Both leases have shafts down to water level, following the underlay of the lode, which is the same in both leases. It is a small quartz reef with well smoothed walls, striking a little to the North of North-West, and underlying flatly to the North-East. The Worker underlay shaft is 210ft., and that of the Welcome 250ft. to the water level, which is seen in a vertical shaft of the Welcome to be 105ft. below the surface. The reef is from 12in. to 15in. wide in the bottom of the Worker shaft, but varies in the workings from 2in. up to 2ft. Probably 6in. to 10in. would be about the average size. The country is here granite, much weathered, apparently part of a large dyke, intrusive through the greenstone country. The average return from the Worker mine was given to me as about 27dwts. of gold per ton, and that from the Welcome 26dwts. per ton. About 200 tons of stone were at grass awaiting crushing.

There is also another reef further to the North in these leases on which a little work has been done. It is about 2½ft. wide, and a crushing from it is stated to have returned 9dwts. 15grs. of gold per ton. This reef will no doubt receive more attention in the future.

The small reef has been of very good value in the soft-weathered country, but is too small to be worked successfully when the country becomes hard, as it is sure to do before long as the reef is followed down below the water level. Unless the reef improves in size, therefore, I have little hope for its successful working to a depth. A crushing of 127 tons from the Worker since my visit is reported to have returned 142ozs. 5dwts. 15grs. of gold.

Fingall G.M.L., 19B.—On this lease there is a strong reef of quartz in weathered greenstone country, underlying at a very flat angle to the Northward. Two small shafts have been sunk about 25ft. deep, and some 150ft. of driving done on the reef. Its width is from 2ft. to 4ft., but the values have been poor and mainly in a small vein traversing the bulk of the quartz. Thirty-eight tons are reported to have been crushed for 24ozs. of gold, and 12 tons for 15ozs. Another crushing of about 17 tons is also stated to have yielded at the rate of 16dwts. of gold per ton. In the West end the reef terminates against a large jasper bar which crops out very strongly for a great width on surface. No one was working this mine at the time of my visit.

Lady Ellen G.M.L., 139B.—This lease was formerly known as the Lord William. It has a vertical main whip shaft 107ft. deep, and some shallower ones. The reef is from 2in. to 24in. in width, averaging about 15 inches, and runs about North and South with underlay to the East. At the 50ft. level the reef has been driven along for about 100ft.; on the South side it is cut off by a large jasper lode, apparently the same which cuts the Fingall reef. At the 100ft. level about 30ft. has been driven. Some very nice stone has been got from this mine, 140 tons crushed having yielded, according to the owners, 263 ounces of gold, and tailings assaying 5½dwts. of gold per ton. The country is whitish decomposed rock, which may prove to be felsite or quartz porphyry, but it is most likely, I think, to be only a very much weathered greenstone schist.

A return of 242ozs. 19dwts. 12grs. of gold from 77¾ tons of stone is recorded in the newspapers since my visit.

Abundance G.M.L., 49B.—Two vertical shafts are sunk on this lease, one 115ft. deep (water level at 113ft.), and one 90ft. deep. At 50ft. a reef has been driven along 30ft. North and 50ft. South, and at 90ft. level on the underlay for 70ft. to the North, the ore shoot pitching to the North. The reef is up to three feet wide, but the payable stone only averages about nine inches, the stone being poor where big. The block of ground opened above the 90ft. level is now pretty well worked out, and the owners are about to sink on the underlay to water level, a distance of about 50ft. The country is weathered greenstone schist, and will doubtless get much harder in depth, when it is unlikely that so small a reef can be worked profitably. Nearly 200 tons have been crushed for a return of about 18dwts. of gold per ton by amalgamation.

Squib G.M.L., 121B.—In this lease several shafts have been sunk to a vertical depth of about 47ft. to work a small reef which has given some fair returns. About 60 tons were on hand when I visited the field awaiting battery treatment. The reef is

very small, its average width being only about 4 or 5 inches.

Flynn & Richardson's P.A.—On this holding a shaft has been sunk 51ft. vertically and about the same distance on the underlay, and a drive has been made on the lode 50ft. Southerly. Some 60 tons of stone have been raised. A crushing of 33 tons is stated to have yielded 17dwts. per ton by amalgamation. The reef is from 1ft. to 5ft. or 6ft. wide but poorer where wide, and seems to be on much the same line as the Abundance reef. Since my visit the newspapers report a crushing of 63 tons for 20zs. 18dwts. per ton.

Floater G.M.L., 233B.—The principal shaft on this lease is a vertical one, 78ft. deep. The reef is up to 2ft. in width, but usually smaller, and carries pyrites and galena in small quantity. It has given very good returns, 111 tons yielding 334ozs. Thirty-six and a quarter tons which were awaiting milling at the time of my visit have since been crushed for 27ozs. 7dwts. of gold.

Koinoor G.M.L., 22B.—This lease was under exemption at the time of my visit. A good deal of work has been done on a strong quartz reef, with some fair returns.

Sandstone Leases.—The Oroya Brownhill Company, Limited were working a group of leases on the "Sandstone" line of reef at the time of my visit, on an option of purchase, and shortly afterwards took over several of them finally. The option was over the following leases:—

Golden Gate, 149B.	Undaunted, 10B.
Golden Key, 151B.	Undaunted South, 193B
Sandstone, 6B.	Undaunted East, 74B.
Sandstone Underlay, 81B.	Undaunted East Extd., 114B.
Kingoonya, 16B.	Fifeness, 189B.
Kingoonya West, 206B.	Undaunted Deep Blocks, 216B.

and also application had been made for 238B, then unsurveyed.

The company have opened up the reef very energetically since taking up their option, having done over 2,600ft. of driving and sinking. Three main shafts have been sunk, two of which are equipped with steam machinery. No. 1 shaft is on the Kingoonya lease, and is 17ft. deep. It is located on the hanging wall side of the reef, which will eventually be cut in it at a lower level. The No. 2 shaft has no machinery on it, and sinking was stopped in it at 103ft. on account of the influx of water; it is on the Undaunted lease. No. 3 shaft is on the Sandstone lease, and is 176ft. deep, and passed through the reef at 154ft. Driving is being pushed on to connect Nos. 1 and 3 shafts. The course of the reef is a little to the West of North with dip to the West from 25deg. to 45deg., getting steeper at the North end. The walls are very distinct and smooth, the reef being evidently formed on a fissure in the country on which there has been considerable movement of the wall rock. The reef is from 12in. to 6ft. in width, averaging from 2ft. 6in. to 3ft., and in the bottom level is mostly strong, hard, bluish quartz carrying a good deal of pyrites. In the Sandstone leases the quartz near the outcrop in the prospector's workings is very friable, crumbling readily into coarse grit and sand. This is probably due to shattering of the solid quartz by severe local crushing pressure of the walls.

A considerable amount of quartz from these leases has been crushed and there is a large tonnage still at grass, raised by the prospectors, awaiting battery treatment. From the tabulated returns hereunder it will be seen that 4,087 tons have yielded 5,827ozs. of gold by amalgamation. The company's tests of the lode in the 175ft. level are understood to be very satisfactory, and to show a good payable average grade. An inspection of the assay plan was allowed to me, and showed the values to vary a good deal in various parts of the mine, but to maintain a very fair average grade, while some parts are of high grade, up to 3oz. or 4oz. per ton. The reef is gold-bearing for a long distance, making up in length of auriferous ground for its want of thickness, and each level will open up a very fair tonnage. There should be little difficulty in keeping a 20-head mill running.

There is a good deal of water on the lode, the outflow being about 55,000 gallons a day from the 175ft. level. It is fresh water, drinkable, but slightly saline.

The country is greenstone schist, much weathered down to the present bottom level, but showing occasional signs of becoming hard green rock. Doubtless the undecomposed greenstone will be met with at very little lower depth.

This proposition seems to me to have every prospect of becoming a very successful mine.

Wonoka, 174B, and Sandridge, 187B.—Prospecting has been going on on these leases, and also on another still further to the North to trace the Sandstone reef. Several shafts have been sunk, up to 100ft. in depth, and the reef has been traced for about 20 chains in length. It is usually 2ft. to 3ft. wide, but sometimes up to 3½ft., and is gold-bearing, but rather patchy in value.

Underlay of Sandstone Reef.—Several leases have lately been taken up also to the West of the Sandstone leases with the object of working the reef in depth, where it underlays out of the Oroya Brownhill Company's holdings. I hear that there is a project on foot to form a company to work these underlay blocks.

Black Range Gold Mining Company's (No Liability) Leases, Nos. 5B, 140B, 255B, 9B, 4B, 11B, 26B, 150B, 20B, and 70B.—The reef worked in this company's ground runs nearly North and South, and dips to the Westward 30deg. to 50deg. It shows a strong outcrop in places, traceable on surface for a long distance. The principal workings are on the "Adelaide" lease (4B), where there are two shafts equipped with machinery. One of these is a new main shaft only lately sunk; it is 221ft. deep, and at 200ft. a level is being opened. At the time of my visit the reef had been little more than cut through at this level, and was poor, but carrying a little gold. The country is hard greenstone, a little weathered alongside of the reef. The other shaft is the old main shaft from which most of the work has up to the present been carried out. It is about 120ft in vertical depth, and at the 120ft. level about 600ft. of driving have been done on the reef. The quartz occurs in large lenses up to 8ft. wide, which thin out as they are followed, but make again further along. Where there is quartz the reef has in these

workings been of good value, and often rich, but it is of no value where the quartz pinches out. In these workings the greenstone country is thoroughly oxidised. The reef has nice smooth walls. At the 120ft. level there was payable quartz for a much longer length than in the shallower workings.

This mine has crushed, up to 30th April, 1906, 10,348 tons of quartz for a return of 13,757.28 fine ounces of gold by amalgamation, together with 3,443.71 fine ounces from cyaniding, 6,564.5 tons of tailings, and has paid £18,562 10s. in dividends, equal to £2 15s. a share on 6,750 shares, besides accumulating a reserve fund of £10,000. This excellent record gives great hope that the mine will continue to be of great and increasing importance.

Cartage from Mount Magnet to this mine is done for £5 10s. a ton, but boilers and heavy machinery cost from £6 to £7 per ton. As showing the heavy cost incurred for freights the manager quoted to me a case where a quantity of timber costing £56 at Geraldton, cost £165 by the time it was delivered on the mine.

This company has its own 10-head battery and a cyanide plant. In the latter the dried sands are treated by direct leaching, with an addition of thoroughly dried and powdered slimes. Nearly all the slime produced by the mill is thus successfully treated by leaching. The water supply is obtained from a water shaft near the battery and latterly from the new main shaft, which is giving about 400 gallons an hour.

Wanderie No. 1 North G.M.L., 161B.—On this lease two shafts have been sunk to a depth of 100ft. (to water level) on a North and South lode about a foot thick. Forty-eight tons are stated to have been crushed for 37½dwts. of gold per ton, and 100 tons for 18dwts. per ton. One hundred and fifty-five tons were lying at the State battery awaiting crushing, and 70 more tons were estimated to be on hand in the paddocks. This little reef is nearly vertical. Going Southward it should intersect the Wanderie reef. The crushing of 155 tons is since reported to have yielded 136ozs. 12dwts., and a later one of 100 tons, 84ozs. 14dwts.

Wanderie No. 1 West G.M.L., 23B.—There are three shafts, 107ft., 75ft., and 40ft. deep, on the

reef on this lease, and two prospecting shafts as well, which did not strike it. The reef runs about N.E. and S.W. and underlays very slightly, about 1 in 50, to the South. In the 100ft. shaft it shows 4ft. to 6ft. of solid quartz, and is a fine strong well-defined reef. The country is weathered greenstone. I was informed that about 500 tons had been crushed for an average return of from 17 to 18dwts. of gold per ton, with tailings containing 12dwts. The last crushing of 150 tons gave 22dwts. to the ton on the plates with sands assaying 14dwts. Two crushings are lately reported in the newspapers, 158 tons for 69ozs. 14dwts., and 161½ tons for 177ozs. About 1,000 tons of quartz were estimated to be at grass, thought by the owners to be of much the same value as what had been crushed.

Cartage to the State battery from this mine costs 6s. a ton.

Wanderie G.M.L., 8B.—The same reef is worked in this lease as in the last mentioned, and continues to be seen as a strong, good-looking reef of fair average value, 4ft. to 6ft. wide. In working out the stone only an average of 3ft. in width has been taken, there being a rib of lower grade quartz left for the present. The main shaft has been sunk to a vertical depth of 135ft., or 5ft. below the water level, and levels have been driven 220ft. in length at 130ft. and 120ft. at 75ft. The shaft has been equipped with poppet-heads, and a winding winch, and a Cornish boiler has been provided. The owners propose to sink another 100ft. as soon as possible.

The State battery records show 1,201½ tons crushed from this mine for a return of 1,761ozs. of gold. At the time of my visit there were stated to be 210 tons waiting crushing at the battery and 60 tons in the mine paddocks.

The machinery for the main shaft was purchased from a mine near Lennonville, and cartage on to the lease cost £5 a ton.

The Wanderie reef as seen in the Wanderie and Wanderie West workings is a very promising-looking strong body of stone, and the returns got by milling trials have been good enough to prove that payable values are obtainable. These two leases, if worked as one property, would appear to have every prospect of developing an important mine.

TABLE I.

Amount of Ore treated and Gold won from the various Mines of the Sandstones, Nunngarra and Maninga Marley Centres of the Black Range District—East Murchison Goldfield, to 30th April, 1906, as reported to the Mines Department.

"B"	LEASE.	TOTALS TO END OF 1904.				1905.				1906 (4 MONTHS).				GRAND TOTALS TO 30TH APRIL, 1906.				
		No.	Name.	Alluvial.	Dollied.	Ore treated.	Gold therefrom.	Alluvial.	Dollied.	Ore treated.	Gold therefrom.	Alluvial.	Dollied.	Ore treated.	Gold therefrom.	Alluvial.	Dollied.	Ore treated.	Gold therefrom.
4, 5, 9, 11, 20, 26, 70, 140, 150, 255	SANDSTONE.																	
		Black Range G.M. Company, No-Liability	...	188-50	2,998-00	6,111-60	...	...	4,848-00 sds.4,976-00	5,085-45 2,477-37	...	...	2,501-00 sds.1,588-50	2,560-23 966-34	...	188-50	10,348-00	13,757-28 3,443-71
	151	Golden Key ... ..	...	...	...	...	...	...	349-50	457-33	...	...	327-50	645-60	...	...	677-00	1,102-98
	149	Golden Gate ... ..	...	...	...	...	...	...	113-75	62-98	...	...	...	...	...	...	113-75	62-98
	217	Redmond ... ..	...	...	159-50	170-06	...	...	78-00	87-40	...	...	...	...	...	...	237-50	257-46
	8	Wanderie ... ..	...	...	648-25	1,000-06	...	...	382-00	379-97	...	...	160-50	157-35	...	...	1,190-75	1,537-38
	6	Sandstone ... ..	...	...	540-75	824-12	...	...	621-25	770-58	...	...	277-50	343-84	...	...	1,439-50	1,938-54
	251	Venus ... ..	...	...	7-75	9-14	...	...	...	...	...	...	...	...	...	...	7-75	9-14
	195	Reindeer ... ..	...	...	75-47	313-25	...	...	29-50	40-08	...	...	26-22	12-92	...	...	131-19	366-25
	215	Erinjerry ... ..	...	...	42-50	34-59	...	...	...	...	...	...	...	...	...	...	42-50	34-59
	10	Undaunted ... ..	...	...	80-00	46-04	...	...	...	...	...	...	...	...	...	...	80-00	46-04
	194	Karridale * ... ..	...	...	...	...	...	...	27-25	10-95	...	...	...	...	...	...	27-25	10-95
	72	Wanderie No. 2 East * ... ..	...	...	7-50	48	...	...	...	...	...	...	...	...	...	...	7-50	48
	95	Cardigan ... ..	...	...	101-16	122-96	...	...	87-00	76-40	...	...	...	...	...	...	188-16	199-36
	24	Dulgite * ... ..	...	...	179-25	260-03	...	...	70-75	68-86	...	...	...	...	...	...	250-00	323-89
	23	Wanderie No. 1 West ... ..	...	...	159-75	94-69	...	...	169-25	116-97	...	...	156-25	140-51	...	...	485-25	352-17
	161	Do. No. 1 North ... ..	...	...	...	...	...	...	149-00	163-55	...	...	...	...	...	...	149-00	163-55
	16	Kingoonya ... ..	...	...	121-50	299-33	...	...	408-00	739-22	...	...	323-00	313-10	...	...	852-50	1,351-65
	74	Undaunted East ... ..	...	...	198-75	213-50	...	...	294-50	217-79	...	...	155-00	188-53	...	...	648-25	619-82
	73	Do. East Extended ... ..	...	...	...	...	...	...	186-25	72-76	...	...	109-75	108-58	...	...	276-00	181-34
14	Jumble ... ..	...	...	17-00	20-57	...	...	15-50	13-10	...	...	39-75	29-67	...	...	72-25	63-34	
159	Redcastle ... ..	...	...	...	...	...	...	19-00	72-84	...	...	...	...	...	...	19-00	72-84	
111	Wild Dog * ... ..	...	...	...	...	...	...	8-00	5-34	...	...	...	...	...	...	8-00	5-34	
	Total ... ..	...	188-50	5,337-13	9,520-42	...	...	7,837-50	10,918-94	...	...	4,076-47	5,466-67	...	188-50	17,251-10	25,906-03	
	NUNNGARRA.																	
3	Black Range Main Reef ... ..	...	...	122-25	191-06	...	...	10-50	23-70	...	...	...	...	...	...	132-75	214-76	
46	Muriel Chapman * ... ..	...	...	104-00	51-47	...	...	...	...	...	...	...	...	...	...	104-00	51-47	
13	Chicago * ... ..	...	...	23-00	9-81	...	...	...	...	...	...	...	...	...	...	23-00	9-81	
246	Lady Jackson Extended ... ..	...	...	33-00	59-79	...	...	13-00	20-38	...	...	...	...	...	...	46-00	80-17	
2	Geraldtonia * ... ..	...	...	42-00	125-09	...	...	...	...	...	...	...	...	...	...	42-00	125-09	
186	Hatter ... ..	...	...	...	...	...	...	24-50	95-86	...	...	...	...	...	...	24-50	95-86	
179	Groper * ... ..	...	...	123-00	169-59	...	...	35-25	133-15	...	...	...	...	...	...	158-25	302-74	
218	Phoenix ... ..	...	...	194-00	67-05	...	...	...	...	...	...	...	...	...	...	194-00	67-05	
182	Wirraminna, Central ... ..	...	25-00	50-00	18-94	...	...	175-00	96-65	...	...	162-25	54-57	...	...	387-25	170-16	
183	Do. South ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
241	Black Rock ... ..	...	...	...	...	...	...	24-75	3-45	...	...	...	...	...	...	24-75	3-45	
263	Golden Acre	25-94	...	337-50	129-11	...	...	...	...	...	...	...	...	...	...	337-50	129-11	

18	Worker	...	1:01	24:25	30:42	...	...	228:25	253:14	...	...	...	...	252:50	283:56
47	Welcome	...	...	78:25	102:97	...	...	...	...	...	104:25	105:14	...	182:50	208:11
166	Tekoa	...	...	...	...	...	...	14:50	15:41	...	...	...	...	14:50	15:41
38	Bright Beauty *	...	...	13:75	10:27	...	...	8:00	11:84	...	...	...	...	21:75	22:11
50	Catherine L.*	...	...	17:00	1:83	...	...	...	...	...	...	...	...	17:00	1:83
56	Dream *	...	...	44:25	252:29	...	...	11:00	26:17	...	...	...	...	55:25	278:46
142	Hill End	...	...	...	...	...	...	14:75	6:26	...	...	...	...	14:75	6:26
22	Koinoor	...	...	18:50	28:47	...	...	114:50	95:32	...	81:75	85:54	...	214:75	209:33
19, 49	Fingall and Abundance	...	...	40:75	29:64	...	...	...	...	...	...	...	...	40:75	29:64
233	Floater	...	...	48:75	116:20	...	...	63:75	145:99	...	...	...	...	112:50	262:19
139	Lady Ellen	...	...	27:00	11:19	...	...	107:00	208:02	...	...	...	...	134:00	219:21
103	Jewel *	...	...	3:50	85	...	...	...	...	...	...	...	...	3:50	85
102	Good Hope *	...	...	21:75	15:87	...	...	6:75	5:72	...	...	...	...	28:50	21:59
19	Fingall *	...	...	12:00	14:02	...	...	37:25	20:96	...	...	...	...	49:25	34:98
51	Lady Jackson	...	...	21:00	10:14	...	...	...	...	...	25:75	8:39	...	46:75	18:53
173	Wirraminna North	...	...	...	...	...	...	...	...	...	...	...	...	...	...
49	Abundance	...	...	...	...	...	...	157:25	134:84	...	...	...	...	157:25	134:84
126	Little Nell	...	...	...	...	...	4:15	32:00	9:35	...	...	...	4:15	32:00	9:35
121	Squib	...	...	...	...	...	...	74:00	68:90	...	...	...	...	74:00	68:90
	Total	...	25:94	26:01	1,399:50	1,446:07	...	12:29	1,152:00	1,375:11	374:00	253:64	25:94	38:30	2,925:50	3,074:82
	MANINGA MARLEY.																	
53	Maninga Marley	...	...	80:25	115:98	...	...	142:50	158:94	...	...	...	...	222:75	274:92
203	Havilah	...	...	...	...	...	...	27:75	42:33	...	...	...	...	27:75	42:33
69	Another Shot	...	...	6:25	7:02	...	...	...	...	...	...	...	...	6:25	7:02
210	Crown	...	...	...	...	...	...	11:00	21:46	...	...	...	...	11:00	21:46
211	Eclipse	...	...	96:75	57:18	...	...	62:75	78:08	...	74:50	27:88	...	234:00	168:14
157	Evangeline	...	...	...	...	...	...	17:00	11:14	...	...	...	...	17:00	11:14
	Total	...	...	183:25	180:18	...	...	261:00	311:95	...	...	...	...	518:75	520:01
	Sundry Claims	...	128:66	164:55	552:15	434:79	238:80	480:93	223:75	116:83	367:46	645:48	775:90	551:62		
	Earlsville Mill	...	...	...	...	...	...	sds. 380:00	54:71	...	...	...	...	sds. 380:00	54:71
	State Battery	...	...	...	...	...	...	sds. 2,159:00	858:34	...	sds. 1,742:00	532:05	...	sds. 3,901:00	1,399:39
	GRAND TOTAL (excluding weight of sands)	...	154:60	379:06	7,472:03	11,581:46	238:80	493:22	9,474:25	12,722:83	4,524:97	5,748:19	398:40	872:28	21,471:25	30,052:48

* Out of existence.

TABLE II.

Ore Crushed at the Black Range State Battery since inception to 30th June, 1906, and Sands Treated by Cyanide to 31st May, 1906.

LEASE.		MILLING.		CYANIDING.		TOTAL GOLD OBTAINED.
No.	Name.	Tons crushed.	—	Tons treated.	—	
6B	Sandstone	1,439.50	ozs. dwts. grs. 2,117 1 17	727.02	ozs. dwts. grs. 376 14 9	ozs. dwts. grs. 2,493 16 2
8	Wanderie	1,201.50	1,760 17 0	503.00	240 6 0	2,001 3 0
16	Kingooonya	852.50	1,480 10 20	276.80	94 14 9	1,575 5 5
23	Wanderie No. 1 West	804.50	670 12 9	187.00	85 17 0	756 9 9
151	Golden Key	677.00	1,186 2 18	347.66	147 13 20	1,333 16 14
18	Worker	455.25	570 15 9	177.00	44 3 11	614 18 20
73	Undaunted East Extended	431.00	428 4 12	174.00	44 0 6	472 4 18
161	Wanderie No. 1 North	404.50	406 9 15	187.00	92 18 2	499 7 17
33	Wirraminna	387.25	195 11 1	53.00	6 15 4	202 6 5
14	Undaunted East	361.25	331 2 6	70.02	11 12 23	342 15 5
211	Eclipse	259.00	206 5 16	88.00	16 12 7	222 17 23
24	Dulgite	250.00	369 19 8	135.00	48 19 8	418 18 16
217	Redmond	301.00	475 4 16	...	...	475 4 16
53	Maninga Marley	222.75	314 9 18	147.18	149 0 14	463 10 8
22	Kooinoor	214.75	240 10 12	60.00	10 3 11	250 13 23
139	Lady Ellen	212.25	501 7 15	118.56	24 12 13	526 0 4
10	Undaunted	212.00	216 18 16	...	...	216 18 16
49	Abundance	201.00	196 0 6	48.00	10 13 14	206 13 20
95	Cardigan	188.25	222 13 16	28.32	5 3 19	227 17 11
47	Welcome	182.50	235 8 8	111.00	20 5 2	255 13 10
203	Havilah	177.00	519 15 6	13.00	7 16 22	527 12 4
233	Floater	148.75	324 4 15	72.00	46 19 20	371 4 11
179	Groper	143.25	267 12 23	15.00	10 8 2	278 1 1
...	Alluvial Gold Area	142.75	56 7 18	...	...	56 7 18
...	Alluvial Claim	125.00	39 16 7	...	...	39 16 7
121	Squib	124.25	124 10 13	27.00	6 0 21	130 11 10
3	Black Range Mining Reef	117.75	214 14 20	85.00	29 9 13	244 4 9
149	Golden Gate	113.75	66 17 18	60.00	19 8 2	86 5 20
218	Phoenix	109.75	50 15 8	...	...	50 15 8
263	Golden Acre	108.50	59 19 0	7.00	1 0 16	60 19 16
195	Reindeer	107.00	123 19 10	22.00	3 14 4	127 13 14
174	Wonoka	68.50	38 12 12	...	...	38 12 12
14	Jumble	57.75	50 12 16	56.00	13 5 4	63 17 20
215	Erinjerry	57.00	45 19 5	...	...	45 19 5
56	Dream	55.25	313 17 25	2.00	0 18 1	314 16 2
183	Wirraminna South	50.75	41 18 22	...	...	41 18 22
19	Fingall	49.25	40 8 11	15.72	2 15 10	43 3 21
126	Little Nell	49.00	14 9 6	...	...	14 9 6
51	Lady Jackson	46.75	21 13 6	...	...	21 13 6
243	Lady Jackson Extended	45.00	64 9 3	56.00	8 13 11	73 2 14
19 & 49	Fingall-Abundance	40.75	33 11 15	...	...	33 11 15
...	Martineque P.A.	31.00	43 15 0	...	...	43 15 0
102	Good Hope	28.50	24 8 13	...	...	24 8 13
...	Glenelg	27.25	12 8 6	...	...	12 8 6
241	Black Rock	24.75	3 17 21	18.00	2 14 22	6 12 19
186	Hatter	24.50	108 11 18	17.00	3 6 11	111 18 5
267	May King	22.25	19 17 9	...	...	19 17 9
38	Bright Beauty	21.75	24 10 15	7.00	1 2 6	25 12 21
13	Chicago	21.50	8 14 20	...	...	8 14 20
255	Black Range West	19.00	21 14 21	...	...	21 14 21
50	Catherine L.	17.00	2 1 12	...	...	2 1 12
166	Tekoa	14.50	17 9 2	10.00	2 4 22	20 14 1
...	Quartz Claim 65	13.50	6 2 0	...	...	6 2 0
252	Duffer	11.25	3 3 0	...	...	3 3 0
210	Crown	11.00	24 6 6	7.00	4 4 0	28 10 6
111	Wild Dog	8.00	6 1 6	...	...	6 1 6
251	Venus	7.50	10 7 0	...	...	10 7 0
103 & 215	Jewel-Erinjerry	7.00	2 7 12	...	...	2 7 12
69	Another Shot	6.25	7 15 0	...	...	7 15 0
103	Jewel	3.50	1 0 6	...	...	1 0 6
...	Evangeline P.A. ... ..	...	...	9.00	2 0 10	2 0 10
...	Various leases	263.25	421 9 23	174.00	55 3 9	476 13 8
...	Government sands ... ..	...	...	368.38	40 17 11	40 17 11
		11,776.75	15,410 14 16	4,379.66	1,693 10 5	17,104 4 21

BIRRIGRIN AND MONTAGUE FIELD.

Going Northward from the Black Range mine to Birrigrin and Montague Range, the track passes for about eight miles over greenstone country with numerous quartz veins. Some gold has been found in this part of the district, and it looks likely country for reefs. Still further North the road gets into flat "lake" country, part of the basin of Lake Mason. Here the rock is hidden under deep superficial alluvial loam and sand, often covered with a light growth of spinifex in the sandier patches. About half-way to Birrigrin granite is seen to the West of this alluvial plain at the prominent "break-away" of Walkenjerie. This is a rather remarkable flat-topped "butte" or island of granite, standing out from the old lake plains, with precipitous sides probably 30ft. to 80ft. high. The top is very level, having evidently been part of a plain of erosion of older date than the surrounding plains. Very similar plateaus are seen on the road between Gum Creek and Gabanintha, and the numerous flat-topped hills and so-called "breakaways" (geologically termed escarpments) throughout the Murchison point to the general prevalence at one time of an extensive marine plain at a higher horizon than the present general level of the country. The road passes over the alluvial plain to about 16 miles from Birrigrin, when the country becomes more hilly, and greenstone rock is occasionally seen. Much brown iron oxide gravel occurs, covering the surface plentifully. All along the hilly country to the West of the road from here into Birrigrin seems likely ground for prospecting. A little alluvial gold has been got at Woodley's Soak, about 10 miles from Birrigrin. The greenstone country showing at this point seems to be part of the same belt as carries the Redcastle and Grace Darling mines, presently to be described. The road, however, soon leaves this country and for about five miles from Birrigrin passes over granite, a large area of which appears to lie in the low ground of the Lake Mason basin, to the East of the Birrigrin leases. At Birrigrin we come again among low hills of greenstone, surrounded by loamy flats, which latter then are found between Birrigrin and the Montague Range field, six to eight miles further North. At the Montague Monarch mine we rise on to stony hills of diorite, but most of the other mines are in the flat ground, and have been discovered as large quartz reefs outcropping through the soil and often covering the surface with quartz fragments. Probably smaller reefs also exist plentifully, but they are difficult to pick up on account of the covering of soil. "Floaters" containing gold are frequently picked up by the prospectors all over the Montague field, showing the existence of auriferous veins, but it often requires persistent and expensive deep costeaning to find these. As the field gets older, doubtless more and more of them will be located. The field is as yet not at all thoroughly prospected, and important discoveries are still to be expected.

MONTAGUE CENTRE.

Montague Monarch G.M.L., 175B.—This lease lies a good deal East of most of the other Montague leases, on the top of a range of stony hills composed of schistose diorite, the foliation of which strikes North and South with steep dip to the West. The

Government Mineralogist has examined a specimen of this rock and reports:—

"A section of this shows it to consist of coarsely crystallised hornblende and plagioclase, with a very little free quartz and iron ore. It is a typical coarse diorite."

Two shafts have been sunk to a depth of 50ft. on a "formation" consisting of laminated diorite schist, with layers of veins and quartz. In some parts the lode material is mainly quartz up to three or four feet wide, in others diorite schist predominates. The lode is a fissured zone in the diorite, rendered highly lamellar by pressure, and much filled with quartz along the planes of fission, and seems to be gold-bearing up to 18ft. in width. The principal values have, however, been met with in small veins. One of these on the East side, opened in a surface trench on the outcrop, gave a return of 62 ounces of gold from 12 tons crushed. The gold is associated with a brown shining mineral weathering yellow, resembling blende in appearance, but which proved to be pyroxene when examined by the Government Mineralogist. He found its composition to be Silica 51 per cent., Alumina 3 per cent., Iron peroxide 17 per cent., Lime 17 per cent., Magnesia 6 per cent., Alkaline 6 per cent. The sample was very rich in gold, yielding 23ozs. 13dwts. 23grs. per ton. Another sample containing much of the same pyroxene taken by me from the 50ft. level, however, only gave 6dwts. 13grs. of gold per ton on assay, so that the gold value does not seem to depend much on the presence of this mineral. There have been two other crushings, making a total of 46½ tons crushed for 100ozs. 1dwt. of gold. The stone has to be carted eight miles to Spencer and Thompson's battery at Birrigrin, at a cost of 15s. a ton. The crushing charge is 15s. a ton for stuff returning less than one ounce, and 18s. for such as yields an ounce or over.

Gold is stated to have been found on the strike of the lode for 300ft. I think the "formation" will prove to be a permanent lode of considerable size, but it has to be opened out a good deal more before any decided opinion can be formed of its value. In the present workings there appears to be a considerable body of low-grade ore, with occasional very rich veins. It is a promising prospect, and deserves persevering attention.

Yale Lock G.M.L., 201B.—This lease lies two miles North-West from the Montague Monarch, in the flat ground. There is a large outcrop of quartz running very slightly West of North, traceable on surface for several chains. A little gold can be got along this by dollying. A shaft has been sunk 60ft. to the water level, following the reef, which is seen to be nearly vertical. There are two bands of quartz separated by a distinct slickensided wall, that on which the shaft has been sunk being four feet six inches thick, and the other, which is poor, being eight feet or more thick. The country is weathered greenstone schist. The quartz is solid stone, stained a little with oxide of iron. According to Mr. Kelly, the prospector, the reef is very variable in value, but he thinks it would be payable if worked on a fairly large scale. Ninety-four tons have been crushed for a return of 29ozs. 1dwt., and the tailings assay was given to me as 5dwts. 7grs. per ton. This crushing was at Bryant's Tremain Mill, two miles away, cartage costing 5s., crushing 20s., and removal

of tailings 1s. per ton. Without systematic and extensive sampling I could not form any opinion of value as to the average gold contents of this reef, but it is a very large strong body of quartz, and certainly contains some gold, so it seems to be well worth testing further. It has only been tried as yet in one place.

Montague G.M.L., 136B.—Granite country is met with in passing from the Yale Lock Lease to the Montague, and the reef on the latter is in this country. Two shafts have been sunk to the water level, about 60ft., and some crosscutting has been done, but as no one was working at the time of my visit, I did not get underground. There is a huge outcrop of quartz, and in the crosscut this is stated to be cut into for 65ft., without finding the walls. Two small crushings have been made at the Tremain Mill, 19¼ tons yielding 18ozs. 2dwts. of gold. There is a little gold about this big reef, and valuable ore shoots may be found if further opened out. From its great size it is an expensive reef for a prospector to undertake, and the best hope seems to be in searching for the outcrop of an ore shoot, and following it down.

Montague Boulder G.M.L., 135B.—On this lease there is a large outcrop of quartz running East-North-East and West-South-West, with very flat underlay Southerly. Three shafts have been sunk about 40ft. deep, in soft weathered greenstone schist country to the water level, and some crosscutting has been done. The reef is about 12ft. in thickness, and its dip is about one in 20. A crushing of 84 tons is reported to have yielded 9dwts. per ton on the plates, with tailings assaying 12dwts. per ton, showing a very poor extraction by amalgamation alone. The stone contains iron oxide resulting from oxidation of pyrites, and will contain a good deal of pyrites in depth. The owners of the mine consider from their prospecting that there is a large amount of stone that would assay half an ounce of gold to the ton already exposed. Specks of gold are not difficult to find in looking over the stone broken, so it would seem probable that the average value is fair. This large reef requires systematic sampling, and a few milling tests to show if it is one that would pay to open up extensively. There is evidently a very large quantity of quartz to be easily extracted, and if worked on a considerable scale, a low grade should be payable. Ninety-nine tons have been crushed for a return of 41½ ounces of gold.

Another reef running North 7deg. West is seen outcropping to the West of the principal cutting on the outcrop of the above reef, which must run into or intersect the latter. A little gold is said to be obtainable in this outcrop, but it has not been opened up. Carting to the Tremain Mill, a little less than two miles, costs 6s. a ton.

Montague Main Reef G.M.L., 143B.—This lease lies a little over a quarter of a mile South-West from the last-mentioned, but was not visited. The reef is stated to be a North and South one of quartz and ironstone, from nine inches to four feet in width. Two shafts have been sunk 36ft. to the water level. Two crushings have been made, 23¼ tons yielding 7ozs. 19dwts. 5grs. of gold.

Caledonian G.M.L., 185B.—Tributers were working this lease at the time of my visit, and had sunk two shafts 25ft. to the water level, in which a strong reef has been cut running North

7deg. West, and underlaying 1 in 3 to the West. They were taking out 12 to 24in. of quartz, but it seemed to me that the walls of the lode were not less than six feet apart, there being a lot of mullocky lode filling. The quartz is very pulverulent, something like the softer parts of the Sandstone Reef at Black Range, and greatly charged with brown oxide of iron. Some rich stuff was being broken, and the paddocks of dirt raised for crushing gave nice prospects. Little work has yet been done on this lode, mainly on account of the shallowness of the water level, but it seems one worthy of attention. It was found by picking up "floaters" carrying gold, and sinking through the surface soil, and doubtless many similar reefs are buried in the flats. Seventy-six and a-half tons have been crushed for 58 ounces of gold.

Rossie Castle G.M.L., 180B.—On this lease two shafts have been sunk 25ft., and a little work done on a strong quartz reef eight to 12ft. wide, which crops out through the surface soil, and has been traced for about 200ft. in length. It runs North-West and South-East, and has a slight underlay to the North-East. The country is greenstone schist much weathered. Some very nice gold has been got in parts of this reef, but much of it is very poor. It seems worth prospecting more thoroughly, but the present prospectors are unable to get deeper on account of the water. Twenty tons crushed have returned 19ozs. 4dwts. of gold.

In the adjoining New Year's Gift holding the prospectors have had good stone, crushing 42½ tons for 81oz. 18dwts. of gold, but are unable to sink on account of water.

BIRRIGRIN CENTRE.

Reply G.M.L., 133B.—This lease belongs to the owners of the 5-stamp mill which does most of the crushing for the Birrigrin District, and is worked by them from time to time, but was not being worked at the time of my visit. There is a reef running nearly North and South, and almost vertical, about 2½ft. wide, but rather poor according to the crushings that have been made. Two shafts have been sunk, one 65ft. to water level, the other 70ft. The crushings recorded show a total tonnage of 79.00 tons crushed for a yield of 36 ounces of gold.

Wheal Ellen G.M.L., 168B.—Some very rich stone has been got from this lease, about 1,300ozs. of gold having been got by dollying, while a crushing of 39½ tons yielded 283ozs. 4dwts. of gold. Another is lately reported of 36 tons for 304ozs. I saw some very rich specimens in the possession of the owners. Two shafts have been sunk, one 70ft. to the water level, the other 104ft. deep. From the deeper one a crosscut is being made at 100ft. to cut the reef. At 70ft. the shafts are connected by a drive about 40ft. long. The reef is from 1ft. to 3ft. wide, runs nearly North and South, and has little underlay. It is a nice well-defined quartz reef. The rich gold has been found in a shoot about 8ft. long at the intersection of a cross vein of quartz and brown oxide of iron which seems to be faulted by the reef. Between where this strikes the West wall of the reef and goes off again into the East one the reef has been very rich, and rough gold was still visible in it in the bottom of the level. Outside this shoot however, the reef has been poor.

The country is hard bluish diorite or amphibolite, much jointed, and often weathered white along the joints. A strong cross lode of ironstained quartz is seen outcropping on surface near the shaft, but seems likely to be a different one from the much smaller one which appears to exercise so favourable an influence on the reef. It would seem advisable to try the intersection of this one also with the quartz reef, as such "indicator" occurrences of gold are liable to repeat themselves.

Stranger G.M.L., 113B.—A shaft has been sunk 60ft. vertically to cut a reef which may be the same as is worked in the adjacent Hawthorn Reward lease, but is not yet quite certainly identifiable with it. The shaft is then carried down to 90ft. on the underlay of the reef, which is fairly steeply inclined to the West. The strike of the reef is a little West of North. The quartz is of dark-bluish appearance, and 10in. to 24in. wide, of fairly good value. The country is weathered greenstone schist. Not much work has yet been done, though tributaries have stoped out a block in the upper levels. One hundred and forty-one and a half tons crushed yielded 177ozs. 16dwts. of gold, and another one has lately been reported of 40 tons for 75ozs.

Hawthorn Reward G.M.L., 109B.—At the time of my visit this mine was being worked by the Oroya Brownhill Company, Limited, under an option of purchase, and steam machinery (a vertical boiler and a small winding winch) was being installed. The main shaft is vertical for 20ft., then goes on the underlay of the reef to the 75ft. level, and was being sunk deeper at the time of my visit, being then 49ft. below the level. The reef runs about North and South, and has not very much underlay. It consists of bluish quartz, and is of rather small size on the whole, but contains bulges up to 6ft. and 8ft. wide. At the 75ft. level the lode is much disturbed in the neighbourhood of an intrusive dyke of micaceous quartz porphyry, which cuts at a flat angle through the greenstone schist country. A good deal of work has been done in the upper levels, 583½ tons of quartz having been extracted and crushed at Spencer & Thompson's battery for 751ozs. 13dwts. 5grs. of gold. The reef will probably be seen to better advantage at the next lower level opened, as it may then be expected to be clear of the disturbing dyke. The shaft was making about 2,500 gallons a day of fresh water when I visited the mine. The manager informed me that it cost his company about £5 a ton for cartage of material from Black Range to Birrigrin. Some of the business people have to pay £6 a ton for their goods.

Golden Spur G.M.L., 129B.—I find this lease credited with 253½ tons crushed at Spencer & Thompson's battery for a return of 134ozs. 1dwt. of gold, but it must have been overlooked in my visits to the mines as I did not see it. A further crushing is reported in the newspapers as having yielded 27ozs. from 32 tons.

Pelerin G.M.L., 128B.—Very nice quartz has been won from this lease, but I was unable to go underground as the water had been allowed to rise in the shaft while a crushing was being put through the battery, and negotiations were in progress for putting the mine under option to the Oroya Brownhill Company, Limited. The reef runs North and South, and has a very slight underlay (2ft. in 98ft.) to the West. The shaft is 98ft. deep and has one

level at 60ft. (water level), and another at 90ft. The lode has been followed 45ft. North and 27ft. South at 90ft. level, and is said to average 2ft. in width, of rich quartz. The quartz is very similar to that from the Hawthorn Reward, somewhat bluish in colour with a fair amount of pyrites in it. A parcel was being crushed at the battery with a very good show of amalgam on the plates, and gold showed freely in the stone. This crushing has since been reported in the newspapers to have returned 667½ozs. of gold from 241 tons crushed. Previous crushings had given 668oz. from 226 tons.

The Pelerin workings are in greenstone schist country, but granite comes in not far to the South. A large outcrop of white quartz is seen near the contact of the greenstone and granite, but has not been found worth mining.

Belfast G.M.L., 163B.—On this lease a shaft has been sunk some 46 feet on a North and South vein of small size in hard greenstone country. A lens of stone up to 2ft. thick but of short length has been worked out to water level, yielding 62.55ozs. from 50 tons of stone crushed. About 40ft. West of this vein there is another small one 8in. to 12in. wide, on which a little surface work is being done. A curious horseshoe shaped dyke of quartz porphyry is seen outcropping close to these workings, which are in hard laminated greenstone (diorite).

Sullivan's P.A.—Stony hills of greenstone schist continue for about a mile and a-half South-East from Birrigrin, the granite country coming in to the South-West from them in the lower ground. A shaft has been sunk in Sullivan's P.A. to a depth of about 40ft. on a North and South reef 12in. to 18in. wide. Some of the stone in the paddock was rather nice-looking and is said to give prospects of about 15dwts. per ton by dollying, but none has been crushed at the battery. No one was at work when I visited the holding. About a chain South of the shaft a dyke of micaceous quartz porphyry is seen cropping out strongly through the greenstone on a line striking North 70deg. W.

Hunter & Parks' P.A.—This holding is about a mile and a-half to the Southward of Birrigrin, close to the contact of the granite and greenstone areas. The prospectors have worked down to about 27ft. on a reef running North 15deg. West with underlay to the East about 2ft. wide. Gold has been got for about 40ft. along the outcrop, but a crushing of 35 tons only returned 8.73ozs. of gold. The workings are in weathered diorite country.

Collendina G.M.L. 160B.—This holding is some 3 miles or more South-West of Birrigrin on the belt of greenstone country running from the Redcastle Mine towards the Prominent Hills, and which is separated from the Birrigrin greenstone area by a belt of granite.

A shaft has been sunk nearly 100ft. deep without reaching water, on a lode running North-West to South-East, and underlaying slightly to the South-West. The country is greenstone schist, much weathered to clay. The reef is from 1ft. to 3½ft. wide between distinct walls, and is composed of rubbly quartz and clayey schist. It has been traced for about 300ft. on surface. 105½ tons crushed at Birrigrin returned 71.71ozs. of gold. The tailings are stated to have assayed about 9dwts. to the ton. The lease had been forfeited at the

time of my visit, but two prospectors were at work on it.

Grace Darling G.M.L. 104B (held as a prospecting area when I visited it).—Here there is a well-defined reef running North 32deg. East, with slight underlay to North-West. It is 1½ft. to 2½ft. wide and composed of somewhat rubbly quartz. Two shafts have been sunk 60ft. and 45ft. deep. Another reef 2ft. to 3ft. wide is seen at surface about 17ft. North-West of the first mentioned. At the 60ft. level the reef has been driven upon for 50ft. to the South. The stone is hard, and somewhat iron-stained, and shows little gold even where of good value.

Ninety-one tons crushed at Birrigrin have returned 116.68ozs. of gold, and 18½ tons at Black Range 44.62ozs.

Redcastle G.M.L. 159B.—This mine is 5½ to 6 miles South-West from Birrigrin, on the edge of a "breakaway" or plateau. A large reef running North and South crops out on the edge of the plateau, consisting of dense brownish quartz and silicious brown oxide of iron. The outcrop shows strongly for some chains in length, and gold is freely visible in parts of it. A vertical whip shaft has been sunk 100ft., and below the 100ft. level there is a winze 15ft. deep. Levels have been opened at 30ft., 50ft., 75ft., and 100ft. The country is weathered greenstone schist, and the water level is not reached as yet, owing to the elevated situation of the outcrop. Not very much work has yet been done at the various levels, and a good deal of driving and crosscutting is yet required to enable a decided opinion to be formed on the prospects of

the mine, as it is not yet clear what is the size of the reef. There are two principal quartz veins close together, with shattered country between them, and it seemed to me most probable that the whole "formation," 10ft. to 20ft. wide between the walls of the solid country, must be regarded as the lode. At the 50ft. level the quartz is up to 8ft. thick, but at the 100ft. level the reef is much smaller. The quartz seems somewhat irregular in size and shape, and this seems to have discouraged a company which lately held an option on the property, but gave it up again after doing a little work. Taking the lode as a wide body of mullock and quartz, and not as merely the quartz bodies themselves, there is nothing unusual or unexpected in the masses of quartz being found to lie irregularly through the "formation." The reef is evidently a large and strong one, and little concern need be felt at the bodies of quartz being somewhat irregular. In this solid rock below water level it is probable that the relation of the quartz veins to the rest of the lode will be more clearly visible. The value of the quartz varies a good deal, but there was a lot of very nice looking stone in the paddock at the time of my visit. A crushing of 48 tons has been reported since then for 81½ozs. of gold. Cartage to the battery costs 10s. a ton, all charges coming to nearly £2 per ton, according to the prospectors. This mine seemed to me one particularly well worth opening up energetically, and to have a very passable chance of turning out a big proposition. It is however too little opened to say more than this about it at present, and my first favourable impression requires confirmation by more extended prospecting before much value can be attached to it.

TABLE III.

Ore crushed at Messrs. Spencer and Thompson's Mill, Birrigrin, from March, 1905, to May, 1906, and ore crushed at Bryant's Tremain Mill, Montague Range, from November, 1905, to March, 1906.

Lease No.	Name of Mine.	Tons crushed.	Gold therefrom.
			fine ozs.
109B	Hawthorn Reward	583.50	751.66
128	Pelerin	467.00	1,299.50
129	Golden Spur	253.50	134.05
113	Stranger	141.50	177.83
160	Collindina	105.50	71.71
(104) 279	Grace Darling (now "Woodleys")	91.00	116.68
133	Reply	79.00	36.02
159	Redcastle	67.00	164.05
163	Belfast	50.00	62.55
175	Montague Monarch	46.50	100.05
168	Wheal Ellen	39.50	283.02
	Hunter and Party	35.00	8.75
192	Possible	33.00	22.37
(104) 279	Grace Darling ("Woodleys"), treated at State Battery, B.R.	18.50	44.60
		2,010.50	3,272.82
MONTAGUE RANGE.			
135B	Montague Boulder	99.00	41.50
201	Yale Lock	94.00	29.05
185	Caledonian	76.40	58.00
167	New Year's Gift	42.50	81.90
181	Mayflower	26.00	21.70
143	Montague Main Reef	23.25	7.96
180	Rossie Castle	20.00	19.20
136	Montague	19.25	18.16
		400.40	277.41
	Total, Birrigrin and Montague Range	2,410.90	3,550.23

PROMINENT HILLS.

About 12 miles North-Westerly from Birrigrin are two outstanding hills marked on the route map of the district "Two Prominent Hills," and which are therefore known locally as the Prominent Hills. They are on a belt of greenstone schist country about five miles wide, which is said to run North to the Montague Range and Mount Townsend. Southward it seems to extend to South of the Redcastle Mine. This hilly country is much covered with concretionary brown ironstone gravel, and there is a good deal of quartz also, pointing to quartz veins in the underlying rock. There is a huge outcrop of white quartz close to the road, about seven miles from Birrigrin. The road is one made to bring in water during the first days of the Birrigrin settlement from a soak on the West side of the hills. The country seems of promising nature for gold, and prospectors report that they have found "floaters" containing gold, and a few specks of loose gold in various parts of it. One reward claim has, I understand, been taken up by Fitzgerald and Party, but I did not hear of them until after my return from the hills. There is a well known as Carslakes, near the Hills, but the water, though drinkable by stock, is not good enough for human consumption. A well at the old soak would be a great benefit to prospectors, and would enable them to open up this likely belt of country.

Between the Hills and Birrigrin the track passes over loamy flats in which it would be difficult to find reefs if any exist, and where it cannot be seen whether the underlying rock is granite or greenstone, though probably for the most part the former.

To the West of the Prominent Hills the country is stated to be mostly spinifex-clad sand hills and sandy flats through nearly to Barrambie, where greenstone hills again outcrop strongly. A track has lately been broken through from the Rabbit-Proof Fence, some 10 miles North of Barrambie to the Prominent Hills and Birrigrin, which will prove very useful to prospectors passing to and fro between the Montague Range Field and the Murchison Mining Centres.

A direct road has also been lately cut from Birrigrin to Lawlers, but I was informed that it was a very sandy route over wide stretches of spinifex country, and unpromising from a prospecting point of view.

ERROLL'S FIND AND BARRAMBIE.

These recently discovered fields are at present most easily reached from Cue or Nannine, there being well watered roads from both these towns. The Barrambie Leases are close to the Rabbit-Proof Fence, in the course of making which they were discovered, between the 283 and 284 mile posts on the fence. The leases at Erroll's are about 10 miles North-West of Barrambie. By road from Cue the distance to Barrambie is about 83 miles, but in a direct line it is about 75 miles according to the route map. From Nannine the direct distance is about 62 miles.

All the way to Erroll's the road from Cue passes over granite country, which does not seem at all promising for new discoveries of gold. Almost on the direct line to Barrambie, however, there has been some little mining at Eelya, about 20 miles from Cue, and some fairly rich crushings have been recorded. The veins as yet tried, however, are currently re-

ported to be small, and not likely to prove of permanent importance. From the information given to me in Cue about them I did not think it advisable to go out of my way to see them. The country is fairly well covered with mulga scrub, which would yield a large tonnage of firewood, and a good deal of mining timber. The bush to the South of the road followed by me is stated to be heavier than along it.

After reaching Erroll's a good deal of ironstone and quartz conglomerate is seen in numerous "break-aways," the older country rocks having been at one time very generally covered by this younger formation which has, however, been greatly removed by erosion. A belt of greenstone schist occurs at Erroll's and extends Eastwards some distance, perhaps right through to Barrambie, but some granite is seen between the two places, and I am therefore doubtful if both are on the same greenstone belt. The intervening country is low-lying and the bedrock is not clearly seen, being covered with loam in the flats, and frequently with ironstone conglomerate in the higher ground.

ERROLL'S FIND.

Legacy G.M.L., 1531.—On this lease there is a large strong outcrop of quartz traceable for 400 yards in length, and as much as 30ft. in width in one place where it has been cut through by a costean. It strikes North 10deg. to 20deg. West, and underlays flatly, about 2 in 1 to the West. In the bottom of the principal shaft the underlay seems to be turning steeper, being about 1 in 1. The South shaft was sunk 40ft. vertically when I visited the mine. It cut the hanging wall of the quartz at 15ft. down, and was still all in quartz in the bottom, not having passed through the reef. Another shaft was sunk 40ft. on the underlay, and in it the reef was not cut through. The country is weathered greenstone schist. The quartz is in bands or "splices," and shows numerous cavities carrying brown iron ore, and evidently caused by the weathering out of crystals of pyrites. Undecomposed pyrites frequently occur in the stone from a short distance below the surface. The pad-docks of stone that had been raised showed gold freely, and it was also readily to be seen at various points along the outcrop. To form a positive opinion as to the value of this reef it would be necessary for one to spend several days on it sampling and testing, but it is clear from even a casual examination that there are very fine prospects of the reef being a valuable one. The probability is that the best gold is confined to certain of the bands or ribs of quartz, and some parts of the reef may be very poor. Much care will have to be exercised in testing the reef to determine which portions are worth breaking down. This is a very fine strong quartz reef, and visibly gold-bearing for a long distance, and present appearances make me very hopeful of its becoming a large and valuable mine. I understand that an option has lately been taken over it by a syndicate of investors, who will put on men at once to open it up and test it thoroughly. This work will soon enable a more reliable opinion to be formed.

Near the North end of the holding a small reef is seen about two chains West of the main outcrop. It may run into the big reef but the latter will very likely have a number of smaller parallel "companion" reefs, and this might very well be one of these. It has not been opened up.

Cartage of quartz to the battery at Quinn's, 32 miles, is said to have been procurable at 30s. a ton, the stone being taken as back loading by teams returning to Nannine, but £2 a ton is stated to be the charge at other times.

Inheritance G.M.L., 1528.—Here there was a shaft down 46ft. on the underlay of a reef running nearly North and South, and underlying 1 in 7 to the West. Water was struck at 40ft. The reef has been driven upon 40ft. South and 30ft. North from the shaft showing the stone to be from 1½ft. to 3ft. in thickness. The owners had started a new main shaft about 150ft. to the North. There was some very good gold-bearing stone in the paddocks at this mine waiting to be crushed. The shallow depth at which water is met with is against the prospectors, who also have much trouble in tracing the reef on account of the depth of the superficial ironstone cement which covers much of the ground. This is up to 15ft. at times. The bedrock is greenstone much weathered above water level.

A vein running East and West has lately been struck in this holding, with quartz in it very like that seen in the Three Star lease West of the Inheritance.

Three Star G.M.L., 1490.—A shaft has been sunk about 47ft., cutting the cap of a large quartz reef at 20ft. At the bottom a crosscut has been driven to the reef, which strikes North 65deg. West, and dips South-Westerly about 1½ in 1. The reef was nowhere cut so as to show its full width, but was over 6ft. wide, of white quartz. Most of the stone was considered rather poor but one rib or layer in it, 10in. to 15in. wide, was exceedingly good. Ten tons from this crushed at Quinn's were stated to have returned 6ozs. 6dwts. of gold per ton, while the tailings assayed 1oz. 4dwts. per ton.

There is another parallel reef about a chain South of the above shaft on which another shaft has been sunk 20ft. The reef is a big strong body of stone, but poor.

The country in the main workings is kaolinised quartz porphyry, micaceous in places, which is probably a dyke passing through the greenstone country similar to that in the Welcome and Worker leases at Black Range. The paddock of stone at grass was considered by the owners to be worth 2oz. to the ton, and showed gold very freely. A new vertical shaft was being started at the time of my visit, and was passing through a superficial layer of stratified ironstone cement.

This mine has a large amount of stone available for a battery on the spot, as a lot of the poorer stone is considered payable to crush locally. Much of it however, is very poor.

Good Friday G.M.L., 1475.—A vertical shaft has been sunk 33ft., and has cut a reef 4ft. to 5ft. thick of ironstained quartz, striking North 60deg. East with underlay 1 in 1 North-Westerly. Another shaft follows the reef down on the underlay for about 30ft. In the shaft there was also a leader carrying a little gold. Some very nice stone was found near the surface, but in the bottom of the shaft the quartz is poor, the prospectors seemingly having got off the payable stone. Very possible they will pick it up again on driving. Very good "floaters" have been picked up about the surface. The shaft is in greenstone country, but granite is

seen outcropping close by. The owners of the Good Friday also have a prospecting area a short distance to the South-East of it on which some good "floaters" have been picked up. Shafts have been sunk 39ft. deep and 15ft. deep, and some crosscutting has been done, but only small leaders of quartz have as yet been found.

Legacy South G.M.L., 1470.—The Legacy reef is seen outcropping strongly on this lease also, and some gold has been got in it, but little work has been done.

The Erroll's Find district has water at rather a shallow level, enough to incommode prospectors, but not enough in any shaft yet sunk to give a good battery supply. Several bores have been put down by the Mines Water Supply to get a supply of water, and on the most suitable one of them a well has been sunk, to the West of the Three Star lease about a quarter of a mile, but the supply is not very large, and the quality of the water not at all satisfactory for human consumption, though fairly good for stock.

A battery is very much required in the district to enable the prospectors to crush their ore, but at present the output of stone hardly justifies the State in putting up one. Were the owners of the Legacy willing to guarantee to support a State battery for an agreed period the erection of one might be seriously considered, but it is hardly likely that the Melbourne Syndicate who hold the option of purchase over that property would contemplate doing otherwise than erecting their own battery.

The prospectors of this district informed me that they had been able to find traces of gold and numerous outcrops of quartz reefs over a fairly wide area, and it seems probable that the field will prove a good deal more extensive than it appears at present. The first step towards providing the crushing facilities, without which no progress can be made, is to put down a well to obtain a battery water supply. Probably a supply of somewhat salt water for battery purposes could be obtained much more easily than a domestic supply. In my opinion the prospects of the district justify State expenditure in providing such water supply at the earliest possible moment.

BARRAMBIE.

The Barrambie Hills are rugged stony ridges of no great height which stand up very prominently from the plains on account of their steepness. They are composed of somewhat laminated greenstone (diorite), quite schistose in parts. The lamination strikes nearly North and South, with dip Easterly about 70deg., and the principal gold-bearing vein so far discovered lies in the lamination of the rock. The occurrence seems to be one of a zone of rock much sheared and rendered schistose along a line of yielding with quartz veins formed in fault fissures in the zone. Gold was first found by the men constructing the Rabbit-proof fence, which runs along the West side of the hills.

Golden Treasure G.M.L., 1458.—The outcrop of the Golden Treasure reef is fairly high up on the slope of the hill, and is traceable along a North and South line for about 630ft. It is very thin in many places, but up to 3ft. in others. A main shaft has been sunk 150ft. on the underlay, and levels have

been opened from it at 40ft. and 105ft. At the 40ft. level there is a drive through to another underlay shaft 93ft. deep which was being sunk deeper at the time of my visit to connect with the 105ft. level. At this level 110ft. has been driven North and 56ft. South. In these workings the reef is up to 3ft. and 4ft. wide between its smooth hard walls, but the quartz vein is smaller, being usually from 1ft. to 2ft. wide, rarely 3ft. The chlorite schist between the walls of the lode often carries gold, from 5dwts. to 35dwts. per ton, according to the manager. Gold was very freely visible underground in the quartz at the time of my visit, and also in the paddocks of stone at surface, and in the office there was one of the finest collections of rich stone I have seen in the country, bagged for special treatment. Though the reef is not very large it is undoubtedly very rich, so far as work has gone. It seems a good permanent reef, and ought to live downwards very satisfactorily. The fact of the schist-carrying values is important, and the walls will require constant testing to avoid passing by values.

The company owning this mine had a 10-head battery at Nannine *en route* for the mine, and were boring to try and get a water supply. The mine being pretty high above the plain it is unlikely that any quantity of water will be got in it under 200ft. or 300ft. of sinking. The present shaft is quite dry. The company is searching for a water supply in the flats at the foot of the hill to the West of the Government well. This has a fair supply of fresh water, but will mostly be required for domestic purposes. It is quite possible that there may be considerable delay in procuring an adequate water supply, and that the water may have to be pumped a good distance to the mine.

Golden Hill G.M.L., 1459.—The Golden Treasure reef traverses this lease also. A shaft has been sunk 70ft. deep on the boundary between the properties and a drive put in 30ft. to the North. The stone is here 15in. wide, and of fair value, showing gold pretty freely. About seven chains further North the reef is small, but very rich. A shaft has been sunk on it 40ft., showing only 2in. to 3in. of quartz, which, however, is very rich, estimated at 20oz. to 30oz. per ton. In the bottom of the shaft the reef seemed to be opening out a little when I saw it.

There are about 100 tons of stone raised by the prospectors on this lease awaiting crushing. The quartz contains a good deal of brown iron ore in cavities left by the decomposition of pyrites.

Queen G.M.L., 1508.—This reef lies away to the West of the Golden Treasure line, and is separated from it by a low hill of ironstone and quartz conglomerate, and dense dark-brown iron oxide of apparently considerable purity, belonging to the superficial "breakaway" formation. Two shafts have been sunk 80ft. and 42ft. deep about 100ft. apart on a small quartz reef, 2in. to 6in. wide, running North 55 deg., and underlaying very slightly to the South-East. The country is soft white kaolin, and may be decomposed quartz porphyry. The stone between the two shafts has mostly been taken out, and is stated to be of good value, from 2oz. to 4oz. per ton. Gold shows very freely in the stuff raised. No water has been got yet, though this shaft is in low ground.

Dawn of Hope G.M.L., 1467.—Close to the Rabbit-proof fence, on the West side of it, and about North-

North-West from the Government well there was a shaft at which no one was working, which I take to be on this lease. It was down about 40ft. on a strong quartz outcrop running North-North-West and South-South-East. Some fair-looking stone was in the paddock, but I got no information as to its value.

The Barrambie district is awaiting the finding of a sufficient battery water supply, and the erection of a battery to be developed more vigorously. There is some hope that the Golden Treasure battery when erected will crush stone for prospectors from time to time when opportunity offers. Too few mines are proved yet, outside the Golden Treasure, to warrant any thought of a State battery.

TABLE IV.

Erroll's and Barrambie, to 30th April, 1906.

Lease No.	Name.	Dollied.	Ore crushed.	Gold therefrom.
1467	Dawn of Hope ...	9-99	5-09	29-70
1490	Three Star ...	...	10-00	56-61
1458	Golden Treasure ...	6-54	...	...
1460	Magnum Bonum ...	5-96	...	...
		22-49	15-09	86-31

QUINN'S AND BURNAKURA.

From Barrambie I went up the Rabbit-proof fence to Gum Creek, and returned by the Lake Way road to Nannine *via* Gabanintha for the purpose of looking into one or two matters of departmental business at these places, thereby missing Quinn's and Burnakura. Mr. F. J. Lander, Inspector of Mines, whom I met at Barrambie, and who knows these fields for some years past, has, at my request, forwarded the following report (dated May 23rd, 1906) on them, which, in conjunction with the Assistant Government Geologist's (Mr. Gibson's) report in Geological Survey, Bulletin No. 14, on the Quinn's field, will give all necessary information as far as they concern the projected railway:—

At Quinn's there are only two mines working. Several men are prospecting, however, in the neighbourhood, two or three of whom are on rich leaders. The other mines have been abandoned because of—

1. Having reached water level.
2. The ore being low grade.
3. Having no cheap crushing facilities, they cannot work the mines profitably.

Several mines are now lying idle, which might be worked to advantage and give employment to a large number of men were the owners able to go below water level, and to crush their stone at a cheap rate.

The principal mine now working is the "Phoenix," No. 622. This mine has a main shaft 6ft. x 3ft. in the clear, and 100ft. deep. Seventy-eight feet is the water level. At the present time they are working above water level, both driving and stoping. It is an east and west reef and dipping south at an angle of 70 degrees. The average width of the reef is 3ft., and the average value over the plates is 6 dwts. per ton of 2,240lbs. Nine hundred and fifty-five tons have been crushed for the above average. The line of reef extends for a distance of about 40 chains, and samples have been taken along the whole line for an average of from 7 to 10 dwts. over the plates, and from 3 to 5 dwts. in the tailings.

Princess Dagmar, No. 478.—This mine has a main shaft 95 feet deep, with a water level at 48 feet. The reef averages 2ft. 6in. in width, and is valued at 11 dwts. per ton over the plates and 5 dwts. in the tailings.

One hundred and seventy-four tons have been crushed by the present owners for the above average.

The Scotchman, No. 613.—This property has a main shaft 110 feet deep. About 400 tons have been treated for an average of about 20 dwts. per ton. This mine is on the same line of reef as the "Phoenix," and is now lying idle because they have no means of working below water level.

BURNAKURA.

There are four good mines in this district, the best of which is the New Alliance of 42 acres. This mine has been working about seven years, and has a main shaft 200 feet deep. There is a five-head battery working, and another 20-head mill is in process of being erected. This mine has a large quantity of water equal to a 10 inch pump with a 4ft. stroke, working at 14 strokes per minute. The water is good and used for domestic purposes. The reef is about 2ft. wide, and up to the present time 5,713 tons have been treated for an average of 3 ozs. per ton. This mine is held by a syndicate of three local men, and gives employment to 30 men.

The Coronation.—This mine is situated south of the New Alliance and adjoins it. The New Alliance reef has been cut at about 90 feet from the surface, and is showing good values. Although this mine has been

working over four years, the "New Alliance" reef was only cut within the last fortnight. Several shafts have been sunk, and a lot of cross-cutting done, and the owners are now hopeful of being rewarded.

The Alliance is a 12 acre lease, and the main shaft is down 150 feet. The reef is 2ft. thick and carries a value of about 37 dwts. per ton. A five-head mill complete is on this mine, also a winding plant, and a lift pump. The reef extends for a long distance south of the present mine.

The Federal City is a 24 acre lease, and the main shaft is 10ft. x 4ft. in the clear, 100 feet deep, and timbered throughout with sawn jarrah. There are two parallel reefs 140 feet apart. The sizes are as follows:—No. 1 reef is about 4ft. thick, and No. 2 about 4ft. 6in. thick. There is a ten-head mill in course of erection, also a Cornish lift and winding plant with poppet legs. From the two reefs the values have been 35 dwts. per ton over the plates. This is a mine of great promise, and the owners are spending a considerable amount in plant and development. Twenty-five men are now employed on the mine, and it is probable that in a short time double that number will be required.

A number of men are prospecting at Burnakura, and the residents are very hopeful that the district will shortly be more flourishing than it is at present.

TABLE V.

Output of Quinn's and Burnakura to April 30th, 1906.

Lease No.	Name of Mine.	Alluvial.	Dollied.	Ore crushed.	Gold therefrom.
453	Two Jacks	7.30	19.99	973.00	367.73
465	Cornstalks ... ..	...	...	193.25	111.70
513	Easter Gift ... ..	...	...	65.00	14.33
478	Princess Dagmar ... ..	...	2.11	108.50	58.29
622	Phoenix ... ..	...	...	60.00	15.11
479	Yorkshire Lass ... ..	...	...	60.00	14.81
613	Scotchman ... ..	...	...	17.50	2.68
558	Farmstone ... ..	...	...	55.00	14.57
594	Friend ... ..	...	...	10.00	2.47
470	Enterprise ... ..	...	105.70	4.50	27.72
	Voided leases ... ..	...	...	Sands	48.63
	Sundry claims ... ..	...	29.19	587.00	432.31
	Alluvial	132.08	228.04	18.00	7.54
	QUINN'S	139.38	385.03	2,151.75	1,117.89
408	New Alliance ... ..	...	...	5,698.00	10,041.28
238	Alliance ... ..	...	...	2,679.00	2,722.59
509	Federal City ... ..	...	...	380.00	551.34
581	Dunbeacon ... ..	...	...	20.00	35.81
	Teigher & Beachy ... ..	...	5.35	...	...
	Voided leases ... ..	...	3,000.54	588.50	1,240.21
	Sundry claims ... ..	...	3.40	25.00	18.90
	Alluvial	26.03	...	...	...
	BURNAKURA	26.03	3009.29	9,890.50	14,723.00
	GRAND TOTAL	165.41	3,394.32	11,542.25	15,840.89

GABANINTHA.

The Gabanintha field lies off the route of a railway line from Nannine passing through Burnakura, but about five miles of road from the Star of the East Mine would be all that would be required to reach the railway and the means of access to the field would therefore be considerably improved. The field was fully described, with a good map, by the Assistant Government Geologist (Mr. Gibson) in Geological Survey Bulletin No. 14, and as there has been very little activity there for some years past I have very little to add to his report. The principal mines, the Star of the East and the Tumbulgum (Nannine Goldfields Limited), which have worked on a large scale and have extensive ma-

chinery, were both shut down at the time of my visit. Both mines have been large producers, the recorded output being, to April, 1906:—

	Tons.	Fine ozs.
Star of the East	27,244.00	20,305.30
Tumbulgum	8,626.00	3,787.96

According to such information as I could obtain locally, both mines are expected to be worked again.

Mountain View G.M.L.'s. 379, 577, 504, 505, 607.—The only considerable mine working at Gabanintha at the time of my visit was the Mountain View, but the water was not quite out of the lower levels of the principal mine, and they could not be visited. A new main shaft has just been sunk 220 feet deep and connected with the older workings, and stoping is expected soon to be resumed. The reef has a good

record, having yielded 2,357.82 ounces of gold from 3,020½ tons of stone crushed. There is some excellent copper ore in parts of the lode from which good returns have been obtained. The old tailings from the stuff stamped contain a very perceptible amount of copper, and the present owners have been trying to save some of this by concentration on Wilfley Tables. Most of the copper being in the form of green carbonate, a very high extraction cannot be expected, and it will be necessary to appeal to one of the leaching processes of copper extraction in order to effect a good recovery of the metal. The copper also prevents cyanide treatment of the tailings for the recovery of the gold in them. The manager informed me that there were about 5,000 tons of the copper tailings, containing about 2 per cent. of copper and 10dwts. of gold per ton on the average, but I had no means of verifying these figures and simply quote them as they were told to me. If these values are there the tailings should be well worth metallurgical treatment.

In the deeper levels the copper ores are changing to sulphides, and doubtless will soon be entirely chalcoppyrite, which will be more easily recovered by concentration and less inimical to cyanide treatment than the oxidised ores. The copper values in this lode have to be very seriously taken into consideration, and such ore as carries a considerable amount of copper ought to have special treatment for its recovery.

At the time of my visit the proprietors of the Mountain View Mine were working mostly on Lease 502N, on a mullocky lode running N.E. and S.W., and underlaying somewhat flatly to the North-West. This is a big "formation" of clayey mullock, quartz veins, and brown iron oxide veins, and is of considerable width. Much of the gold seemed to me to be due to secondary deposition, being found in fine scaly particles on the faces of fine joints and crevices in the material. Some years ago a number of the quartz and ironstone leaders are said to have been worked by the Mount Yagahong Company with rich results. The stuff is now being knocked out in bulk, 4 to 6 feet in width, and sent to the mill, where it is crushed for a return of about 7dwts. per ton by amalgamation. A lot of work has been done in former years on this reef, it being said to have been driven on at the 80 feet level (water level) for about 400 feet. The country is weathered greenstone schist.

The Mountain View proprietors have erected a 5-head battery and small winding plant.

A short distance West of the Mountain View lease there is a good deal of work done on the Golden Hope and Golden Hope Extended line of reef, but at the time of my visit they were under exemption and idle. There seems to be a junction of two lodes at the south end of the workings, and here, I was told, there was some copper ore. Further North there was no copper, and the gold was found in a kaolinic matrix.

Government Well (formerly Unity 122N).—The shaft used as a well for the township is on the reef described in Mr. Gibson's report as the "Canterbury." There is said to be in it a large formation estimated to yield 6dwts. of gold to the ton. The stuff seen on the dump was hard, angular, somewhat silicified greenstone, with small quartz veins ramifying through it.

Lady Alma M.L. 432N (formerly known as the "Copper King.")—About 3½ miles south-east from the townsite some good copper ore has recently been obtained from a lode found some years ago. The outcrop contains some rather pretty chrysocolla (silicate of copper) and this was mistakenly supposed to be turquoise, which it rather closely resembles. Some mining was done in search of this blue mineral, but little notice seems to have been taken of other copper ores, though a good deal of "tile ore" (earthy red oxide of copper) and malachite (green carbonate) was intermixed with the iron oxide. Two shafts were sunk on the principal lode by the former owners, about 40 feet deep, and in the northern one a cross cut was driven through the lode but no driving was done. Where the lode was cut through it was over 6 feet wide between the walls, but mostly mullocky material with very little copper ore. The present owners have driven 25 feet along the lode to the north-west, and got upon ore almost at once, the vein opening out to over 4 feet wide of very good ore. This was being bagged for shipment at the time of my visit, and I took a rough sample by taking handfuls of the smaller fragments from the mouths of several of the open bags. This of course does not constitute a proper reliable sample, but it is likely to be fairly representative as an approximation. It was analysed by the Government Mineralogist and Assayer, who reports:—

Moisture	...	...	...	1.23
Copper	...	...	...	28.64
Lead	...	...	...	.06
Bismuth	...	...	...	Nil
Iron	...	...	...	22.60
Zinc	...	...	...	Nil
Nickel	...	...	...	.11
Alumina	...	...	...	2.20
Lime	...	...	...	1.01
Magnesia	...	...	...	6.50
Silica	...	...	...	6.02
Carbonic Anhydride	...	...	...	10.89
Combined water	...	...	...	5.25
Sulphur	...	...	...	3.40
Oxygen (Difference)	...	...	...	12.09
				100.00

Gold—2dwts. 11grs. per ton.

Silver—5ozs. 15dwts. 23grs. per ton.

The ore contains cuprite, limonite, bornite, malachite, quartz, and dolomite with traces of mica, chalcocite, etc. This is very good smelting material, being particularly suitable for treatment with more silicious ores, and would secure a favourable smelting charge on account of its fluxing quality for such.

At the south shaft some fair ore has also been raised, and this is even more ferriferous. The outcrop is a strong body of brown iron ore (gossan) traceable for a considerable distance, and there seems great likelihood that this is a valuable copper lode. Another party further North are also on a copper lode, but have not yet got ore fit for bagging. The country is somewhat hard greenstone, breaking on surface into rough angular fragments.

Should this mine continue to open up well, the question of local treatment of the ore will have to be considered. The richest ore may pay for shipment to the Fremantle Smelting Works or to smelters outside the State, but it is not to be expected that a permanent mine can be maintained from merely the high-grade ore. The much more plentiful low-grade

material always becomes the mainstay before long in the history of a mine, and local treatment to produce a high-grade concentrate either by dressing or smelting becomes necessary. The expenses of shipment from Gabanintha will be very heavy. Cartage to Nannine is said to be procurable at 22s. 6d. a ton, but the Mountain View owners told me that they had to pay as much as 45s. a ton for cartage of their bagged ore. At the present price of copper, say 16s. per unit, I do not think that all costs of freight or smelting (including smelter's deductions) would amount to less than £11 per ton, so that ore assaying 14 per cent. of copper would no more than pay bare expenses of realisation, without paying any of the costs of mining. In other words, no ore under 17 per cent. of copper would be profitable to raise and ship even at the present high price of copper. This is much too high an average to be expected from any ordinary copper mine. Under present circumstances there does not seem, therefore, very much hope for success in copper mining at Gabanintha, so long as the ore has to be sent away for treatment. The supply of ore as yet visible is not sufficient to warrant the erection of a local smelter, so the best hope appears to be that the prospectors will be able to find enough bunches and shoots of rich ore at shallow depths below the outcrops to get a subsistence until they can demonstrate that there is enough low-grade ore to support a local furnace. I am very hopeful that the lodes will soon show themselves able to do this, and that the district will become a smelting centre. Fuel for reverberatory furnace smelting is fairly plentiful and cheap, costing 19s. a cord, and there is an enormous amount of oxide of iron available for flux in the district. Mr. Gibson's map shows a huge lode of iron ore which is a very notable feature of the district, and he gives an analysis showing it to have much value as a flux. Much of the gossan of the Lady Alma lode would be of value as flux for a smelter close at hand.

It is to be noted that some good copper ore has recently been obtained near Day Dawn, and also near Yalgoo, so that there is a possibility that a smelting works at some central point on the railway line might be able to collect enough ore to sustain itself from several scattered localities, although no one of them could support it singly. Such a works would doubtless obtain a good deal of support also from concentrates from various batteries.

If a railway were constructed from Nannine to Black Range, I am inclined to believe that Gabanintha might be looked to with some confidence to afford it a good deal of support before long.

TABLE VI.

Output of Gabanintha to 30th April, 1906.

Lease No.	Name of Mine.	Ore Crushed.	Gold therefrom.
		tons.	
174 etc.	Star of the East ...	27,244·00	20,305·30
32 etc.	Nannine Goldfields Ltd.	8,626·00	3,787·96
379 etc.	Mountain View ...	3,020·50	2,357·82
461 etc.	Golden Hope leases ...	397·00	462·07
431 ...	Sovereign ...	311·00	145·46
449 ...	Mount Bungar ...	152·00	84·46
	Voided Leases ...	3,133·50	3,065·61
	Sundry Claims ...	292·00	215·28
		48,176·00	30,423·96

LAWLERS DISTRICT.

In considering the question of railway communication with the Black Range field with a wide view, connection with the Eastern Goldfields railway system has to be taken into account, and the state of mining in the Lawlers district becomes an important factor. The Northern extension of the railway from Leonora to Lawlers, Mount Sir Samuel, and Lake Way, has long been contemplated as advisable as soon as developments should justify it, and the connection with Black Range could very conveniently branch off at Lawlers. The route to Lawlers might either follow the present road from Leonora via Doyle's Well, or proceed directly North from Mount Malcolm, through Harriston and Mount Clifford districts. Both these lines require special examination to enable their relative advantages to be compared.

Owing to my misfortune in meeting with a serious accident when at Nannine, I have not been able since the Black Range railway question has arisen to visit the Lawlers district as had been intended. Some notes of former visits were published in the Annual Report of the Department of Mines for the year 1904, page 64, and a great deal of information is obtainable from the reports of the Inspector of Mines for the East Murchison Goldfield published in the same volume and the corresponding one for 1905. The relative importance of the various centres is best seen from the following table of returns:—

TABLE VII.

Total Production of Mining Centres on the Routes of the Proposed Railway, to 30th April, 1906.

Mining Centre.	Alluvial.	Dolled and Specimens.	Ore Treated.	Gold therefrom.
	fine ozs.		tons.	fine ozs.
Wiluna ...	537·27	124,809·90	71,087·52	
Cork Tree ...	29·90	3,780·00	3,302·19	
Kathleen Valley ...	619·97	60,832·25	38,200·07	
Sir Samuel ...	15·81	182,684·50	99,233·14	
Lawlers ...	332·76	522,482·40	276,310·12	
LAWLERS VIA DOYLE'S WELL TO LEONORA.				
Diorite King ...		744·53	24,099·98	23,914·16
LAWLERS VIA MT. CLIFFORD TO MALCOLM.				
Wilson's Creek ...		4·24	338·50	187·31
Wilson's Patch ...		99·38	12,050·60	7,344·88
Mt. Clifford ...		184·09	1,522·25	4,771·49
Dodger's Well ...		51·97	588·80	946·69
Mertondale ...			58,628·75	44,012·15
Pig Well ...			5,546·07	6,608·53
Grand Total ...	14·81	2,622·92	997,364·00	575,918·25

SUGGESTED RAILWAY ROUTES.

From the foregoing account of the mining centres, which have to be taken into consideration, it will be seen that the Black Range field is at present the most important, and the one which most imperatively requires railway communication to promote its development. Three routes have been proposed for connecting it with the Geraldton-Nannine line.

- (1.) From Mt. Magnet to Black Range via East Mt. Magnet.
- (2.) From Cue to Black Range via Barrambie, passing near Birrigrin.
- (3.) From Nannine to Black Range via Burnakura and Barrambie, passing near Birrigrin.

Route (1), from Mt. Magnet.—This would be about 86 miles in length to Nunngarra, and is geographically the most direct route from the coast to the Black Range field, and the most direct route also for sending coastal produce through to the East Murchison and Mount Margaret fields when the railway is extended from Black Range to connect with the Eastern Goldfields railways. There is, however, no proved mineral-bearing country along it between Mt. Magnet and the Black Range except the East Mount Magnet or Paynesville field, which has been almost abandoned for some years past, and does not offer much present likelihood of being any support to a railway. Gold has, however, been found there, and the construction of the railway would doubtless lead to renewed prospecting, which might be attended with satisfactory results.

Route (2), from Cue via Barrambie.—This route would go East from Cue to Barrambie about 75 miles, and thence to the South end of the Birrigrin field near the Redcastle mine, a further distance of about 19 miles, thence South to the Black Range (Nunngarra), 37 miles, making a total distance from Cue of 131 miles. The line would pass close to the Eelya leases, 20 miles from Cue, but these are not of sufficient importance to be counted as of consequence, but, with this exception, would pass over a stretch of granite country almost as extensive as that between Mt. Magnet and Black Range on the first route. It would be a roundabout route to Black Range for goods coming from the coast, but would have the advantage of opening up the Erroll's Find, Barrambie, and Birrigrin fields, as well as the Black Range. It would not do this any better, however, than if the line from Mt. Magnet to Black Range were continued northward along the same route to Birrigrin and Barrambie. The section between the "Sandstone" leases and Barrambie may be regarded as common to both routes, but with the difference that if the line were made by the Cue-Barrambie route the whole distance to Nunngarra would have to be constructed to be of any use; whereas the Mt. Magnet to Black Range route might stop for a time at the "Sandstone," and would not require to be extended to Birrigrin and Barrambie until these fields were further advanced. The Cue-Barrambie route is advocated by many Cue residents, and the local Chamber of Mines, on the ground that the first 30 or 40 miles would be a paying concern from the start by opening up a firewood supply for the Cue and Day Dawn mines. The route passes through an extensive area of good mulga firewood, and it is argued that, the traffic in this would render the line payable for the first 30 or 40 miles at any rate.

Firewood is already being brought to Day Dawn from beyond Mt. Magnet down the line, and by carts from as much as 20 miles out, very little good bush being left uncut within 20 miles of Day Dawn in any direction.

I append to this report some figures supplied to me by Mr. Robert Tyler on behalf of the Chamber of Mines, showing that firewood could be profitably delivered at Cue and Day Dawn at 23s. 7½d. and 24s. 2½d. respectively, per cord of 35cwt., from 80 miles out, estimating the carting at a maximum of five miles, whereas at present it is costing 28s. to 32s. per cord. He estimates the present consumption of wood by the mines of Cue and Day Dawn at 75,000 tons per annum, and that the receipts for

carriage of it would amount to £10,281 per annum. At the present time the Great Fingall Co. is importing a large amount of coal from New South Wales, but I was given to understand that at present prices there is a slight advantage in cost in the use of wood, and that the coal is required to maintain the sufficiency of the fuel supply, and to prevent a considerable rise in the price of firewood, which would otherwise certainly take place. Mr. Tyler's figures of cost of firewood are, however, only an example of how this would work out at a stated point on the line, and cannot be taken as the average for, say, five years, over the huge belt of timber that would have to be cleared to supply an annual output of 75,000 tons. This would soon necessitate numerous spur lines of railway.

There is no doubt that the question of wood supply is one of great importance to the mine owners round Cue and Day Dawn, and that there is a good deal in their contention that the firewood traffic would give important support to the first part of the railway. The wood traffic is, however, essentially ephemeral, and it does not seem to me that this route can be seriously considered in comparison with the other two. It would, in my opinion, be better to lay a light bush railway out into the forest for the purpose of getting firewood alone, moving it frequently to follow the woodcutters, as is regularly done with firewood lines, than to work the wood from a permanent railway. This, however, seems more a proposition to be taken up by a company composed of the mines interested, than one to be worked by the Government. In view of its importance to the mining industry of the Cue-Day Dawn Field, I would strongly recommend that the Government should facilitate in every reasonable way the formation of such a company, and its subsequent operations.

Route (3)—From Nannine via Burnakura, Barrambie, etc.—This route is, without doubt, the best of the three proposed from the point of view of opening up mineral country. It would pass near enough to the Gabanintha Field to be of much assistance there, and would go over a likely greenstone area to Burnakura and Quinn's, and thence on to Erroll's Find and Barrambie, where it would join the previously discussed route from Cue. The distance from Nannine to Barrambie would be about 61 miles, or 14 miles less than from Cue. This route has also geographical advantages when looked at as a means of sending sheep and cattle from the pastoral districts of the Gascoyne and Ashburton Rivers to the Eastern Goldfields, the route from Nannine via Black Range and Lawlers to Leonora being a fairly direct one. A connection between the Northern and Eastern Railway system will become sooner or later very necessary, and it is readily seen from the map that this proposed route, with a junction at Nannine, would be very suitable in the event of any considerable extension Northwards of Geraldton-Nannine line towards Peak Hill and the Ashburton.

From the immediate point of view of the Black Range District, however, the line *via* Nannine would be a very long round-about route, all produce and machinery from the coast having to travel 211 miles round two long sides of the triangle of which the points are Mount Magnet, Nannine, and Black Range, instead of 86 miles along a much shorter third side, forming the direct route *via* Mount Magnet. Even

if the Eastern and Northern Railway systems were connected at Nannine *via* Black Range, a short connection from Black Range to Mount Magnet would be immensely useful for connecting the interior goldfields with the coast at Geraldton.

Route Advocated.—Under existing circumstances, and with the present outlook for the mining fields concerned, I would advocate the direct line from Mount Magnet to Nunngarra and "Sandstone" as the one first to be made, with eventual extension northward to Redcastle Barrambie, Burnakurra, and Nannine. A short spur line to Birrigrin and Montague might become necessary in time, and there is some possibility of its having to be extended to Mount Townsend, there being a belt of likely mineral country in that direction.

Black Range to Leonora or Mount Malcolm.—A railway from Mount Magnet terminating at Black Range would be dependent entirely on the latter district for its traffic, and it seems to me exceedingly doubtful if it would become a payable concern. The position would be immensely improved, however, if the line were continued to connect with the Eastern Railways which would lead to a great increase in traffic between the Murchison Goldfields and the Eastern Goldfields. This connection would be very useful for transport of machinery from one field to the other, and for business in general. The passenger traffic would be sure to be considerable, as the convenience would be great for business men, investors, and men seeking employment on the mines. The line would, besides, open valuable mineral country all the way between Lawlers and Mount Malcolm, which might be relied on to contribute a fair amount of support.

From Nunngarra the line would run to the Maninga Marley and thence to Lawlers, a distance of about 79 miles. From Lawlers the best route for opening mineral country seems to me from inspection of the map to be *via* Mount Clifford and Harriston to Mount Malcolm, which would pass better through the centre of the known mineral country than that following the road from Lawlers to Leonora *via* Doyle's Well. The distances are about 87 miles to Mount Malcolm and 75 miles to Leonora, respectively. These two routes have not however been personally examined by me for comparison of their relative advantages, and a line from Leonora *via* Mount Clifford, saving the 15 miles already constructed from Mount Malcolm to Leonora, might be found preferable to either.

Benefit of Railway communication to Mining.—In this State where the policy of opening the mining fields by railways has been so consistently followed hitherto by satisfactory results, it is somewhat late in the day to be called upon for any exposition of the benefit conferred upon the mining industry by railway communication. Possibly the dependence of mining progress on railways is more forcibly brought home to us by thinking what could be done without them than by setting forth their positive benefits. How many mines could be worked in the Murchison Goldfields for example, if the head of the railway line had remained at Mullewa, or in the East Murchison and Mount Margaret fields if Menzies were still the terminus of the Eastern system? Obviously there would be very few that could be carried on at a profit outside a radius of at most 100 miles from the end of the railway. The whole

working of the mines is profoundly affected by the proximity or otherwise of a railway, the actual cost of procuring goods being often far the least item in the question. The loss occasioned in every branch of the work by delay in promptly obtaining men, machinery, timber, and supplies of all sorts when suddenly required is of far more importance than the mere cost of freights or even the cost of supplies. Operations are carried on at a disadvantage with makeshift appliances pending arrival of repair parts and new orders, but while every practical man realises the effect of this on the cost of the work, it is impossible to express it as an average figure. That there is a very big annual loss to every outlying mine through difficulties and delays of transport is certain, and the reduction of this loss through establishment of railways is by no means the least of the indirect benefits to be credited to them in the National Profit and Loss Account.

The actual saving in freights that would accrue to the mines is very considerable. Freights by road from Mount Magnet to Black Range run from £5 to £7 per ton, and may be averaged at nearly £6, and from Black Range to Birrigrin there is a further cartage charge of £5 to £6. If the railway were made there would be a saving in freights on all supplies brought by rail of about £5 a ton to Black Range, and £10 a ton to Birrigrin. It does not take a very large mine to require 20 tons a month of various supplies when in fair working order, and when putting up its machinery and mill the tonnage is very much larger, so a saving of £1,200 a year for such mines at Black Range or £2,400 a year at Birrigrin would not be an unreasonable estimate. Mining supplies are, however, only a small part of the imports to a district, as domestic supplies are brought in in much larger quantities and there would be a great saving on them also.

The question of the saving to the State as a whole by reducing the cost of transport from cartage to railway rates was touched upon in my report of August, 1905, on the Coolgardie to Norseman/railway project, a proposition which is very much on all fours as regards distance and importance of the district to be served with the Mount Magnet to Black Range railway. It was shown that in that case an annual saving of fully £10,000 would be made on freights, taking them on the tonnage visibly being carried to the Norseman field, and not on any estimate of increased tonnage as would doubtless result from making the railway. I contended then and still hold that this saving is an absolute saving to the national purse, as the people and animals employed in and supported by the carrying trade, and whose subsistence is represented by the cost of freight, are not done away with, but simply turn their energies into other channels, and there again do work earning an equal remuneration to what they had previously. They have been taken from uneconomical work and set free to follow more productive occupations. The freight saved therefore represents a direct gain to the community.

It is quite impossible to make anything approaching an accurate estimate of the amount of saving of freight that is likely to result from the construction of the Black Range railway, as this must depend upon the growth of the mines and of the

population. The best figures I have been able to obtain that permit of any sort of approximate estimate being formed are the following :—

The police give the population of the Black Range district as 770 persons, and that of the Lawlers district as 1,318. The Railway Department gives the tonnage of all goods sent from Mount Magnet towards Black Range for nine months ended 31st March, 1906, as 825 tons, and from Leonora towards Lawlers as 4,260 tons for the same period. For a population of 2,088 people in the Black Range and Lawlers districts 5,085 tons of supplies have gone in from the railway in nine months, or at the rate of 6,780 tons per annum, equal to 3.24 tons per annum per person. This is higher than the figure found in the Norseman Railway inquiry, where for a population of 1,600 persons the quantity of goods carried was taken at 2,100 tons per annum, or 1.31 tons per head. The average of both sets of figures gives 8,880 tons for 3,688 persons, or 2.4 tons per head per annum. As the tonnage from Leonora goes partly outside the Lawlers and Black Range districts, it ought possibly to be divided by a larger figure of population, but it seems reasonable to take at least two tons per head per annum as representing the average consumption of stores brought in

by rail. If we now estimate, as is very reasonable to expect, that at least four of the mines at the Black Range will become employers of from 100 to 200 men each, and that the smaller mines among them will employ 200 more, we get 800 to 1,000 men as likely to be working in the mines, which would mean a population of 3,000 to 4,000 persons on the Black Range field, or say 7,000 tons of supplies to be carried by rail. At the estimated saving in freight of £5 a ton we get the very substantial total of £35,000 per annum. This is, in my belief, a moderate estimate of the saving in freight that would be effected by the railway, though from another point of view it may be regarded as a fanciful figure, inasmuch as if no railway is made the expansion of the traffic to 7,000 tons per annum becomes practically impossible; with the railway it is on the other hand both possible and probable.

Since writing the above paragraph the following tabulated information, very kindly supplied by Messrs. Bewick, Moreing & Co., has come to hand, which serves to show very clearly the great importance to a mine of the item in its costs representing freight; and the large amount of actual tonnage of supplies required to be carried annually for mines of any magnitude.

TABLE VIII.—Showing Expenditure on Railage and Cartage of certain Mines (from figures kindly supplied by Messrs. Bewick, Moreing, & Co., General Managers.)

TWO-YEAR PERIOD, 1904 AND 1905.

Name of Mine.	Average number of men employed during period.	Total expenditure on the mine during period.	Supplies on which railage and cartage charges were paid during period.			Amount paid for carriage during period.						Tonnage of supplies C carried per man per annum.	Average expenditure in cartage of supplies C per man per annum.	Percentage of total mine expenditure required for cartage of C.	
			A. Fire-wood and Fuel.	B. Mining timber.	C. All other goods and machinery.	A.		B.		C.					
						Railage.	Cartage.	Railage.	Cartage.	Railage.	Cartage.				
LARGE MINES NEAR A RAILWAY.															
Great Fingall Con., Ltd.	663	£ 350,942	Tons. 45,102	Tons. 2,107	Tons. 5,069	£ 19,380	£ ...	£ 3,015	£ ...	£ 18,334	£ ...	Tons. 3.8	£ s. d. 13 6 6	% 5.2	
Sons of Gwalia, Ltd.	385	258,739	47,122	1,333	1,669	...	...	...	...	10,427	150	2.2	13 14 9	4.1
Cosmopolitan Proprietary, Ltd.	299	248,780	35,442	507	1,019	484	56	587	127	10,577	203	1.7	8 6 5	2.0	
Lancefield G.M. Co., Ltd.	149	96,834	19,719	171	1,808	...	540	...	714	4,976	1,544	6.1	35 4 6	10.8	
										10,497					
MINES IN LAWLERS DISTRICT DISTANT FROM A RAILWAY.															
East Murchison United Mines	226	117,505	33,798	516	543	...	...	75	205	3,034	2,485	1.2	12 4 2	4.7
Bellevue Proprietary, Ltd.	188	132,390	22,027	103	910	...	...	...	...	5,519	5,460	2.4	29 3 0	8.3
Vivien G.M. Co., Ltd.	84	59,887	10,527	130	408	...	...	540	705	1,781	2,260	2.4	24 1 1	6.7
Oroya Black Range, Ltd. (1 month, 1905, 6 months, 1906)	7 m'ths. 1905-6, 75	...	One month, 1905, 480	6 months, 1906, 78	80	One month, 1905, ...	6 months, 1906, ...	1,245	...	4,041	500	1.3	23 15 0		
										1,039					

The table naturally shows a considerable variation in the average figures, owing mainly to the fact that some of the mines quoted were erecting mining and reduction machinery and buildings during the period quoted, and had, therefore, an abnormal amount of cartage. It is instructive to compare the average costs for the transport of supplies per man per

annum of settled mines alongside the railway, such as the Great Fingall, Sons of Gwalia, and Cosmopolitan, with those of others with 80 and more miles of cartage like the East Murchison United, Bellevue Proprietary, and Vivien, the figures showing very plainly the heavy handicap under which the latter labour. The table also shows what a very notice-

able item in the total expenditure the freights constitute, amounting to 8.3 per cent. of the total for the Bellevue Proprietary, and 10.8 per cent. of the Loncefield. Even in the case of an old established mine like the East Murchison United importing the minimum figure of supplies per man per annum, 1.2 tons, the cost of carriage of these amounts to 4.7 per cent. of the total expenditure, whereas in the Cosmopolitan, with a somewhat larger amount of supplies per man, it is only 2 per cent.

Will a Railway to Black Range Pay?—This is a question that cannot be answered positively, as no one can say with any certainty what will be the extent of the development of the district. We can only look at the position of the various mines and form an opinion as to what magnitude their operations are likely to attain, and go upon that estimate. I have above said that in my opinion a population of 3,000 to 4,000 people would soon be settled at Black Range if the railway were made, and I do not think that the estimate is too high by any means. The cost of construction of the railway and the frequency of the train service would affect the question of the paying nature of the line very much, and will be best dealt with in the reports of the Engineer-in-Chief, and of the Railway Department. For my own part I am doubtful if the line would pay directly if carried only from Mount Magnet to Black Range, though I think it would be well worth making on account of its indirect benefits to the district and to the State, but the position would be much improved by running it through Lawlers to connect with Leonora or Mount Malcolm. The Northern branch to Birrigrin and possibly through to Nannine would, I am afraid, have very little chance of paying working costs until the fields passed through have made great advances beyond their present state of development, but there is much reason for being hopeful that before long it will also be justified.

It has been rather the fashion of late in public and journalistic references to railway construction to lay it down as a maxim that no new line should be constructed unless it can be demonstrated that there is existing traffic which would guarantee payable returns, that is returns sufficient to pay working costs, and interest on and redemption of capital sunk in construction. This is quite too much to hope for in new lines in new country, for it is usually only after the railway has gone through that it is possible for the population to become settled along it that will make it a payable proposition. The railway is a pioneer to open the country for settlement, and to my mind the question is, not traffic in actual sight, but is the country to be opened of such promise as to give reasonable grounds for believing that it will develop so as to support a railway soon after the latter has been constructed. From this point of view the railway from Mount Magnet to Leonora or Mount Malcolm *via* Black Range and Lawlers is, in my opinion, thoroughly justified.

A consideration which it seems to me should carry considerable weight is that in Western Australia pioneer railways can readily be made to take the place of the public roads which in most other countries have to be constructed at large expense to open new districts, but which are not expected to bring in direct revenue. The cost of these per mile in rugged country is often quite comparable with that of our railways. It is fairly arguable therefore that this State can afford to spend on railway construction for development purposes sums similar to those which its neighbours have to expend on roads, without demanding an immediate return.

I have, etc,

A. MONTGOMERY, M.A., F.G.S.,
State Mining Engineer.

APPENDIX No. 1.

Information re Cue-Day Dawn Mines Firewood requirements, supplied by the Cue Chamber of Mines.

11th April, 1906.

A. Montgomery, Esq.,
State Mining Engineer,
Perth.

Dear Sir,—

As arranged at our meeting of yesterday, I herewith enclose you copy of figures *re* Firewood Supply to this district, as supplied by the Chamber of Mines Local Branch.

I might say for your benefit that at the present time I am paying 32s. per cord for wood supplied here, and 31s. 6d. for wood at the East Fingal Gold Mines, Ltd. The Cue mines range from about 28s. to 30s. per cord.

Trusting that you will use your best endeavours to run out a wood line as soon as possible,

I remain, etc.

The Murchison Associated G.Ms., Ltd.

(Sgd.) ROBERT TYLER,
Manager.

Approximate Cost of Firewood.

	Ton.		Cord.	
	s.	d.	s.	d.
Wood Siding to Cue, 30 miles at 1d. per ton per mile	2	6	...	...
Cue to Day Dawn, 4 miles at 1d. per ton per mile	0	4	4	11½
Cost of wood at siding, approximately	11	0	19	3
	13	10	24	2½

Per ton, 13s. 10d.; per cord, 24s. 2½d.

Contractors' Profit (approximately).

	s.	d.
Cutters	9	0 per cord.
Carting	5	0 per cord (from radius of five miles).
Loading	1	6 per cord.
	15	6 per cord.

Profit, 3s. 9d. per cord.

N.B.—The cord is estimated at 35cwt.

CUE AND DAY DAWN FIREWOOD SUPPLY.

On an estimated consumption of 75,000 tons of firewood per annum, made up as per accompanying statement, the Government by running the Black Range railway from Cue would acquire a yearly revenue of £10,280 16s. 8d., which is made up as follows:—

Wood siding 30 miles from Cue. Freight on wood 1d. per ton per mile = 2s. 6d. per ton from siding to Cue, which, on 75,000 tons = £9,375.

This amount would be increased by the Day Dawn mines having to pay 1d. per ton per mile extra from Cue to Day Dawn. This, on 54,350 tons, would amount to £905 16s. 8d. per annum, making a total of £10,280 16s. 8d. per annum.

The Murchison Associated G.Ms., Ltd.
(Sgd.) ROBERT TYLER,
Manager.

Approximate Consumption of Firewood by Cue and Day Dawn Mines.

Name of Mine or Company.	Cords per month.	Cords per year.	Tons per month.	Tons per year.
Great Fingall Con., Ltd. ...	1,738	20,857	3,041.66	36,500
Murchison Associated G.M's, Ltd.	250	3,000	437.50	5,250
East Fingall G.M's Ltd. ...	200	2,400	350.00	4,200
Kinsella G.M. No-Liab. ...	150	1,800	262.50	3,150
Trenton G.M. ...	150	1,800	262.50	3,150
Crete-d-Or' and others ...	100	1,200	175.00	2,100
Cue One G.M. ...	334	4,008	584.50	7,014
Light of Asia G.M. ...	200	2,400	350.00	4,200
Salisbury G.M. ...	150	1,800	262.50	3,150
Cue Victory and others ...	300	3,600	525.00	6,300
Total ...	3,572	42,865	6,251.16	75,014

APPENDIX "L."

NOTES ON THE GUM CREEK MINING LEASES.

The Under Secretary for Mines, Department of Mines, Perth.

Sir,—

For the information of the Honourable the Minister for Mines, I have the honour to submit a few notes on the state of mining at Gum Creek, a centre to which I made a short visit on the 13th and 14th of May last.

The leases are easily reached by following the road from Nannine towards Wiluna for about 64 miles, from the former township to where it is crossed by the rabbit-proof fence, and then going Northward along the fence for from three to seven miles. They are scattered over a belt of greenstone country running apparently North and South along the fence. Two or three miles to the West the country changes to granite, of which there is a large area then extending to close to Gabanintha. South of the leases along the fence the country becomes very flat, with the bed rock rarely showing, and is much covered with ironstone gravel for 10 or 12 miles. In the ground where the discoveries of reefs have been made, the greenstone bed-rock crops out frequently, and the surface is much covered with stones of greenstone, ironstone, and quartz. There are many outcrops of quartz, some of which have proved gold-bearing. The greenstone rock is often very distinctly schistose in structure, the lamination striking North 15deg. West at one place where I tried the compass on a particularly distinct outcrop. The field is, therefore, quite similar in geological structure to most of the other gold-producing areas of the Murchison Goldfield.

Cardigan G.M.L., 501N.—The 329-mile peg of the rabbit-proof fence stands nearly on the middle of this lease. Two shafts have been sunk, one about 100ft. on the underlay of the reef, the other, 95ft. vertical. Fresh water was struck at 80ft. deep, and though the supply is not a large one, it is still a great drawback to the prospectors in sinking deeper. The reef is a small one of somewhat laminated quartz, eight inches to three feet wide, averaging about two feet wide in the part stoped out, which is about 50ft. long from the 80ft. level up to 30ft. from surface. About 300 tons of stone have been raised, estimated

by the prospectors to be worth over an ounce of gold to the ton. The country is soft-weathered greenstone schist, but hard greenstone is met with in the North end. In the bottom level the footwall of the vein is much broken and full of quartz veins, from which some good bunches of ore have been taken. Some cross-cutting is very desirable to define the width of the zone of fractured country, as the lode may be really much wider than the quartz vein which has been worked.

Another small vein of quartz seen some 100 yards East of these workings has a shaft on it down 35ft., and it is from three to 18in. wide, averaging about six inches. Twelve tons of stone from this crushed at Quinn's are stated to have returned 58ozs. 17dwts. of gold, with tailings assaying 17dwts. per ton.

Some dry-blowing has been done on the surface of the Cardigan Lease, one slug being obtained weighing 18oz. 17dwts., which yielded 16½oz. of melted gold.

Cardigan North G.M.L., 536N.—The workings on this lease are on a small reef parallel to the above, lying further to the North-West. A shaft is down 112ft. vertically, and two others 50ft. and 90ft. The vein of quartz is under 12in. in width. Water level is at 80ft., the water being fresh, and only in small quantity.

Cartage to the battery on the "Gladstone" Lease costs 6s. a ton, but the prospectors informed me that this would probably be raised, as it did not pay the carters.

Pretty Polly G.M.L., 576N.—This lease is one and a-quarter miles South of the Cardigan. It has a reef running North 60deg. East, and dipping 45deg. to South-East. A vertical shaft has been sunk 72ft., reaching water level at 60ft. The water is fresh, and there is said to be a good deal of it, too much for the prospectors to cope with in sinking. An underlay shaft has also been sunk to the water level, and a good deal of stoping has been done. The vein is only small, from six to eight inches in thickness, but is very distinct with smooth, well defined walls. The country is very white kaolinic matter, possibly

weathered felsite. About 50 tons of stone has been raised, some of it of good quality. A great deal of dryblowing has been done on surface close to here. Cartage to the battery costs 6s. a ton.

Pick-me-up G.M.L., 587N.—Two shafts have been sunk a short distance from one another on reefs one to four feet thick, running nearly North and South. It is not yet certain whether the reefs are identical or two separate parallel ones, but the latter seems more likely, as in the South shaft the underlay is East, and in the North shaft to the West. The latter is 45ft. deep, the former 98ft., without finding water. About 50 tons of stone had been raised, believed to be of fair quality by the prospectors. Cartage to the battery costs 5s. a ton. The country is schistose greenstone.

About four chains North of these workings there is a big outcrop of quartz on about the line of these reefs, but no gold appears to have been seen in it.

P.A. 170N (Jay and Jensen).—These prospectors have a shaft down 70ft. on a reef running North and South, from one to two feet wide, underlaying about 1 in 6 to the East. The stone is solid clean quartz, with pyrites and some visible gold. About 100 tons were at grass. The country is weathered greenstone schist.

Another reef on the same holding has a shaft sunk close on 40ft. deep, and 10 to 15 tons of stone have been paddocked from it.

Gladsome G.M.L., 590N.—Two shafts have been sunk about 106ft. deep on a nearly vertical reef running North-West and South-East, and up to three feet thick. About 240 tons of stone were at grass, but said to be rather poor. The country is brown schistose greenstone.

A five-head battery has been erected on this lease by Messrs. Nicholson, Mahony, and O'Donahue, and is crushing for the public under an agreement with the Government whereby they charge 18s. a ton to the prospectors, and receive a subsidy of 2s. a ton from the Government. One of the shafts mentioned is used for the battery water supply. The water level is about at 60ft., and the supply at 106ft. from

surface is about 350 gallons per hour. The water can be drunk by stock, but is not good enough for human consumption, containing, I was told, .456oz. of solids per gallon. The tailings from the copper tables are raised by a small tailings wheel so as to run to sand and slimes dams, but are not yet cyanided.

Output of Gum Creek to 30th April, 1906, as reported to the Mines Department.

Lease No.	Name.	Alluvial.	Dollied.	Ore crushed.	Gold therefrom.
		Fine Ozs.	Fine Ozs.		
536	Cardigan, North	...	...	12'50	12'92
501	Cardigan	...	...	12'00	49'83
576	Pretty Polly	25'27	15'12	...	...
	Alluvial	18'29	...	...	...
	Sundry Claims	...	...	19'00	24'30
	Total	43'56	15'12	43'50	87'05

The Gum Creek District is in a very elementary stage of development, and not very many reefs have yet been found. Unfortunately, those that have proved to contain good values are small in size so far as yet found, the larger reefs being of rather low-grade. At the time of visit the prospectors were in many instances waiting the results of crushing the stone they had already raised in order to know whether it would be worth while persevering, and there was a great likelihood that the battery would soon get through all the quartz on hand. It is now possible for prospectors, however, to get reliable milling trials, and there is a fair amount of hope that they will now find themselves able to work more energetically, and to open up new reefs. The district evidently is an auriferous one, and it cannot be expected that all the good reefs have been already located. Present prospects of the field are not very bright, but there is no reason to be too dubious about the future.

I have, etc.,

A. MONTGOMERY, M.A., F.G.S.

State Mining Engineer.

APPENDIX "M."

NOTES ON SOME OF THE MINES AT MEEKATHARRA.

The Under Secretary for Mines, Perth, W.A.

Sir :—

When in the Nannine district lately looking into the question of the routes for a railway to the Black Range District, I thought it advisable from a Departmental point of view to take the opportunity of making myself generally acquainted with the state of mining at Meekatharra, and therefore paid a short visit to that centre on 16th and 17th May. There was no time for a minute examination of the mines, and the purpose of my visit did not require such, but I saw as many of them as I could, and now submit for the information of the Hon. the Minister for Mines some notes on the district. It was fully reported upon in 1904 in Bulletin No. 14

of the Geological Survey of W.A., by the Assistant Government Geologist, Mr. Gibson, who visited the field in the latter part of 1903. His report described the structure of the district, and contains a good map showing the relative positions of the principal lodes, and also gives a number of figures illustrative of notable features met with in them. A great many leases have been taken up since Mr. Gibson's report, and there has been great activity in the district, which at present attracts probably more public attention than any other of the Murchison mining centres, except Day Dawn.

Meekatharra lies at some elevation above the adjacent plains, on flat ridges of greenstone, much

covered with iron oxide and quartz gravel, and in parts with fragments of dark laminated hematitic quartz and jasper. A long belt of jasper, apparently splitting into three separate lodes at the Southern end, is a prominent object on the Geological Survey map.

The elevation of the country causes the water level to be somewhat deep, and is also probably the cause of the very scanty supply of water that has been found in the numerous bores put down in the district in search of it. Possibly a supply may be obtained by deeper sinking on some of the lodes, but hitherto want of a good water supply for battery purposes has been greatly against the progress of the field. After much boring all round Meekatharra it has been finally found necessary to go nine miles away, to Garden Gully, to get a reliable and copious water supply.

Haveluck Consols 553N (formerly "Haveluck South.")—This lease and its neighbour to the South, the Haveluck 236N., are on two large parallel lodes lying close together, running North 30deg. East, and underlying somewhat flatly South-Easterly. The underlay gets steeper going downwards in the workings. The lodes are separated by from 8ft. to 15ft. of country, which possibly will prove to be only a large "horse" in one large lode. The lode walls are well smoothed, and are very distinct, but the lode-matter itself often differs very little in appearance from the wall rock. This is soft whitish, kaolinic material, which, from its similarity to several other occurrences of the same sort in other parts of the State, I suspect may very likely prove to be a weathered felsite dyke. The kaolin is often much laminated, almost schistose. The lode-stuff is a mixture of kaolin and quartz, being sometimes nearly all quartz, at other times nearly all kaolin, the quartz being in irregular bodies through the material, and is from 9ft. to 14ft. wide. The owners told me that about 1,500 tons had been crushed for a return of from 6dwt. to 7dwt. per ton by amalgamation alone. Owing to the kaolin a great part of the material goes to slimes in the mill, and is very readily crushed. They were crushing some of it at the State Battery at the time of my visit, at time rates, paying 16s. an hour for the use of the mill, and putting through about two tons an hour. This parcel of 400 tons is since reported to have returned 94ozs. of gold or at the rate of 4dwts. 19grs. per ton. The owners told me that the values were very variable, and that it was not possible to pick out the good stuff—the whole had to be treated in bulk. They showed me some very fair panning prospects from the stuff being raised.

One shaft is down to water level at 172ft., but most of the workings are above the 100ft. level as yet; at the 172ft. level the lode is said to be equally large, but still of low grade. It has been proved by workings for about 12 chains in length, and the prospectors consider that it will average 9ft. in width of payable ore. It is impossible in a casual visit to form any just opinion of such a mine as this, where no notion can be got of the value of the ore in sight without very extensive sampling, but the fact speaks well for it that nearly every thing taken from the large excavations underground has been crushed with returns that give promise of payable results if the mine were worked on a large scale. There seems every reason to feel assured that there are very large quantities of similar

material to be obtained, and though the value is poor the conditions for cheap working, if there were a mill on the spot, are very good indeed, and a small return should be payable. The stuff may be cheaply mined, being large, and very easily milled. Much of it could be treated by a puddling process without the use of stamps at all, and when sufficient water becomes available the best treatment for the stuff from the shallowest levels will probably be a combination of puddling, to get rid of the soft clay, with stamp milling of the quartz and harder headings from the puddlers. Thorough thinning of the overflow from the puddlers with an ample amount of water will however be essential to enable the fine gold suspended in the clayey slime to be caught by amalgamation, and a large supply of water is therefore indispensable.

Haveluck, 236N.—On this lease there are similar ore bodies to those just described, and a shaft is down 178ft. to water level. I, unfortunately, missed meeting the owners of this mine, and did not go underground, but I understand that the lodes and occurrences of gold are quite similar to those of the adjoining mine.

Pioneer, 372N.—This lease adjoins the State battery reserve on the South side, and has three or more reefs that have been worked. These reefs belong to a group known locally as the Middle line, the Haveluck reefs being the Western line, and the Marmont, Ingliston Extended, and Commodore group being the Eastern line. The position and relations of these groups are very clearly shown on the geological survey map. This also shows at a glance the complex group of reefs of the "Middle line" in the Pioneer, Pioneer group, St. George, and Ninety-three leases. The main reefs run North-North-Easterly, but there are branches from these running East-North-Easterly and North-North-Westerly. There are several very large outcrops of quartz belonging to these reefs.

On the Pioneer a fine main shaft has been sunk, 12ft. x 4ft. in the clear, and was having a Cornish pumping plant and winding machinery erected upon it at the time of my visit. No work was going on underground. I learned that when the pumping plant was ready it was intended to sink the shaft deeper to get a water supply. The plant appeared to be a very good serviceable outfit for permanent mining.

No. Ninety-Three, 93N.—On this lease there is a huge outcrop of quartz, said to be upwards of 100ft. in width in places, the great width being possibly due to junctions with branch lodes. A large amount of work has been done in open cut and underground workings, several shafts having been sunk and a good deal of driving done therefrom. Two of the shafts are down 160ft. to water level. A large open cut has been excavated under the big outcrop to a depth of about 70ft., and several drives and crosscuts made from it, showing a great width of quartz. Some of the quartz is quite granular. The wall rock is kaolin in the open cut, but a short distance to the South a shaft is sunk in greenstone schist. Some quartz porphyry is seen in one of the shafts to the North, and I am inclined to think the reefs will prove to be very closely connected with an intrusion of this rock through the greenstone, if the quartz is not indeed in whole or in part a transmuted quartz porphyry. Some 3,000 tons are said

to have been crushed from this lease since it was first taken up for a return of about 1,800ozs. of gold, which shows that this huge lode is one worthy of close attention. The owner of the lease informed me that gold was obtainable in a great many parts of the workings, but that the values were very variable. Under present circumstances a prospector working such a lode on a small scale can only pay his way by picking the richest ore, but it seemed to me that this proposition was well worth examining by investors able to work it on a large scale in bulk. It would require very extensive and thorough sampling, and a good deal of exploratory development work, to prove if there exist large enough bodies of ore of payable grade through the enormous masses of visible quartz to justify mining on an extensive scale. Worked as a low-grade mine in a large way, there seems, on a casual inspection, very considerable hope that it might be a very payable concern, and it seemed to me well worth testing in the thorough, and expensive, manner necessary to prove if it is so or not.

Ingliston Extended Gold Mines, Ltd., 398N, 437, 462, 529, and 539.—This mine is now worked by a company, and has been equipped with iron poppet heads, a winding plant, and a 10-head mill with cyanide plant. The lode runs North-Easterly with underlay to the South-East, and is a large soft "formation" up to 30ft. wide, of clayey material full of veins and masses of quartz, resembling in this the Haveluck lode. The clay in this case is of brown colour, not white, and the wall rock appears to be greenstone schist. The main shaft is down 220ft., and has levels at 110ft. and 210ft.; there is also an old level at 80ft. from prospecting shafts. The bottom of the shaft is in very hard diorite. The crosscut at the 210ft. level was being extended through the lode to try to get a battery water supply; at the time of my visit there was little water, only about 220 gallons per hour, but it is lately reported in the newspapers that a good supply has been struck (*West Australian*, 17-7-6). The crosscut gets into weathered greenstone schist very soon after leaving the shaft, before striking the "lode." This is a wide formation of clayey, broken country, without very clearly defined walls, distinguishable from the wall rock mainly by its carrying values in gold. In the 110ft. level it has been driven along for a considerable distance, carrying payable values. The stuff is very clayey, and forms a great deal of slimes when crushed, and I was informed that the extraction of the gold by amalgamation was only about 30 per cent. of the assay value. A copious water supply is much needed to enable the treatment to be carried out to advantage. Much of the ore could be treated by puddling without stamping, as suggested above in the Haveluck case.

The table given below shows that very fair returns have been lately obtained from this mine, and it bids fair to become an important gold producer. In many ways it closely resembles "Eaton's Lode" and some others of the "lodes" under the Kanowna North Lead, and it will be very interesting to find if the gold persists when the lode material gets hard, as it must be expected to become at greater depth.

Ingliston Consols Extended, 475N.—From the Geological Survey Map it seems probable that the lode traversing this lease, and the Fenian and Marmont Mines South of it, may be the same as that

worked in the Ingliston Extended, though in the former the lodestuff differs materially, in having the values contained in strong solid quartz instead of being largely in the soft clayey material. In all of the first-mentioned mines, however, it seemed to me that the quartz veins were only part of the lode formation, occurring rather irregularly in a wide belt of shattered rock, which might very well correspond with the formation in the Ingliston Extended.

The main shaft of the Ingliston Consols Extended has been sunk 200ft., or 55ft. below water level, and a pump was being put in by the Ingliston Extended Co., under arrangement to pump the water to their battery. There are three shafts altogether, and levels have been opened at 60, 120, and 150ft., and a lot of work has been done at each level. The lode runs North-North-Easterly, underlaying to the South-East. The footwall is pretty distinct, and well smoothed, but the hanging wall is not clearly seen, though it is evident that the shattered line of country is of some width. In this shattered belt the quartz is found in somewhat irregular bodies, usually eight to 20in. wide, but sometimes three feet or more. Cross veins are also often seen. The values are mainly in the quartz, which is nice solid stone, often carrying pyrites, and showing gold pretty freely. The crosscut at the 150ft. level through the "formation" is said, however, also to carry gold, and to be nearly of payable value, so it is probable that values may often exist if looked for outside the quartz veins in the softer clayey material. Some very good crushings have been got from this mine, as shown by the returns in the table below.

Fenian, 477N.—On this lease there are four shafts from which the lode has been worked down to the 150ft. level (water level). The lode, as in the Ingliston Consols Extended, is a fairly wide belt of shattered country, but the vein carrying the values is a small one of solid quartz, which bends about in the lode in a manner often making it difficult to trace. It has been very rich, however, as the returns recorded hereunder show. The lode is traced through the lease from the Ingliston Consols Extended in the North, to the Marmont in the South.

Marmont, 533N.—Two whip shafts have been sunk for hauling purposes to the 140 and 90ft. levels respectively, and there is a winze down about 50ft. from the 90ft. level. In these workings the lode is more clearly defined than in the two leases North, and is seen to be a wide shattered formation or zone, full of veins and "makes" of quartz in irregular shapes. There is a large amount of quartz to be seen, the "makes" being often of considerable size. In one crosscut there was stuff, mainly quartz, for 28ft., said to have returned 14dwts. per ton over the battery plates. In another crosscut at the 100ft. level there were 53ft. of quartz, very rubbly, with some rich leaders. A large amount of work has been done following the veins of quartz, and there is now a good quantity of ore in sight. Looking at the experience of the Ingliston Extended and Haveluck, that the values often are found in the clayey material as well as in the quartz, I am not satisfied that enough has been done in this mine to test the "formation" in parts where there is little quartz. I was told on the field that fire assays were often necessary to reveal the gold in some of the clayey material, as ordinary panning tests gave no results with stuff of fair assay value. This is not uncommon with very fine

gold enclosed in clayey material. The footwall of the formation is well defined and smooth, but the hanging wall is not clear. This mine seemed to me to have very good prospects, there being a large amount of good ore in sight, and probably a much larger amount of low-grade stuff. There is so much quartz through the formation that I think there is

a very fair chance of a large solid body of it being found below the water level. The stone at grass is of good quality, and the returns tabulated below show very favourably.

The owners propose to sink a new main shaft, which is much required for the proper working of the mine.

TABLE I.
Output of Meekatharra to 30th April, as reported to the Mines Department.

Lease No.	Name of Mine or Lease.	Alluvial.	Dollied.	Ore crushed.	Gold therefrom.
		Fine ozs.	Fine ozs.	Tons.	Fine ozs.
372N	Pioneer ... ..	...	...	3,342·75	3,570·31
93	93N ... ..	...	...	2,700·00	1,551·62
398	Ingliston Extended ... ..	...	...	2,168·25	1,684·91
236	Haveluck ... ..	...	...	2,073·75	1,636·06
283/4	Commodore leases ... ..	...	...	1,775·75	2,453·86
513	Haleyon ... ..	...	2·11	1,610·25	1,005·61
279	Havelock South ... ..	...	...	1,297·25	633·08
475	Ingliston Consols Extended ... ..	...	...	1,132·25	3,597·88
592	Haveluck Proprietary ... ..	...	...	1,072·00	302·25
477	Fenian ... ..	...	...	1,006·75	4,404·15
533	Marmont ... ..	...	...	676·50	1,827·48
323	St. George ... ..	...	...	620·75	268·55
425	Democrat ... ..	...	...	565·50	207·89
363	Ingliston ... ..	...	...	347·00	457·34
416	Phantom ... ..	...	...	243·00	218·16
553	Haveluck Consols ... ..	...	...	195·00	70·60
246	Sirdar ... ..	...	54·82	190·25	143·37
402	Phoenix No. 1 ... ..	...	...	178·08	166·39
426	Pioneer South ... ..	...	...	158·00	124·63
486	Haveluck North No. 1 ... ..	...	...	133·75	37·94
555	Commodore Block ... ..	...	...	120·00	609·54
551	Revenue South ... ..	...	...	113·75	70·05
507	Ingliston United ... ..	...	...	108·25	88·79
597	Commodore ... ..	...	...	86·00	253·69
488	Lost Cop ... ..	...	...	80·00	32·50
534	Revenue West ... ..	...	...	67·50	24·45
541	Revenue North ... ..	...	...	49·00	25·64
535	Beverley ... ..	...	...	44·25	6·94
560	Rajah ... ..	...	...	41·00	7·20
	New Orleans... ..	...	...	27·00	12·82
568	Revenue East ... ..	...	...	18·15	1,076·49
578	Batavia ... ..	...	...	16·00	14·17
545	Eastern Revenue ... ..	...	...	15·50	17·85
532	Broomehill ... ..	...	...	15·00	4·06
579	Kelby South ... ..	...	...	10·50	13·22
531	Revenue ... ..	...	...	·37	1,173·55
556	Revenue North Extended ... ..	...	4·87	...	...
	Alluvial	81·58	...	...	...
	Voided leases ... ..	...	...	1,057·00	645·11
	Sundry claims ... ..	...	101·17	312·75	254·26
	Total	81·58	162·97	23,668·85	28,742·36

TABLE II.
Ore crushed at the Meekatharra State Battery since 1st January, 1906.

Name of Mine.	Tonnage.	Gold returned.
	Tons.	Ozs. dwts. grs.
Ingliston Consols Extended	404·00	686 8 0
Marmont	402·00	1,478 8 0
Haveluck Consols	400·00	94 0 0
Fenian	365·00	1,751 17 0
South Block	257·00	153 6 0
P.P.A. 167N	36·00	20 8 0
New Orleans	27·00	13 12 6
Revenue... ..	·10	529 16 0
Total	1,891·10	4,727 15 6

Several other leases are being prospected besides those above described, but these were considered the most important, and time did not permit me to visit the others. It is seen, however, that the Meekatharra Field is notable for two features, first, the high value of the smaller quartz reefs that have been worked, and, secondly, the common occurrence of large auriferous "formations," some of clayey nature, some mostly of quartz, carrying enough gold to be of economical importance. In the Marmont and adjoining leases it is seen that the rich veins are parts of one of the large "formations," probably the same as is worked in the Ingliston Extended in soft material. The rich veins in the Pioneer and Ninety-three also seem to be in very close relation to the large low-grade bodies of quartz in their vicinity. These richer veins seem, therefore, best to be regarded as portions of the large lode rather than as independent reefs, and I think this conception of them will be found often to aid very much in understanding their vagaries. Frequent crosscutting through the "formation" is very desirable, in order both to prospect them and also to get a proper understanding of their characteristics, and probably a good many "makes" of quartz would be so found that would be otherwise overlooked.

The problem of treatment of low-grade clayey material is prominent at Meekatharra. Much of the raw slimes produced by milling is very clayey, and likely to prove difficult of treatment in filter-presses, very thin cakes being probably all that can be made, thus increasing the cost of the treatment. Actual trial of some tons of the material in filter-presses with various thicknesses of cake is very advisable before anyone undertakes to put a filter-press plant down on the ground for treatment of the slimes, so that it can be known with certainty beforehand if success is possible. Until experimental trials have been made I should regard it as very uncertain if these slimes could be dealt with profitably by filter-pressing. Decantation treatment seems more promising, and if successful on tailings it could probably be applied to some of the clayey ores by an almost direct process, using cyanide solution during the puddling of the ore instead of water. There seems possibilities of success attending experiments along this line of treatment.

I have, etc.,

A. MONTGOMERY, M.A., F.G.S.
State Mining Engineer.

Report of the Board of Examiners for Colliery Managers and Under-Managers' Certificates under "The Coal Mines Regulation Act, 1902."

To the Under Secretary for Mines, Department of Mines, Perth.

Department of Mines, Office of the State Mining Engineer,
Perth, 3rd April, 1907.

SIR,

We have the honour to forward to you, for the information of the Hon. the Minister for Mines, the following report of the above Board for the year 1906 :—

The Board held two meetings during the year, on 20th April and 18th October. First-class Certificates of Competency were issued, without examination, on proof being given that the applicants were already the possessors of equivalent certificates of other countries, to Messrs. Angus McDonald, Henry Wright, William Hutchinson, and George Leitch, and a second-class certificate to Mr. Oswald Baird.

An examination in writing for First-class Certificates of Competency was held at Kalgoorlie and Collie on the 3rd, 4th, and 5th April, at which three candidates presented themselves. Only one, Mr. James Whitfield, passed, and having also subsequently passed the oral examination, a First-class Certificate of Competency was issued to him. The candidates who failed in the written examination

were not called upon for oral examination, the Board considering that this could not affect the result sufficiently to alter the conclusion arrived at from the answers in writing.

A written and oral examination for Second-class Certificates of Competency was held at Collie on 2nd October, when two candidates presented themselves for examination, but both failed to pass.

Copies of the papers set at the examinations in writing are appended hereto.

We have, etc.,

A. MONTGOMERY,
Chairman.
A. GIBB MAITLAND,
Member.
T. D. BRIGGS,
Member.

JAMES H. DURES,
Secretary.

COAL MINES REGULATION ACT, 1902.

Examination for First Class Certificates of Competency

SUBJECT :—ARITHMETIC.

Tuesday, 3rd April, 1906, 10 a.m. to 11 a.m.

Possible Marks.	
25	1. Reduce $\frac{1}{3}$ of $\frac{2}{3}$, $\frac{1}{5}$ of $\frac{1}{2}$, and $\frac{1}{4}$ to equivalent fractions having a common denominator.
30	2. The brushing of a road costs 8s. 6d. per fathom. Coal is 4 feet thick and weighs 18cwt. per cubic yard; stalls are 16 yards wide; yield of round coal is 80 per cent. Find cost per ton of round coal for brushing,
35	3. If 10 men dig a trench 100 yards long, 12 feet deep, and 3 feet wide in 25 days, how many men will be required to dig a trench 120 yards long, 10 feet deep, and 8 feet wide in 10 days.
40	4. A mineowner sold $\frac{1}{3}$ of $\frac{3}{4}$ of his mine to one person and $\frac{2}{3}$ of the remainder to another, receiving, as the amount of both sales, £20,500, what is the value of the part he still possesses?
30	5. Required the square root of the following numbers:—915848, 3, 85 $\frac{1}{2}$.
40	6. Required the cube root of the following numbers:—1295029, 959, $\frac{1}{125}$.
200	

SUBJECT :—SURVEYING.

Tuesday, 3rd April, 1906, 11 a.m. to 1 p.m.

Possible Marks.	
40	1. Give a concise description of how you would proceed to adjust a transit theodolite.
30	2. What method would you adopt to locate a mine, from the pithead of which a survey station is visible but not accessible.
30	3. How would you commence a survey of the underground workings of a coal pit upon which there are two shafts, the downcast or winding shaft being 26 feet in diameter and the upcast 18 feet in diameter, the latter being inaccessible owing to the fact that there is a furnace at the bottom and a stack at the top.
30	4. Describe the method adopted in carrying out the levelling of a dip heading sunk from the outerop. Illustrate your description by field book entries assumed to have been made at 20 stations. Work out and plot the section.
30	5. How many tons of coal per acre will there be contained in a seam 7 feet 3 inches in thickness, parted by a shale band of 6 inches, and how much round coal would be available after allowing 3 $\frac{1}{2}$ per cent. left in pillars and 28 per cent. lost in smalls.

SUBJECT:—SURVEYING—*continued.*Possible
Marks.

- 40 6. Draw a plan of a portion of a mine worked from a vertical shaft, one half being laid out on the long-wall system, and the other upon the pillar and stall.
- Indicate the ventilation and drainage systems.

200

SUBJECT:—GEOLOGY.

Tuesday, 3rd April, 1906, 2 p.m. to 4 p.m.

Possible
Marks.

- 15 1. State the reasons why a knowledge of Geology is of value in Coal Mining.
- 15 2. Define the terms:—Anticline, Syncline Formation, Bed, Seam, Joint, Dip and Strike.
- 15 3. What is a fault? Describe the two principal classes of faults, stating which is of the most frequent occurrence, and the effects produced by each upon coal seams.
- 15 4. How would you account for no coal being cut by a bore put down beside a fault when the seam was known to exist upon both sides of it?
- 20 5. In what essential points do lignites and brown coal differ from bituminous coals, and how do the latter differ from Anthracite?
- What are caking and non-caking coals and how do they differ in chemical composition?
- 20 6. Write a concise geological description of some Coalfield with which you are acquainted, and illustrate your answer by a section across the Field.

100

SUBJECT:—THE COAL MINES REGULATION ACT, 1902.

Tuesday, 3rd April, 1906, 4 p.m. to 5 p.m.

Possible
Marks.

- What does the Act require regarding:—
- 20 1. Use of Safety Lamps in certain places?
- 20 2. Establishment of Special Rules?
- 20 3. Signals and manholes on inclines and planes?
- 20 4. Notice to be given of Accidents?
- 20 5. Ventilation?

100

SUBJECT:—MACHINERY.

Wednesday, 4th April, 1906, 10 a.m. to 1 p.m.

Possible
Marks.

- 40 1. Water has to be pumped from a depth of 1,200 feet at the rate of 250 gallons per minute. What horse power of an engine will be required?
- 25 2. Describe the working of a self-acting cut chain incline.
- 40 3. Water has risen 50 fathoms up a 20 feet diameter shaft; the feeder is equal to 300 gallons per minute. How long will an 18 inch diameter pump of 10 feet stroke, and making 8 strokes per minute, be in lowering the water?
- 25 4. Why are wire conductors for Colliery Cages now so generally used in preference to rigid conductors either of iron, steel, or wood?
- 20 5. Describe an arrangement for guiding the bucket or kibble in a sinking pit?
- 35 6. What is the calculated horse power of a winding engine to raise 1,000 tons from a depth of 250 fathoms in 10 hours? And what horse power would you prefer in practice?
- 20 7. Explain why there is a tendency to freeze in cylinders of engines worked by compressed air.
- 30 8. State generally what you consider the advantages of electricity as applied to mining operations and the present drawbacks, if any, to its more extended application.
- 35 9. What is the effective horse power of an engine to haul a train of 12 full trucks up an incline 1,000 yards long dipping 1 in 5, in 5 minutes; the trucks weighing each 5 cwt. when empty, and holding 10 cwt. of coal; leaving out weight of rope and allowing $\frac{1}{10}$ for friction of trucks and rope?
- 30 10. Describe by sketch, giving measurements, the seating of a Lancashire Boiler 30 feet long and 8 feet diameter. Describe the fittings on the boiler and the directions of the heated gases?

300

SUBJECT:—MINING OF COAL.

Wednesday, 4th April, 1906, 2 p.m. to 5 p.m.

Possible
Marks.

- 25 1. A seam of coal 6 feet thick at a depth varying from 600 to 800 feet is to be worked by bord and pillar. Give the widths of excavations and pillars, showing clearly how you would extract the latter.
- 20 2. Which system of working pillar and bord or long wall is most easily and effectively ventilated? Give reasons.
- 15 3. Describe the means you would adopt to secure wire guides (or conductors) to the head-gear, and your arrangements for keeping the guides sufficiently rigid.

SUBJECT:—MINING OF COA — *continued.*

- Possible Marks.
- 25 4. Make a sketch of some method of coal working with which you are familiar, showing at least six working places. Show how the reef is supported and mode of ventilation.
 - 20 5. Some underground workings are liable to take fire by spontaneous ignition. What is the reason of this? and what are the principal courses to be taken in order to avoid danger to life in such mines?
 - 20 6. Describe a good long wall system of working for moderately steep seams.
 - 15 7. Describe the system of boring with the Diamond Drill.
 - 20 8. What are the chief sources of danger to sinkers and how should they be guarded against?
 - 20 9. What are "blow out shots," and what dangers attend them?
 - 20 10. Make sketches showing side and end view of an overcast capable of passing 40,000 cubic feet per minute. Give measurements.
 - 20 11. On what principle do the safety lamps depend? Make a sketch of a good type of modern safety lamp.
 - 20 12. What is the pressure per square inch due to a column of water 40 fathoms in height?
 - 20 13. Describe a bricking curb and the method of fixing the same.
 - 15 14. Describe a "garland curb"?
 - 25 15. Sketch and describe some method of working highly inclined seams of coal?

300

SUBJECT:—VENTILATION AND DANGEROUS GASES.
Thursday, 5th April, 1906, 10 a.m. to 1 p.m.

- Possible Marks.
- 35 1. A steam jet and a fan both acting together on the air in an upcast shaft produce 50,000 cubic feet per minute; when the fan is stopped the jet produces 10,000 cubic feet; what would the fan alone give?
 - 30 2. A fan is running at 98 revolutions per minute, and gives 290,000 cubic feet of air per minute in the fan drift with a water gauge of 4 inches. The indicated horse power of the engine is 240. What is the horse power in the air, and what is the percentage of useful effect?
 - 25 3. State what you know about the explosive properties of coal dust, and what precautions you would take in working a dry and dusty mine.
 - 25 4. A mine has 50,000 cubic feet of air per minute circulating; what increase of water gauge and what increase of power would be required to circulate 200,000 cubic feet of air per minute?

SUBJECT:—VENTILATION AND DANGEROUS GASES—
continued.

- Possible Marks.
- 25 5. It is found that the effective horse power of a fan is 60; the water gauge reads 2.4. Required the quantity of air circulating per minute.
 - 30 6. Give in detail the steps you would take if called upon to direct operations immediately after an explosion in a coal mine.
 - 35 7. Enumerate the gases met with in coal mines and give their properties and effect on life and lights.
 - 35 8. What is the pressure producing ventilation in an airway having a length of two miles, 6 feet high and 10 feet wide, and a velocity of 12 feet per second? Co-efficient of friction .002.
 - 25 9. What is the meaning of the term motive column as applied to ventilation? The water gauge reads 2.5 inches, what is the height of the theoretical motive column?
 - 35 10. A current of 50,000 cubic feet of air per minute is split into two airways A and B, having the following dimensions:— A is 8 feet high, 8 feet wide and 1,000 yards long; B is 5 feet high, 12 feet wide and 2,000 yards long. How much air will circulate on each of the airways?

300

Examination for Second-class Certificates of Competency.

Court-house, Collie, 2nd October, 1906.

TIME TABLE.

10 a.m. to 11.30 a.m.	...	...	Ventilation.
11.30 a.m. to 1 p.m.	...	...	Mining of Coal.
2 p.m. to 3 p.m.	...	...	Arithmetic.
3 p.m. to 4 p.m.	...	...	Roadways.
4 p.m. to 5 p.m.	...	...	Coal Mines Regulation Act.

The minimum aggregate number of marks to qualify will be 66 per cent.

Questions to be used in examination for Second Class Certificates of Competency.

VENTILATION.

Tuesday, 2nd October, 1906, 10 a.m. to 11.30 a.m.

- Possible Marks. No. Questions.
- 50 1. What is the total ventilating pressure in lbs. on a stoping 8 feet high and 9½ feet wide if a water gauge placed in the stoping registered 2.3 inches?
 - 60 2. What are the main points to be considered to secure the best possible ventilation?
 - 40 3. Give your views on the danger arising from coal dust, and how you would guard against such danger.

VENTILATION—*continued.*

Possible Marks.	30	4.	How would you accurately ascertain the quantity of air passing along an air-way?
	60	5.	In examining a place with a safety lamp for gas, how would you determine the safe working conditions, and what lamp do you consider best for the purpose?
	60	6.	Portion of a mine being found to be on fire— (a.) What gases are to be feared? (b.) What precautions must be taken against poisonous gases? (c.) What means would you employ to get the fire under control?
—	300		

MINING OF COAL.

Tuesday, 2nd October, 1906, 11:30 a.m. to 1 p.m.

Possible Marks.	No.	Questions.
25	1.	Describe any safety appliance you know of for drawing timber in mines.
40	2.	State fully the process of shot-firing in gaseous mines.
35	3.	What is the extreme vertical height a pump will draw water, and explain reason why?
40	4.	What are the chief sources of danger to sinkers, and how should they be guarded against?
25	5.	Why should a single engine never be used in sinking?
35	6.	Describe a coal-cutting machine, and state under what conditions such machine will give good results.
40	7.	What conditions are unfavourable to the long wall system?
25	8.	How would you arrange the grades at the top and bottom of a self-acting incline?
35	9.	Show by sketch how you would approach old workings containing water; give width of drive?
—	300	

ARITHMETIC.

Tuesday, 2nd October, 1906, 2 p.m. to 3 p.m.

Possible Marks.	18	1.	Find the price of 3 tons 5 cwt. 2 qrs. at £3 15s. 4½d. per cwt.
	14	2.	Find the difference in area of a circular shaft 18 feet in diameter and two square ones each 9½ feet on the side.
	14	3.	In 11 days, two miners working mates, put out 82 tons 12 cwt. of coal at 3s. 4d. per ton, set 8 slabs at 10d. each, drive 6 yards of narrow work at 7s. per yard, and fill 9 skips of dirt at 6½d. per skip. What is the average daily wage of each man?

ARITHMETIC—*continued.*

Possible Marks.	18	4.	What amount of coal is produced from a heading driven 52½ yards, 6 feet high and 8 feet wide, if one cubic yard of coal weighs 18 cwt.
	18	5.	How many cubic feet and gallons of water are there in a shaft 18 feet diameter and 54 fathoms deep.
	18	6.	How many superficial feet of timber are there in the following:— 6" x 4" ... 30 pieces each 14ft. long. 9" x 2" ... 100 " " 12ft. " 6" x 1" ... 250 " " 16ft. " and what is the cost at 16s. per 100 feet.
—	100		

ROADWAYS.

Tuesday, 2nd October, 1906, 3 p.m. to 4 p.m.

Possible Marks.	10	1.	An incline is to be made with a uniform grade of 1 in 6. Describe the means you would employ for setting out and maintaining the grade.
	10	2.	How many tons of 14lb. rails are required for a roadway 9,600 feet long.
	25	3.	What are the most frequent causes of accidents on haulage roads and how are they to be prevented?
	15	4.	Show by sketches how you would timber a main roadway on the level in a 4ft. seam dipping 30 degrees.
	15	5.	Show by sketches and describe how you would lay and keep in order a horse road, the floor being wet and soft.
	25	6.	Show by sketches and describe how you would timber an incline on a dip of 30 degrees to take a double track, the floor being good and roof heavy.
—	100		

COAL MINES REGULATION ACT, 1902.

Tuesday, 2nd October, 1906, 4 p.m. to 5 p.m.

Possible Marks.		What does the Act require regarding:—
17	1.	Signals and Manholes on inclines and planes.
17	2.	Withdrawal of workmen in case of danger.
12	3.	Fencing of shafts.
17	4.	Inspection of workings before and during shifts.
17	5.	Working towards dangerous accumulations of water.
20	6.	Use of Safety Lamps.
—	100	

DIVISION III.

Report by the Superintendent of State Batteries for the Year 1906.

The Under Secretary for Mines, Perth.

I have the honour to submit for the information of the Hon. the Minister for Mines the following report of the work done in connection with State Batteries and Cyanide plants for the year 1906, being the ninth annual report bearing on the subject.

Regarding the number of plants, there have been only two increases, viz., at Kalpini and Greenbushes.

At the first-named place a 10-head battery erected on the field was purchased; while at Greenbushes the plant nearing completion at the close of last year was set going in February, and has treated 6,218 loads for a return of 66½ tons of oxide of tin.

The returns from the Kalpini Battery are discouraging, and the battery is not receiving that support anticipated at the time it was decided upon. The tonnage which represents the stone crushed since the plant started in October amounts to 934 tons for a yield of 638ozs. of bullion. No cyaniding has yet been undertaken, and up to the present hardly seems justified.

Several of the districts where plants were erected and started crushing in 1905 have been most disappointing. The Daketon field, where an exceptionally good plant was granted, has failed to produce sufficient ore to permit of anything but most intermittent crushing. The water level is shallow and retards development work by the prospectors.

At Randall's the result of crushing operations was equally disappointing, as practically only one "show," the Santa Claus, produced stone for crushing.

In preference to closing down this plant an agreement was entered into between the department and the directors of the New Santa Claus Company, whereby the company named became lessees in June last.

The battery at 20-Mile Sandy (N.W.) has not had a plentiful supply of stone to treat.

When the tonnages of the three batteries named are noted the total does not fully represent the capabilities of one 10-head mill.

Other places which have remained dull during the year are Darlot, Laverton, Yundamindera, Yerilla, Siberia, Ravelstone, Widgiemoultha, and Mulwarrie.

At Darlot one of the leases which formerly gave the State mill a large amount of tonnage has been equipped with a battery, consequently the State battery has suffered, although it is pleasing to note that it has been the means of permitting development work to warrant the owners of the lease launching out by erecting their own crushing plant.

At the other batteries named the districts are not producing sufficient stone to make the running of the plants a profitable undertaking.

Of the three five-head plants, viz.:—Siberia, Yerilla, and Pingin, the last named has had the best support.

All these plants started in the previous year, and the records of this year's operations are:—

Siberia	...	...	2,208 tons	...	1,159 ozs. gold.
Yerilla	...	...	1,513 "	...	1,184 "
Pingin	...	...	3,561 "	...	3,016 "

While it is recognised that five-head plants cannot be run so economically as larger plants, the intermittent manner in which both Siberia and Yerilla have been crushing, places them in a worse position than would be the case if more support by the prospectors were accorded the batteries.

It is often apparent that working costs could be somewhat reduced by adopting stringent action such as closing the plants and awaiting a sufficient quantity to enable expenses to be reduced to a minimum, but unfortunately it frequently happens that the water supply will not permit of running full time, consequently to enforce a principle of closing down would necessitate the department seeking an additional supply, already ample for all the stone as forthcoming, but inadequate if an accumulation of stone caused the mill to run full time.

Viewing the matter in this light it is questionable which course is best to advocate or adopt, as the prospects are anything but encouraging at many places.

The Huntingdon mill at Yundamindera is another disappointment, the nature of the ore in this district together with the small quantity offered for crushing causes this plant to be run at a heavy loss, and as the district does not warrant an expenditure necessary to remove present shortcomings, it is questionable whether the department is not justified in meeting public requirements by contributing by subsidy to the only privately-owned mill, and dispose of the Huntingdon mill with its accessories.

From last year's plants which have had encouraging support may be named Yarri and Black Range.

At both places the tonnage crushed is evidence of the growth of the two fields, and, although at the first-named place the prospects are not quite so bright, it is hoped that there will be a fair return from the Yarri battery for a considerable time yet.

At Black Range there has existed an accumulation of stone now fast being overtaken, and although the district gives every hope of proving a healthy mining centre, the fact of a number of crushing mills being erected may cause a slackening off at the State mill.

Amongst the list of batteries which have maintained a good position is Coolgardie, while Boogardie's prospects have greatly improved and with the increased tonnage the management has reduced working costs to a favourable standpoint.

Districts which continue to hold a fair position where the State batteries exist are Mulline, Leonora, Menzies, Niagara, Norseman, and Meekatharra, although at the last-named place the shortage of water has had a depressing effect on the field, while preventing the battery from crushing as much as

was available for treatment. The Water Scheme carried out by the Mines Water Supply, of bringing water in from Garden Gully will probably remove the water difficulty, although the cost of purchasing water from an outside source is likely to be more expensive than under the old system of pumping from the battery wells.

TREATMENT OF LARGE PARCELS.

Throughout the year all customers with parcels of stone having a tonnage of 150 tons or over have been granted a concession of 10 per cent. off usual crushing rates.

The object of this concession is to encourage the working of large reefs in bulk; the amount of stone treated upon which a discount has been allowed amounts to 27,417 tons, while the amount of money paid away has been £1,669 14s. 4d.

It would be beneficial to the battery system if all parcels crushed were of good tonnage, and thus reduce the number of stoppages and frequent clean-ups which have a tendency to increase working costs.

LEASED PLANTS.

Tuckanarra.—This plant is still held under lease by McInnes and party, who, as occasion requires, cater satisfactorily to the public requiring crushing facilities.

Randall's.—This plant, previously referred to in this report is under lease to the New Santa Claus Company which also crushes as required for the public; unfortunately the amount procurable from this source is very trifling.

At the time of writing last year's report Widgie-moultha was included amongst the list of leased batteries, but as those in possession, having failed to advance their own interests in any way, retired, the department again placed the plant, in connection with the water tank, under the charge of a caretaker who runs the battery as required by any party of prospectors, who in turn attend to the mill during the progress of their crushing.

BATTERIES DISMANTLED.

The Southern Cross battery which ceased operations in August, 1905, was not again opened for work, and portion of the plant has since been sold for re-erection at Parker's Range, while the balance is stored at Southern Cross for use if required elsewhere.

TIN DRESSING PLANTS.

Both plants have had a very successful year's work, the output being:—

Bunbury End Plant 5,210 loads for 79 tons oxide of tin.
North End Plant 6,218 loads for 66 tons oxide of tin.

These plants are placed one at each end of the field and are under the one manager, and prospects are encouraging for future operations.

MULLINE SLIMES PLANT.

Operations were continued while the accumulated heap of slimes lasted, the tons treated up to August amounted to 4,737, since which date there has not been sufficient to warrant running the plant. The result of the treatment is fully shown in the accompanying returns.

Records of the value of slimes accumulating at batteries are being kept to enable customers to State plants to receive a recoup should the quantity collected and values thereof warrant the department in erecting a plant at any battery.

DIRECT PURCHASE OF TAILINGS.

Prospectors have in many instances taken advantage of this principle by effecting a settlement on the basis of 75 per cent. of the assay values of their tailings in preference to waiting for the treatment of their sands.

Under this heading 13,817 tons were dealt with, representing a gross value of £18,637, of which £11,728 was paid to owners. In addition to this last-named amount, £12,586 was paid to prospectors after treatment of their sands, making a total of £24,314 refunded to owners.

PORTABLE PLANTS FOR NEW DISTRICTS.

This is a subject which has occupied the attention of the department for a considerable time. A trial was given of a single-stamp mill (the Embleton) at the Coolgardie State battery, but results did not justify its adoption.

While it is recognised that small mills possess many advantages, they hardly fulfil the requirements of a State plant in so much that the output is too small to retain a suitable staff. The department cannot control a small plant as cheaply as the private individual, and what may be a successful adjunct to a mining property held by a party of prospectors, would prove a failure if attended to by officials whose expenses would not be reasonably met by the output of the plant even when run at full capacity. Up to the present no small stamp mill has attracted more than casual attention, and it would appear that some other principle than stamps will have to be introduced to be of any assistance in a district comparatively undeveloped.

Whatever class of plant is adopted it may be desirable in cases of this kind to look upon the outlay as a district vote, and allow the plant to be managed and controlled by the prospectors themselves, thus causing them to carry the responsibility of proving their district worthy or otherwise of securing at a later date a 10-head battery controlled by the department.

YEARLY OUTPUT.

For comparison purposes I submit the following figures which show a steady increase in operations:—

<i>Milling.</i>			
		Tons.	Ozs.
Up to 1901 (3 years)	...	68,791	77,533
1902	...	39,517	57,255
1903	...	49,233	58,305
1904	...	71,616	78,309
1905	...	85,018	92,327
1906	...	95,831	94,187
Total	...	410,006	457,916

<i>Cyaniding.</i>			
		Tons.	
Up to 1902	...	29,255	tons.
1903	...	32,369	"
1904	...	43,251	"
1905	...	54,420	"
1906	...	60,422	"

<i>Slimes.</i>			
		Tons.	
1904	...	691	tons
1905	...	7,028	"
1906	...	4,737	" (heap completed)

The 95,831 tons of ore milled entailed a working expenditure of £58,375 15s. 8d., and yielded a revenue of £54,299 2s. 11d.

The total tonnage cyanided for the year, viz., 60,422 tons, yielded 12,414.62ozs., valued at £52,394.

The working expenditure was £22,214 8s. 3d., whilst the revenue amounted to £27,763 14s. 10d.

4,737 tons of slimes were filter-pressed at a working cost of £2,772 18s. 7d., and returned a revenue of £5,026 17s. 5d.

1,225.47ozs. were recovered from this treatment, having a value of £5,203 8s. 7d.

11,428 tons of tin were treated at a cost of £2,393 11s. 10d. for a revenue of £2,549 10s. 11d.

	Expenditure.		Receipts.	
	£	s. d.	£	s. d.
Milling, per ton	0	12 2	0	11 3 8
Cyaniding, per ton	0	7 4	0	9 2 1
Slimes, per ton	0	11 8	1	1 2 6
Tin, per ton	0	4 2	0	4 3 3
	Revenue.		Expenditure.	
	£	s. d.	£	s. d.
Batteries	54,299	2 11	58,375	15 8
Cyanide Plants	27,763	14 10	22,214	8 3
Slimes "	5,026	17 5	2,772	18 7
Tin "	2,549	10 11	2,393	11 10
Sundry Revenue	453	15 8		
Additions and Improvements			1,455	14 1
	90,093	1 9	87,212	8 5
	87,212	8 5		
Profit for year	2,880	13 4		

The following figures refer to *Working Expenditure*:-

	£	s. d.
Loss on System to 1905	11,090	0 0
Profit for 1906	2,880	0 0
Loss since inception	£8,210	0 0

In conclusion, I desire to make one allusion to the appointment of a State Battery Inquiry Board which was commissioned in the early part of the year to report on the system and point out defects or suggest remedies.

The report has for some time been available to the public, and as my comments were printed with it there is nothing to be now gained by my alluding to it at length.

While freely admitting that some of the plants might well be replaced if money were available, and that by further expenditure improvements would be possible in all of them, I would like to emphasise the fact that the sphere of the battery system has been much enlarged in the last few years, as when the system was first initiated the object was to provide plants for crushing purposes only, while now nothing short of complete treatment plants will satisfy the public.

It is not a matter for surprise that some of the older plants find little favour in the eyes of persons accustomed to the more modern plants on some of the mines in this State.

I trust that it is recognised that the officers associated with the system are honestly striving to carry out their duty to the State in a manner acceptable to Parliament.

D. H. WHITE,

Superintendent of State Batteries.

29th April, 1907.

FORM 1.—*Expenditure from "Consolidated Revenue Vote" and "Loan-Funds" on Erection of State Batteries for Year ending 31st December, 1906, and totals since inception.*

Batteries.	From Revenue.		From Loan Funds.		Totals.	
	£	s. d.	£	s. d.	£	s. d.
Greenbushes Tin Plants, Bunbury End	69	11 2	0	13 6	70	4 8
Do. do. North End	682	15 0			682	15 0
Pin Gin	334	8 6	0	12 5	335	0 11
Siberia	219	15 5	0	2 9	219	18 2
Yundamindera	55	16 11			55	16 11
Black Range Cyanide Plant	4	0 0			4	0 0
Yerilla	0	6 8			0	6 8
Embleton Mill	279	7 2			279	7 2
Siberia Water Supply	262	7 2			262	7 2
Additions, etc., Meekatharra	80	13 10			80	13 10
Niagara Cyanide Plant			371	11 8	371	11 8
Pin Gin Condenser	256	18 8			256	18 8
Pin Gin Water Supply from Well	27	9 11	1	0 0	28	9 11
Yarri Condenser	260	13 2			260	13 2
Yundamindera Condenser	246	16 9			246	16 9
Meekatharra Temporary Water Supply	618	17 2			618	17 2
Lennonville Water Supply	321	10 5	1	5 4	322	15 9
Pin Gin Water Supply, No. 2 Well	38	11 10	915	17 7	954	9 5
Kalpini			2,806	14 7	2,806	14 7
Pin Gin Office and Quarters			4	9 9	4	9 9
Siberia Condenser			251	16 2	251	16 2
Leonora do.			213	17 11	213	17 11
Niagara do.			211	1 9	211	1 9
Mulline do.			133	15 6	133	15 6
Norseman Slimes Plant			5	0 0	5	0 0
Lennonville Cyanide Plant			330	14 10	330	14 10
Nannine			200	0 0	200	0 0
Lennonville, Improvement to Slimes Plant	15	0 0			15	0 0
	£	s. d.				
Cr. by Stores transferred to Working Account, Siberia,	208	0 10				
Do. do. do. Pin Gin,	417	13 3				
	625	14 1			625	14 1
	3,149	5 8	5,448	13 9	8,597	19 5
Erection of State Batteries—						
Expenditure to 31st December, 1905	87,082	1 6				
Loan Expenditure			129,999	6 6	217,081	8 0
Gross totals	£90,231	7 2	135,448	0 3	225,679	7 5

FORM 2.—Return showing the Number of Tons Crushed, Gold Yield, and Average Value per Ton for year ending 31st December, 1906.

Battery.	Tons Crushed.	Gold Yield. Oz.	Average per Ton in Shillings.
Black Range	7,481.75	9,236.32	88.85
Boogardie	7,887.25	4,048.68	36.95
Burtville	4,048.00	7,854.43	139.92
Coolgardie	6,951.00	6,051.20	62.68
Darlôt	2,060.00	2,394.55	83.66
Duketon	1,229.50	958.93	56.15
Kalpini	934.00	638.11	49.19
Laverton	858.50	892.02	74.80
Lennonville	3,948.00	2,112.08	38.52
Leonora	4,456.00	2,227.40	36.00
Meekatharra	4,500.00	11,006.63	176.10
Menzies	4,726.00	5,590.70	85.17
Mt. Ida	2,103.00	2,953.25	101.10
Mulline	5,823.00	6,448.50	79.70
Mulwarrie	1,357.75	892.95	47.35
Niagara	6,013.50	4,581.52	54.85
Norseman	4,273.05	4,627.50	77.97
20-Mile Sandy, N.W.	1,104.50	2,437.58	158.90
Pig Well	1,700.00	1,532.02	64.87
Pin Gin	3,561.25	3,015.39	60.99
Randalls	614.00	294.99	34.58
Ravelstone	725.50	664.74	66.08
Siberia	2,208.50	1,159.77	37.80
Tuckanarra	1,962.00	2,216.24	81.34
Wiluna	4,246.00	3,509.05	59.50
Yarri	8,576.00	4,795.75	40.26
Yerilla	1,512.50	1,184.74	56.40
Yundamindera	764.00	786.00	74.08
Widgiemooltha	211.00	75.75	25.85
Total	95,830.55	94,186.79	70.76

Tin Plants.	Black Tin.	
	Tons.	Tons.
Greenbushes, Bunbury End	5,210	78,649
Greenbushes, North End	6,218	66,569

FORM 2A.—Return for State Cyanide and Slimes Plants for Year ending 31st December, 1906, showing Tons treated, Yield, and Value.

Plants.	Tons treated.	Yield.	Value.
		ozs.	£
Black Range	5,682.0	2,123.17	9,017.86
Boogardie	5,646.5	1,540.87	6,544.36
Burtville	2,852.5	827.58	3,515.12
Coolgardie	3,359.0	485.61	2,062.02
Darlôt	1,830.0	254.48	1,080.77
Duketon	502.0	74.07	314.55
Laverton	359.0	47.90	203.44
Leonora	4,944.0	918.81	3,902.93
Menzies	3,481.5	936.07	3,975.92
Mulline	2,102.0	504.73	2,143.42
Mulwarrie	3,870.0	736.53	2,994.81
Niagara	3,116.0	508.84	2,161.07
Norseman	2,639.5	667.68	2,835.53
Pig Well	2,653.0	443.14	1,882.77
Pin Gin	2,812.0	269.91	1,146.95
Randalls	96.0	6.51	27.91
Sandy Creek, N.W.	949.0	342.78	1,455.56
Siberia	807.0	94.54	401.64
Southern Cross	...	54.19	230.22
Yarri	7,072.0	482.00	1,846.86
Yerilla	2,007.0	320.43	1,360.85
Yundamindera	3,642.0	774.78	3,290.90
Mulline Slimes	60,422.0	12,414.62	52,394.36
	4,737.0	1,225.47	5,203.43

FORM 3.—Return showing the Number of Tons Crushed, Gold Yield, Average per Ton, and Value since inception to 31st December, 1906.

Battery.	Crushed.	Gold Yield.	Average.	Value.
	tons.	oz.	oz.	£
Black Range	15,977.15	19,988.24	1.25	72,152.11
Boogardie	19,319.75	9,664.53	.50	36,186.55
Burtville	13,366.00	32,469.69	2.43	118,196.70
Coolgardie	17,181.50	15,187.22	.884	54,731.22
Darlôt	17,575.25	27,909.02	1.59	103,901.26
Duketon	3,390.00	2,725.11	.804	9,810.36
Kalpini	934.00	638.11	.683	2,297.19
Laverton	8,317.25	8,140.90	.979	30,478.99
Lennonville	23,400.84	30,704.28	1.31	115,592.20
Leonora	27,390.00	23,371.28	.853	87,716.94
Meekatharra	24,975.60	35,991.98	1.44	132,250.67
Menzies	13,932.25	14,832.48	1.06	53,244.43
Mt. Ida	19,134.40	24,143.51	1.26	90,218.83
Mulline	51,025.70	65,006.85	1.25	233,204.80
Mulwarrie	16,858.40	19,847.39	1.27	74,707.32
Niagara	29,664.00	29,077.47	.98	106,966.68
Norseman	25,178.70	26,625.51	1.06	99,034.36
20-Mile Sandy, N.W.	2,792.15	6,240.82	2.23	22,566.94
Pig Well	5,152.50	4,089.36	.793	14,721.68
Pingin	4,341.65	3,982.17	.92	14,335.42
Randalls	3,133.20	1,279.29	.408	4,578.99
Southern Cross	4,399.10	2,228.57	.507	8,239.44
Siberia	2,515.50	1,283.84	.51	4,547.18
Wiluna	11,526.50	9,383.57	.814	33,926.04
Yarri	10,650.50	6,671.95	.627	24,018.86
Yerilla	3,123.00	2,993.90	.96	10,775.97
Yundamindera	5,172.00	6,211.67	1.20	22,953.10
Ravelstone	8,147.50	7,543.54	.926	28,327.99
Tuckanarra	9,871.85	12,453.03	1.26	46,454.69
Widgiemooltha	3,450.50	1,388.15	.402	5,258.29
Batteries closed	8,110.00	5,842.94	.72	22,197.84
	410,006.74	457,916.37	1.117	1,683,593.04

Tin Plants.	Treated.	Black Tin.
	tons.	tons.
Greenbushes, Bunbury end	14,432.50	323.339
Greenbushes, North end	6,218.00	66.569

FORM 4.—State Batteries and Cyanide Plants.—Costs per Ton for the Year ending 31st December, 1906.

Plant.	Tons Milled.	MILLING.			Plant.	Tons Treated.	CYANIDING.		
		Wages.	Repairs and Maintenance.	Total.			Wages.	Repairs and Maintenance.	Total.
		s. d.	s. d.	s. d.			s. d.	s. d.	s. d.
Black Range	7,482	6 0.02	5 4.98	11 5.00	Black Range	5,682	2 8.09	3 4.37	6 0.46
Boogardie	7,887	4 4.50	4 10.33	9 2.83	Boogardie	5,646	3 3.72	3 5.35	6 9.07
Burtville	4,043	7 7.80	6 4.20	14 0.00	Burtville	2,852	4 0.52	4 3.80	8 4.32
Coolgardie	6,951	4 11.55	4 10.38	9 9.93	Coolgardie	3,359	3 4.56	3 2.06	6 6.62
Darlôt	2,060	9 0.93	7 2.67	16 3.60	Darlôt	1,830	4 6.50	3 11.02	8 5.52
Duketon	1,229	7 7.58	7 0.82	14 8.40	Duketon	502	5 10.20	5 0.24	10 10.44
Kalpini	934	6 8.60	2 11.32	9 7.92					
Laverton	858	10 0.69	6 7.01	16 7.70	Laverton	359	5 4.71	6 0.00	11 4.71
Lennonville	3,948	7 8.77	5 10.75	13 7.52					
Leonora	4,456	3 4.47	3 3.37	6 7.84	Leonora	4,944	2 7.40	2 1.50	4 8.90
Meekatharra	4,500	7 5.40	6 0.96	13 6.36					
Menzies	4,726	6 3.42	4 2.97	10 6.39	Menzies	3,481	3 7.33	4 3.37	7 10.70
Mt. Ida	2,103	7 8.95	3 6.93	11 3.88					
Mulline	5,823	5 9.18	3 9.78	9 6.96	Mulline	2,102	4 3.80	5 0.71	9 4.51
Mulwarrie	1,358	8 1.65	6 2.15	14 3.80	Mulwarrie	3,870	5 8.00	2 11.20	8 7.20
Niagara	6,013	5 7.00	6 1.99	11 8.99	Niagara	3,116	2 5.43	3 6.87	6 0.30
Norseman	4,273	6 2.64	4 9.98	11 0.62	Norseman	2,639	3 3.86	4 3.34	7 7.20
20-Mile Sandy, N.W.	1,104	11 6.01	15 10.31	27 4.32	20-Mile Sandy, N.W.	949	9 2.08	7 0.97	16 3.05
Pig Well	1,700	6 8.18	6 1.85	12 10.03	Pig Well	2,653	3 5.38	1 10.46	5 3.84
Pin Gin	3,561	9 0.76	5 8.85	14 9.61	Pin Gin	2,812	3 2.00	2 10.82	6 0.82
Siberia	2,208	11 10.90	5 2.35	17 1.25	Siberia	807	6 5.85	3 8.53	10 2.38
Wiluna	4,246	6 6.86	5 8.15	12 3.01	Yarri	7,072	2 3.117	1 9.73	4 0.87
Yarri	8,576	4 2.06	4 1.29	8 3.35	Yerilla	2,007	4 6.18	3 7.85	8 2.03
Yerilla	1,512	11 11.75	7 5.88	19 5.63	Yundamindera	3,642	4 0.52	3 7.50	7 8.02
Yundamindera	764	10 1.58	24 7.53	34 9.12	Mulline Slimes	4,737	6 2.73	5 5.76	11 8.49

WEST AUSTRALIAN STATE BATTERIES BRANCH, MINES DEPARTMENT.

Working Account, twelve months ending 31st December, 1906 (excluding Miscellaneous Receipts and Additions to Plants).

		MILLING.					CYANIDING.					
		Tonnage.	Expenditure.	Revenue.	Profit.	Loss.	Tonnage.	Expenditure.	Revenue.	Profit.	Loss.	
			£ s. d.	£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	
E. Murchison ...	Black Range ...	7,481.75	4,271 17 8	4,706 13 9	434 16 1	...	Black Range ...	5,682.0	1,715 14 1	3,041 18 6	1,326 4 5	
Murchison ...	Boogardie ...	7,887.25	3,642 10 9	3,844 4 2	201 13 5	...	Boogardie ...	5,646.5	1,907 8 11	2,567 12 3	660 3 4	
Mt. Margaret ...	Burtville ...	4,043.00	2,333 3 5	2,709 19 11	...	123 3 6	Burtville ...	2,852.5	1,192 5 4	1,238 11 9	46 6 5	
Coolgardie ...	Coolgardie ...	6,951.00	3,416 4 6	3,600 17 5	184 12 11	...	Coolgardie ...	3,359.0	1,100 8 3	1,338 11 8	238 3 5	
E. Murchison ...	Darlot ...	2,060.00	1,679 1 3	1,252 16 1	...	426 5 2	Darlot ...	1,830.0	774 0 6	890 15 6	116 15 0	
Mt. Margaret ...	Duketon ...	1,229.50	903 7 3	670 0 8	...	233 6 7	Duketon ...	502.0	272 17 1	201 2 9	...	
N. E. Coolgardie	Kalpini ...	934.00	451 2 1	536 14 8	85 12 7	...	...	...	...	...	71 14 4
Mt. Margaret ...	Laverton ...	858.50	713 18 7	531 8 5	...	182 10 2	Laverton ...	359.0	201 10 9	223 12 5	19 1 8	
Murchison ...	Lennonville ...	3,948.00	2,689 18 0	1,962 14 9	...	727 3 3	Lennonville ...	...	25 8 6	0 10 6	...
Mt. Margaret ...	Leonora ...	4,456.00	1,482 10 11	1,745 2 3	262 11 4	...	Leonora ...	4,944.0	1,172 2 9	2,579 10 10	1,407 8 1	
Murchison ...	Meekatharra ...	4,500.00	3,044 4 9	2,541 16 9	...	502 8 0	Meekatharra ...	...	32 12 6	1 1 0	...
N. Coolgardie ...	Menzies ...	4,726.00	2,488 18 7	3,084 7 4	595 8 9	...	Menzies ...	3,481.5	1,373 11 2	1,812 18 7	439 7 5	
Do. ...	Mt. Ida ...	2,103.00	1,190 14 3	1,300 11 0	109 16 9	...	...	...	...	...	...
Do. ...	Mulline ...	5,823.00	2,789 9 1	3,641 14 11	852 5 10	...	Mulline ...	2,102.0	985 9 2	1,191 4 11	205 15 9	
Do. ...	Mulwarrie ...	1,357.75	972 4 3	803 8 6	...	168 15 9	Mulwarrie ...	3,870.0	1,663 8 3	2,081 15 6	418 7 3	
Do. ...	Niagara ...	6,013.50	3,532 8 9	3,492 4 9	...	40 4 0	Niagara ...	3,116.0	938 15 7	1,441 7 11	502 12 4	
Dundas ...	Norseman ...	4,273.05	2,361 4 2	2,556 7 4	195 3 2	...	Norseman ...	2,639.5	1,002 7 8	1,041 12 7	44 4 11	
Mt. Margaret ...	Pig Well ...	1,700.00	1,091 4 5	1,059 1 7	...	32 2 10	Pig Well ...	2,653.0	705 10 7	1,138 14 0	433 3 5	
N. Coolgardie ...	Pingin ...	3,561.25	2,636 5 1	2,261 10 0	...	374 15 1	Pingin ...	2,812.0	853 5 9	953 3 0	99 17 3	
Coolgardie ...	Randalls ...	614.00	882 19 9	693 6 9	...	189 13 0	Randalls ...	96.0	42 9 4	...	...
Pilbarra ...	Sandy Creek ...	1,104.50	1,510 14 6	1,013 7 6	...	497 7 0	Sandy Creek ...	949.0	771 5 5	887 4 1	115 18 8	
Coolgardie ...	Siberia ...	2,208.50	1,888 6 3	1,235 0 1	...	653 6 2	Siberia ...	807.0	411 10 4	326 2 4	...	
Yilgarn ...	Southern Cross ...	...	65 19 6	...	...	65 19 6	Southern Cross ...	...	70 18 0	230 4 3	159 6 3
East Murchison	Wiluna ...	4,246.00	2,600 17 11	2,509 12 1	...	91 5 10	...	...	...	...	...
N. Coolgardie ...	Yarrie ...	8,576.00	3,550 1 7	4,105 18 8	555 17 1	...	Yarrie ...	7,072.0	1,439 8 0	1,941 1 3	501 13 3	
Do. ...	Yerilla ...	1,512.50	1,471 18 1	988 1 11	...	483 16 2	Yerilla ...	2,007.0	819 17 0	865 3 9	45 6 9	
Do. ...	Yundamindera ...	764.00	1,327 17 2	487 18 9	...	839 18 5	Yundamindera ...	3,642.0	1,397 0 9	1,764 15 6	367 14 9	
Peak Hill ...	Ravelstone ...	725.50	380 2 6	601 19 8	221 17 2	...	Mulline Slimes ...	4,737.0	2,772 18 7	5,026 17 5	2,253 18 10	
Murchison ...	Tuckanarra ...	1,962.00	49 12 5	199 1 6	149 9 1	...	...	...	...	...	...
Coolgardie ...	Widgiemooltha ...	211.00	184 16 6	138 16 7	...	45 19 11	Head Office Expenses	...	924 16 3	...	924 16 3	
Do. ...	Embleton Mill, Coolgardie	...	100 12 5	24 5 2	...	76 7 3	Inspection Account	...	417 6 4	...	417 6 4	
	Greenbushes B. End ...	5,210.00	1,121 14 7	1,176 5 5	54 10 10	...						
	do. N. End ...	6,218.00	1,271 17 3	1,373 5 6	101 8 3	...						
	Head Office Expenses ...	...	1,518 17 0	...	...	1,518 17 0					
	Inspection do. ...	...	652 12 4	...	...	652 12 4					
		107,258.55	60,769 7 6	56,848 13 10	4,005 3 3	7,925 16 11	...	65,159.0	24,987 6 10	32,790 12 3	9,401 9 2	1,598 3 9
					Loss £	3,920 13 8				Profit £	7,803 5 5	

State Batteries, Tin and Cyanide Plants.—Statement of Receipts and Expenditure for Year 1906.

Location of Plant.	CYANIDING.													
	Tons.	Management.	Wages.	Assays.	Stores.	Repairs.	Sundries.	Total Working Expenses.	Per Ton.	Receipts.	Per Ton.			
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	s.	d.
Black Range	5,682 0	142 8 10	617 8 0	319 14 8	450 6 3	28 4 0	157 2 4	1,715 14 1	6 0 46	3,041 18 6	10 8 48			
Boogardie	5,646 5	194 17 8	739 15 4	335 5 7	536 13 5	40 6 2	60 10 9	1,907 8 11	6 9 07	2,567 12 3	9 1 13			
Burtville	2,852 5	175 14 0	400 17 5	274 0 1	215 4 1	29 11 5	96 18 4	1,192 5 4	8 4 32	1,238 11 9	8 8 20			
Coolgardie	3,359 0	145 2 4	392 13 0	62 6 8	397 12 9	46 6 7	26 6 11	1,100 8 3	6 6 62	1,338 11 8	7 11 64			
Darlôt	1,830 0	75 17 6	339 12 1	22 0 2	304 18 0	11 10 0	20 2 9	774 0 6	8 5 52	890 15 6	9 8 82			
Duketon	502 0	48 4 6	98 3 6	30 10 6	81 1 6	...	14 17 1	272 17 1	10 10 54	201 2 9	8 0 16			
Kalpini ... ..	...	...	...	...	...	...	...	...	...	...	...
Laverton	359 0	20 5 4	77 6 1	25 15 10	59 5 5	11 10 4	10 7 9	204 10 9	11 4 71	223 12 5	12 5 49			
Lennonville ... ..	...	0 9 11	17 2 7	...	7 16 0	...	...	25 8 6	...	0 10 6	...			
Leonora	4,944 0	172 4 4	475 2 7	164 4 11	289 1 4	23 19 10	47 9 9	1,172 2 9	4 8 90	2,579 10 10	10 5 22			
Meekatharra ... ..	...	...	...	1 18 0	9 7 3	20 17 4	0 9 11	32 12 6	...	1 1 0	...			
Menzies	3,481 5	166 1 7	462 8 4	209 0 4	363 19 3	123 9 10	48 11 10	1,373 11 2	7 10 70	1,812 18 7	10 4 97			
Mt. Ida ... ..	...	...	...	...	...	...	...	...	...	...	...
Mulline	2,102 0	88 0 0	365 9 11	157 3 6	317 9 1	8 18 1	48 8 7	985 9 2	9 4 51	1,191 4 11	11 4 01			
Mulline Slimes	4,737 0	203 10 0	1,271 11 7	199 9 10	158 17 9	875 15 3	63 14 2	2,772 18 7	11 8 49	5,026 17 5	21 2 68			
Mulwarrie	3,870 0	298 10 5	797 6 3	59 19 10	446 11 11	20 0 11	40 18 11	1,663 8 3	8 7 20	2,081 15 6	10 9 10			
Niagara	3,116 0	125 0 2	257 3 11	219 15 1	247 12 11	50 16 11	38 6 7	938 15 7	6 0 30	1,441 7 11	9 3 01			
Norseman	2,639 5	168 10 5	269 14 10	136 2 7	294 1 9	75 8 1	58 10 0	1,002 7 8	7 7 20	1,046 12 7	7 11 16			
Pig Well	2,653 0	132 3 0	325 10 2	18 3 3	161 11 11	15 18 4	52 3 11	705 10 7	5 3 84	1,138 14 0	8 7 01			
Pin Gin	2,812 0	119 4 9	326 7 6	73 2 10	274 6 9	24 12 3	35 11 8	853 5 9	6 0 82	953 3 0	6 9 35			
Randall's	96 0	...	...	9 14 1	27 17 0	0 3 9	4 14 6	42 9 4	...	...	...
Sandy Creek, N.W.	949 0	181 2 9	254 2 7	89 17 8	174 2 0	18 14 6	53 5 11	771 5 5	16 3 05	887 4 1	18 8 37			
Siberia	807 0	88 13 6	173 2 6	29 13 5	111 10 0	3 0 6	5 10 5	411 10 4	10 2 38	326 2 4	8 0 98			
Southern Cross ... ..	...	65 14 0	...	...	5 4 0	...	...	70 18 0	...	230 4 3	...			
Yarri	7,072 0	152 1 6	646 19 2	134 5 4	337 14 5	110 7 0	58 0 7	1,439 8 0	4 0 84	1,941 1 3	5 5 87			
Yerilla	2,007 0	171 19 1	281 3 10	33 10 10	246 9 6	19 15 10	66 17 11	819 17 0	8 2 03	865 3 9	8 7 16			
Yundamindera	3,642 0	234 10 5	501 14 9	94 11 5	476 11 10	29 8 11	60 3 5	1,397 0 9	7 8 02	1,764 15 6	9 8 29			
Head Office	65,159 0	3,200 6 0	9,090 15 11	2,700 6 5	5,995 16 1	1,588 15 10	1,069 4 0	23,645 4 3	7 3 09	32,790 12 3	10 0 777			
Inspection ... ..	...	...	...	...	...	...	...	924 16 3	...	...	...
Total	65,159 0	3,200 6 0	9,090 15 11	2,700 6 5	5,995 16 1	1,588 15 10	1,069 4 0	24,987 6 10	...	32,790 12 3	...			

WESTERN AUSTRALIAN STATE BATTERIES.

Profit and Loss Account for Twelve Months ending 31st December, 1906.

	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
To Expenditure as per attached Statement—												
Battery and Tin	60,769	7	6									
Cyanide	24,987	6	10									
				<u>85,756</u>	<u>14</u>	<u>4</u>						
„ Profit on Working Expenses carried down				3,882	11	9						
				<u>£89,639</u>	<u>6</u>	<u>1</u>				<u>£89,639</u>	<u>6</u>	<u>1</u>
To Additions to Plants, paid from Revenue—												
Battery	911	12	6									
Cyanide	544	1	7									
				<u>1,455</u>	<u>14</u>	<u>1</u>						
„ Net Profit on Year's Operations				2,880	13	4						
				<u>£4,336</u>	<u>7</u>	<u>5</u>				<u>£4,336</u>	<u>7</u>	<u>5</u>
By Receipts as per attached Statement—												
Battery and Tin—												
Crushing Charges ...	56,848	13	10									
Cyaniding Charges ...	32,790	12	3									
				<u>89,639</u>	<u>6</u>	<u>1</u>				<u>89,639</u>	<u>6</u>	<u>1</u>
By Profit brought down from Working Expenses ...	3,882	11	9									
„ Miscellaneous Revenue, Sale of Water, etc.	453	15	8							4,336	7	5
										<u>£4,336</u>	<u>7</u>	<u>5</u>

DIVISION IV.

Report of the Engineer for Mines Water Supply.

The Under Secretary for Mines.

Mines Department, Water Supply Branch,
Perth, 18th February, 1907.

LIKE the previous year, 1906 was a very busy period for the Mines Water Supply, and at times the strain was severely felt by most of the officers in Perth and on the Fields owing to inadequate assistance when rushes of work occurred.

Examination shows the various works carried out during the year have been finished at satisfactory costs.

The attached statements show works done during the year, but no idea is conveyed of the amount of office work, travelling, arranging, and difficulties to be overcome, in dealing economically with works scattered over the greater part of the State.

Some of the works are interesting in an engineering sense as well as useful to the Mining industry, etc.; but owing to the great area worked over by the Mines Water Supply, each individual undertaking is noticed only by those in the nearest mining camp. However, I am pleased to look back on the year's work and report that many hundreds of men are now working in and about mines which, without water supplies, could not employ labour. To this may be added the numbers who live on each miner, directly or indirectly, and the value of minerals won to the State.

Apart from water supply works for towns, mines, roads, etc., the principal stock routes have been transformed out of recognition, and drovers have advised this office that the principal route is now perfect.

Exploration between Wiluna and Kimberley East is now in progress; Surveyor Canning is in charge. From reports by wire from Hall's Creek we know a good cattle route is possible, but further exploring will be done before the route is fixed on the map.

My field officers report a decided revival in mining all over the mineral belts. From this and the work already mapped out we expect to have our hands full during 1907.

I regret, owing to this report being required earlier than usual, being compelled to cut out much interesting data collected.

BORING PLANTS LOANED 1906.

Diamond Drill, Mulwarrie...	On agreement
Hand Plants	... .. 10 agreements.

Water stations leased	... .. 40
Caretakers employed	... .. 13
Pumpers	... .. 8
Number of water stations maintained, about	500
Average number of men employed	„ 200
Maximum „ „ „	450

Correspondence.	Inwards.	Outwards.
Letters	3,074	2,711
Telegrams	705	707

P. V. O'BRIEN,
Engineer for Mines Water Supply.

WATER SUPPLY BRANCH.

ANNUAL REPORT, 1906.

WORKS COMPLETED, UNDERTAKEN, AND INITIATED.

BORING.

Item.	Class of Work.	Locality.	General Description.	Remarks.
<i>Eastern Goldfields District.</i>				
1	Boring for water ...	"Gilgarna Rock," Kanowna-Pingin Road	12 bores—In Report, 482 feet = 482 feet In Report, 1905 = 109 feet	Small supply fresh water. Well sunk on No. 12 Bore; bottom on green schist
2	Do. ...	9½-Mile Post, Pingin-Kanowna Road	6 bores = 218 feet	Good supply stock water; equipped as bore well; bottom on granite
3	Do. ...	3 miles South-East of Higginsville	1 bore = 41 "	Heavy supply salt water for battery purposes
4	Do. ...	At Mertondale	3 bores = 254 "	Fair supply fresh water. Bottom on decomposed granite.
5	Do. ...	At Wilson's Patch	4 " = 553 "	Bottom on granite; fair supply fresh water. Well sunk on No. 4 Bore
6	Do. ...	At Hooley's Leases	4 " = 677 "	Bottom on schist; fair supply salt water for battery purposes
7	Do. ...	At Siberia (Cashman's Soak)	7 bores—In Report, 37 feet = 37 feet In Report, 1905 = 430 feet	No water
8	Do. ...	At Cheriton's Find	5 bores = 450 feet	Bottom on diorite. Good supply salt water in No. 5 bore at 100ft. Shaft sunk.
9	Do. ...	At Golden Cube	1 bore (No. 17) = 109 feet	Bottom on hard diorite; no water. Last bore of series (of 17). Battery water found in No. 13; shaft sunk
10	Do. ...	At Pingin Townsite	11 bores = 774 feet	Bottom on hard diorite; no water
11	Do. ...	At Station Creek Scheme, Leonora	11 " = 755 "	Heavy supply fresh water. Second series, part of survey of subterranean water in connection with town and mines
12	Do. ...	At Hatter's Hill	9 " = 345 "	Bottom decomposed diorite. Good supply salt water for battery.
13	Do. ...	At Gregory Hills	12 " = 735 "	No. 4 Bore equipped as a bore well; bottom on hard diorite. Other bores proved no subterranean water in that belt.
14	Do. ...	At Carbine Gold Mine	10 bores—In Report, 18 feet = 18 feet In Report, 1905 = 911 feet	Good supply salt water in No. 9 Bore for battery purposes; shaft sunk
15	Do. ...	At Marvel Loch	7 bores = 550 feet	No water
16	Boring for minerals	At Paddington	13 " = 1,026 feet	Alluvial gold. Plant loaned and part expenses paid by Department
17	Do. ...	At Albany	3 " = 164 "	Unsatisfactory results
18	Do. ...	At Greenough River	1 bore = 297 "	For coal. Held up till rains fall
18A	Boring for water ...	At Pigeon Rocks...	9 bores = 95 "	Bottom on granite. Well sunk on No. 7 bore
18B	Do. ...	At Fox's Find	3 " = 270 "	No. 3 equipped as bore well
18C	Do. ...	17 miles E. of Pigeon Rocks	6 " = 238 "	No water
<i>Murchison District.</i>				
19	Boring for water ...	At Garden Gully, Meekatharra	6 bores = 348 feet	Bottom on diorite; heavy supply fresh water. Well sunk on No. 2 bore. Water pumped 10 miles to Meekatharra
20	Do. ...	At Yuin	1 bore = 62 "	Bottom on granite; fair supply fresh water. Well sunk
21	Do. ...	On Peak Hill-Wiluna Stock Route, to fix Crystal and Emerald Well sites	9 bores = 335 "	Bottom on decomposed granite; good supply fresh water. Wells sunk on Bores Nos. 3 and 9
22	Do. ...	At Meekatharra	3 " In Report 48 feet = 48 "	Bottom on hard diorite; no water. Domestic supply
23	Do. ...	Do.	In Report, 1905 = 134 " 2 bores—In Report, 108 feet = 108 feet In Report, 1905 = 242 feet	Bottom on hard diorite; no water. This for temporary supply till large scheme ready
24	Do. ...	At Sandstone Leases	1 bore = 109 feet	Bottom on decomposed diorite; fair supply fresh water. Well sunk
25	Do. ...	At Wilthorpe	2 bores = 211 "	Bottom on decomposed diorite. Well sunk on No. 2 Bore
26	Do. ...	At Lake Austin	2 " In Report 69 feet = 69 "	Bottom on decomposed diorite. Good supply stock water. Equipped as a bore well
27	Do. ...	Peak Hill-Wiluna Stock Route, to fix Garden Well	In Report, 1905 = 24 " 1 bore = 14 feet	Good supply stock water. Well sunk on bore

BORING—continued.

Item.	Class of Work.	Locality.	General Description.	Remarks.
<i>Murchison District—continued.</i>				
28	Boring for water ...	Peak Hill-Wiluna Stock Route at Mail Change	6 bores = 137 feet ...	Small supply fresh water. Well sunk on Bore No. 6
29	Do. ...	At Maninga Marley ...	3 „ = 167 „ ...	Good supply fresh water. Well sunk on Bore No. 3
30	Do. ...	At Rafferty's, Black Range ...	8 „ = 383 „ ...	Fair supply fresh water. Well sunk on Bore No. 8
31	Do. ...	On Magnet-Black Range Road...	6 „ = 144 „ ...	Fair supply stock water. Well sunk on Bore No. 6
32	Do. ...	On Lawlers-Berrigrin Road ...	3 „ = 172 „ ...	Good supplies fresh water. Bores Nos. 1 and 3 equipped as bore wells. Well sunk on Bore No. 2
33	Do. ...	At Mindoolah ...	1 bore 86 „ ...	Good supply fresh water. Well sunk on bore
<i>Pilbarra District.</i>				
34	Boring for water ...	Various localities ...	22 bores, average 50 feet = 1,100 „ Total ... 11,581 „	

WELL SINKING.

Item.	Class of Work.	Locality.	General Description.	Remarks.
<i>Coolgardie District.</i>				
Well Sinking	...	Siberia State Battery, about 2 miles N. of Waverley Townsite	6ft. x 4ft. shaft, depth 144ft.	Good supply battery water.
Do.	...	Gilgarna Rock, Kanowna-Pingin Road	5ft. x 3ft. " " 87ft.	Small supply fresh water.
Do.	...	Edjudina-Pingin Road ...	5ft. x 3ft. " " 123ft.	Fair supply fresh water.
Do.	...	3½ miles S. of Higginsville ...	6ft. x 4ft. " " 29ft. 6in.	Good supply salt water.
Do.	...	On No. 13 bore near Golden Cube Lease	6ft. x 4ft. " " 132ft.	Heavy supply fresh water.
Do.	...	4½ miles N.W. of Carbine Gold Mine	6ft. x 4ft. " " 68ft.	Heavy supply salt water.
Do.	...	2½ miles N. of Davyhurst Townsite	10ft. diameter circular shaft, depth 180ft.	Very heavy supply salt water. Part of this is lined with concrete cylinder.
Do.	...	At Pigeon Rocks ...	6ft. x 4ft. shaft, depth 25ft.	Fair supply fresh water.
Do.	...	At Pingin ...	6ft. x 4ft. shaft, depth 170ft., drive 27ft.	Fair supply battery water.
<i>Murchison District.</i>				
Well Sinking	...	State Battery, Black Range ...	5ft. x 3ft. shaft, depth 89ft.	Good supply fresh water.
Do.	...	At Sandstone, Black Range ...	5ft. x 3ft. " " 118ft.	Fair supply fresh water.
Do.	...	Berrigrin Road, 33½ miles from Lawlers	5ft. x 3ft. " " 18ft. 6in.	Good supply fresh water.
Do.	...	3 miles S.W. of Nannine ...	6ft. x 4ft. " " 10ft.	Good supply fresh water.
Do.	...	27 miles Westerly from Peak Hill, Wilthorpe	5ft. x 3ft. " " 112ft.	Small supply fresh water.
Do.	...	Peak Hill-Wiluna-Leonora Stock Route, Emerald Well	6ft. x 4ft. " " 66ft.	Good supply fresh water.
Do.	...	Peak Hill-Wiluna-Leonora Stock Route, Crystal Well	6ft. x 4ft. " " 41ft. 6in.	Do. do.
Do.	...	Yuin Townsite, Yalgoo District	5ft. x 3ft. " " 62ft.	Fair supply fresh water.
Do.	...	Magnet-Black Range Road about 35 miles from Magnet	5ft. x 3ft. " " 34ft. 6in.	Do. do.
<i>Pilbarra District.</i>				
Well Sinking	...	At Strelly, on road to Marble Bar 43½ miles from Port Hedland	5ft. x 3ft. " " 40ft.	Good supply fresh water
Do.	...	McPhee's Patch, Turner River Gold Workings	5ft. x 3ft. " " 44ft.	Do. do.
Do.	...	Elsie Creek, Elsie Creek Gold Workings	6ft. x 3ft. 6in. " " 60ft.	Do. do.
Do.	...	One and a half miles East of Wodgina Township (No. 1 Well)	5ft. x 3ft. " " 40ft.	Do. do.
Do.	...	Wodgina Township (No. 2 Well)	5ft. x 3ft. " " 45ft.	Do. do.
Do.	...	Wodgina Township (No. 3 Well)	5ft. x 3ft. " " 48ft.	Do. do.
Do.	...	Twelve miles East of Wodgina, Hedland to Tambourah Road ("Pinnacles")	5ft. x 3ft. " " 25ft.	Do. do.
Do.	...	Gillam's Creek, Port Hedland-Woodstock Road	5ft. x 3ft. " " 16ft.	Do. do.
Do.	...	Kobalana, Port Hedland-Woodstock Road	2ft. 6in. x 3ft. 6in. shaft, depth 52ft.	Do. do.
Do.	...	Abydos, Port Hedland-Woodstock Road	5ft. x 3ft. shaft, depth 40ft.	Do. do.
Do.	...	Millindinna Road ...	5ft. x 3ft. " " 39ft.	Heavy supply fresh water
Do.	...	Turner ...	5ft. x 3ft. " " 50ft.	Do. do.
			Total ...	2,009ft.

IMPROVEMENTS TO WELLS.

Item.	Class of Work.	Locality.	General Description.	Remarks.
<i>Coolgardie District.</i>				
Repairs to Well ...		McKenzie's, about 15 miles North-West Mt. Margaret	Well cleaned and brace repaired	
Drive in Well ...		$\frac{3}{4}$ -mile Mt. Margaret townsite ...	6 x 5 drive, 22ft.; repairs to dump and brace	
Repairs ...		Yerilla Township ...	Well retimbered, cleaned, and brace repaired. Elevated tank and windmill	
Drive in Well ...		Pingin, West of townsite ...	Drive 6ft. x 4ft., length 26ft.	
Deepening ...		State Battery, Siberia, 2 miles North of Waverley	6 x 4 shaft, deepened 27ft.; new pump installed	
Repairs to Well ...		Jaurdie Hills ...	Bad ground, necessitated special timbering	
Equipping Well ...		Eucalyptus ...	Windmill and elevated tank stand	
Repairs ...		Mt. Clifford ...	Retimbering well and repairing brace	
Drive in Well ...		Menzies (Jowett's Well) ...	6 x 8 drive, 8ft.; well cleaned and repaired	
Repairs to Well ...		7 miles North-East of Merton-dale	Brace repaired, windlass, etc., erected	
Do. ...		Between Morgans and Australia United	Brace repaired and windlass erected	
Do. ...		1 mile East of Kurnalpi townsite	Well baled and cleaned. windlass, troughing, and whip, etc., erected	
Do. ...		Yerilla (Cowley's Well) ...	Retimbered, cleaned out, and equipped with windlass stand and buckets, etc.	
<i>Murchison District.</i>				
Drive in Well ...		Black Range ...	6 x 3 drives, totalling 92ft.; oil engine and pump installed	
Do. ...		Peak Hill-Leonora Stock Route	6 x 4 drive, 25ft.; brace repaired	
Deepening Well ...		Do. do. ...	5 x 3 shaft, deepened 1ft. 10in.; whip and troughing erected; brace repaired	
Drives in Well ...		Do. do. ...	6 x 4 drive, 12ft. 6in.; whip and troughing erected	
Repairs to Well ...		Do. do. ...	Whip, ladder, etc., installed; well baled and cleaned	
Do. ...		Do. do. ...	Whip erected, brace repaired; well baled and cleaned	
Deepening (12) Wells		Peak Hill-Leonora Stock Route	Wells deepened, cleaned, and repaired	
Equipping Well ...		Field's Find ...	Windmill and elevated 3,000-gal. tank	
Do. ...		Day Dawn ...	Small pumping plant	
Do. ...		Boogardie ...	Windmill and elevated tank	
Do. ...		Do. ...	Windmill and elevated tank at Boogardie Stock Well	
<i>Pilbarra District.</i>				
Deepening Well ...		Bamboo 5 Miles ...	Shaft 5 x 3, deepened 7ft. 6in.	
Do. ...		Station Peak ...	Shaft 5 x 3, deepened 3 feet	
Do. ...		Box Creek ...	" 5 x 3, " 6 "	
Do. ...		Friendly Creek ...	" 5 x 3, " 9 "	
Do. ...		Shark's ...	" 5 x 3, " 6 "	
Do. ...		Cooglegong ...	" 5 x 3, " 5 "	
Do. ...		20-Mile (Battery Well) ...	" 5 x 3, " 50 "	
Driving Well ...			Drive, 5 x 3, " 72 "	
Deepening Well ...		Farwig's ...	Shaft, 5 x 3, " 5 "	
Do. ...		Moolyella ...	" 5 x 3, " 6 "	
Relined Well ...		5 Mile Sandy ...	Lined with galvanised iron from brace to 13ft.	
Do. ...		Wyman's ...	Lined with galvanised iron from brace to 12ft.	

IMPROVEMENTS TO WELLS—continued.

Item.	Class of Work.	Locality.	General Description.	Remarks.
<i>Pilbarra District—continued.</i>				
Relined Well	...	Balla-Balla	...	Lined with galvanised iron from brace to 10ft.
Do.	...	Whim Creek	...	Lined with galvanised iron from brace to 12ft. 6in.
Do.	...	Dead Bullock	...	Lined with galvanised iron from brace to 13ft.
Do.	...	Bamboo Creek	...	Lined with galvanised iron from brace to 13ft.
Do.	...	Old 20 Mile Sandy	...	Lined with galvanised iron from brace to 15ft.
Do.	...	Ellerine	...	Lined with galvanised iron from brace to 12ft. 6in.
Repairing 20 Wells		Port Hedland-Marble Bar Road		Repairing windmills, pump troughing, brace, windlass stands, cleaning out same
Do.	4	Marble Bar-Nullagine Road	...	Repairing fencing, brace, windlass stands, cleaning out same
Do.	5	Marble Bar-Condon Road	...	do. do. do.
Do.	3	Marble Bar-Bamboo Creek Road		Repairing fencing, troughing, brace, windlass stands, and cleaning out same
Repairing 2 Wells		Bamboo Creek-Condon Road	...	Repairing fencing, troughing, brace, windlass stands, and cleaning out same
Do.	1	Bamboo Creek - Yandicoogina Road		do. do.
Do.	1	Port Hedland-Condon Road	...	do. do.
Do.	6	Nullagine-Woodstock Road	...	do. do.
Do.	5	Nullagine-Forty Mile Road	...	do. do.
Do.	1	Cooglegong Tinfield	...	do. do.
Do.	15	West Pilbarra Goldfield	...	do. do.
Do.	3	Marble Bar-Hillside Road	...	do. do.

MISCELLANEOUS WORKS.

Item.	Class of Work.	Locality.	General Description.	Remarks.
<i>Coolgardie District.</i>				
	Channels, No. 2 tank	Menzies	Construction of channels on catchment	
	Pump Station ...	Davyhurst	Erection of oil engine, cooling tank, and engine-driver's cottage	
	Reservoir Station ...	Niagara	Repairs to concrete wall to stop loss of water	
	Tank Station ...	Mulgabbie	Erection of rabbit-proof fence, Mulgabbie tank	
	Fencing	Southern Cross	Fencing old cemeteries with post (4), wires, and wire netting	
	Do.	Londonderry	Londonderry stock pad-dock	Subdivisional fence
	Road Clearing ...	Parker's Range, Hatter's Hill ...	Clearing 12ft. track	
	Do.	Pingin	Pingin-Gilgarna Rock ...	27 miles of track, 12 feet wide
	Do.	Wilson's Patch, Darlôt ...	Wilson's Patch to Darlôt	27 miles of track, 10 feet wide
	Water Supply	Yundagar	Erection of tank and stand	
	Surveys	Never Never Leases	Survey of tank site and catchment area	
	Do.	Carbine	do. do.	
	Do.	Ora Banda	do. do.	
	Do.	Jaurdie Hills	do. do.	
	Do.	Near Jacoletti	Survey of tank site and rock catchment	
	Do.	Higginsville	Survey of pipe line from well to the battery	
	Do.	Mertondale	Survey of pipe line from Pig Well to Mertondale	
	Do.	Leonora	Survey of pipe line from Station Creek to Leonora	
	Do.	Pingin	Survey of road from Pingin to Gilgarna	
	Do.	Carbine	For domestic water supply: Several catchments examined and one surveyed	
	Do.	Mertondale	For supply of battery water from Pig Well to Mertondale, 10 miles	
	Rabbit-proof Fence	At Norseman No. 1	Wire-netting fence erected round tank with swinging gates to inlet and by-wash	
	Do.	At Goongarrie	do. do.	
	Do.	At Reedy's Tank	do. do.	
	Do.	At Bullock Holes	do. do.	
<i>Murchison District.</i>				
	Surveys	Tuckanarra	Survey of pipe line from Boyd's Reward Lease to State Battery	Battery purposes
	Do.	Meekatharra	Survey of pipe line from Garden Gully to Meekatharra	Domestic purposes
	Do.	Lennonville	Survey of extension of pipe line to State Battery	Battery purposes
	Do.	Black Range	Survey of battery site and pipe line	Battery purposes

WORK DONE FOR ARCHITECTURAL DEPARTMENT.

Item.	Class of Work.	Locality.	General Description.	Remarks.
<i>Pilbarra District.</i>				
	Repairing Buildings	Marble Bar	Repairing and painting residency	By contract on account of Architectural Division, P.W.D.
	Do.	do.	Additions to police station	do. do.
	Do.	Nullagine	do. do.	do. do.
	Do.	do.	Painting Court and Registrar's house	do. do.

WORKS FOR CONSERVATION OF WATER.

Item.	Class of Work.	Locality.	General Description.	Remarks.
<i>Coolgardie District.</i>				
1	8,000,000 gallon tank	Near Menzies Townsite ...	Lined with asphalt compo., roofed, and equipped with pumping plant and enclosed with cyclone fence	For stock supply and boilers.
2	6,000,000 do.	Near Norseman	Excavation	Completed. For stock and boilers.
3	3,000,000 do.	Near Ravensthorpe Townsite ...	Excavation	In progress. For stock and boilers.
4	500,000 do.	Near Edjudina Townsite ...	Lined with asphalt compo., roofed with galvanised iron, and enclosed with fence, post and 5 wires	In progress. For domestic use.
5	750,000 do.	Near Jaurdie Hills Townsite ...	Excavation	In progress. For domestic use.
6	2,500,000 do.	Near Kundip Townsite	Excavation	Plans and surveys completed, tenders called. Water required for residents and mines.
7	16,000 do.	Near Jacoletti	Rock excavation	Completed. For prospectors.
8	10,000 do.	Near Mt. Holland	Rock excavation	Completed. For prospectors.

PIPE LINES, PUMPING PLANTS, ETC.

Class of Work.	General Description.
<i>Eastern Goldfields.</i>	
Menzies Water Supply—Extensions and Improvements to Original Works	To supply Goodenough G.M., Picton Valley, and Woolgar with battery water; consisting of 2 miles of 5in., 2½ miles of 4in., and 2½ miles of 3in.; also Nos. 1 and 2 Pumping Stations, consisting of one 33 h.p. Diesel engine, and one 20 h.p. Diesel engine, with high lift turbine pump and 3-throw D.W. pump, each with capacity of 5,000 per hour. Telephone lines and automatic alarms, etc.
Pig Well—Mertondale Water Supply ...	Battery water pumped from Pig Well to Mertondale Mines. The plant consists of about 10 miles of 4in. pipes with temporary steam pumps. Eventually a D.W. pump and engine will be fixed on water shaft. The service is for 60,000 gals. in 12 hours.
Higginsville Battery Water Supply	To supply batteries, condensers, etc. Plant consists of 3½ miles of 3in. solid drawn pipes and steam pumping plant.
Davyhurst Battery Water Supply	A powerful D.W. submergible pump (on concrete, lined well, 200ft. deep), driven by electric motor. Current obtained from pumping station ¼-mile distant, described in previous reports.
Carbine Battery Water Supply	Surveys and plans completed. Material ordered to pump salt water 4½ miles to mines. Work held up.
<i>Murchison Goldfields.</i>	
Meekatharra Battery and Domestic Water Supply	Pumping plant consists of 3-throw D.W. pump on shaft; and 3-throw horizontal pump on surface, both driven by oil engine, 25 h.p. The rising main is 10 miles of 4in. solid drawn pipe to service tanks on Trig Hill. Gravitation mains run to town and batteries.

INSPECTION AND REPORT.

Item.	Class of Work.	Locality.	General Description.	Remarks.
<i>Coolgardie District.</i>				
Water Supply	...	Kurnalpi-Gilgarna	Survey for road	Reported upon 9-1-06
Do.	...	Dordie Rocks	Utility of	do. do. 8-3-06
Do.	...	Edjudina	Water supply, survey, etc.	do. do. 7-8-06
Do.	...	Kanowna-Kurnalpi Road	" " "	do. do. 19-10-06
Do.	...	Yelladine-Parker's Range Road	" " "	do. do. 20-6-06
Do.	...	42-Mile, Hooley's Balgarrie	" " "	do. do. 19-6-06
Do.	...	Mt. Jackson	" " "	do. do. 4-10-06
Do.	...	Binyarinyinna	Leasing Binyarinyinna soak	do. do. 7-5-06
Do.	...	Coolgardie	Emu Lake water supply	do. do. 15-6-06
Do.	...	Mulgabbie	Rabbit proof fence, Mulgabbie tank	do. do. 5-7-06
Do.	...	Kunanalling	Kunanalling tank rainfall	do. do. 28-5-06
Do.	...	Bulong	Repairs to tank	do. do. 11-2-06
Do.	...	Coolgardie, Jaurdie Hills	Road water supply	do. do. 30-5-06
Do.	...	Malcolm	Water supply	do. do. 23-6-06
Do.	...	Redcastle	" " "	do. do. 6-10-06
Do.	...	Buldanina	Water supply for battery purposes	do. do. 20-10-06
Do.	...	Red Hill	Water supply	do. do. 21-9-06
Do.	...	Broad Arrow	Replacing water supply under control of Roads Board	do. do. 25-7-06
Do.	...	Ora Banda	Providing water supply, survey, etc.	do. do. 19-11-06
Do.	...	Kalpini	Purchase of tank	do. do. 23-10-06
Do.	...	Menzies-Davyhurst Road	Survey and selection of suitable route	do. do. 13-6-06
Do.	...	Yundamindera	Disposal of well and water right	do. do. 6-11-06
Do.	...	Springfield District	Purchase of well	do. do. 27-8-06
Do.	...	Eastern Goldfields	Tree planting in vicinity of Well	do. do. 1-8-06
Do.	...	Ularring Rocks	Conditions of Water Supply	do. do. 1-11-06
<i>Murchison District.</i>				
Water Supply	...	Barrambie	Leasing Barrambie Govern- ment Well	do. do. 29-3-06
Do.	...	Cue-Day Dawn	Proposed Additions	do. do. 23-1-06
Do.	...	Maninga Marley, Black Range	Re Additional Water Sup- ply	do. do. 11-4-06
Do.	...	Stock Route via Separation Well	Re Water Supply, Survey- ing, etc.	do. do. 3-10-06
Do.	...	Lawlers and Berrigrin Road	Do.	do. do. 11-5-06
Do.	...	Cue-Barrambie	Do.	do. do. 30-5-06
Do.	...	Kathleen Valley	Re Water Supply	do. do. 3-3-06
Do.	...	Wiluna Road	Re Water Supply between Gum Creek and Cork Tree	do. do. 12-7-06
Do.	...	Peak Hill	Mt. Frazer Well	do. do. 8-9-06
Do.	...	Cue-Wiluna	Re Water Supply Improve- ments	do. do. 21-11-06
Do.	...	Nannine	Survey of Road	do. do. 6-11-06
Do.	...	Meekatharra-Gabanintha	Water Supply for Track	do. do. 8-10-06
Do.	...	Day Dawn	Separate Source for Do- mestic and Battery Water Supply	do. do. 5-10-06
Do.	...	Nannine-Chesterfield Road	Do.	do. do. 20-7-06
Do.	...	Quinn's	Do.	do. do. 8-8-06
Do.	...	Day Dawn	Analysis of Water	do. do. 15-9-06
<i>Pilbarra District.</i>				
Water Supply	...	Pilbarra	Wodgina-Kobalana Road Water Supply	Reported upon 12-7-06
Do.	...	Marble Bar	Improvements to Engineer's Residence	do. do. 8-3-06
Do.	...	Mosquito Creek	Providing Water Supply	do. do. 19-12-06
Do.	...	Port Hedland	Condition of Administration	do. do. 19-12-06
Well sinking	...	Shaw's Patch	Providing Water Supply	do. do. 26-9-06
<i>Miscellaneous.</i>				
Inspections	...	Eastern Goldfields District	Water Rights	33 Inspections, 30 granted, 3 ob- jected to.
Reserves	...	Goldfields	Reserves for Water Supply purposes	25 gazetted.

Rainfall at various Stations.

100 points = 1 inch.

Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.		
													1906.	1905.	1904.
Niagara	37	136	<i>Nil</i>	<i>Nil</i>	32	84	63	253	18	<i>Nil</i>	29	27	679	701	613
27-Mile Condenser	<i>Nil</i>	90	<i>Nil</i>	<i>Nil</i>	50	60	142	254	<i>Nil</i>	<i>Nil</i>	48	119	763	880	794
Menzies	<i>Nil</i>	291	<i>Nil</i>	<i>Nil</i>	54	78	136	287	<i>Nil</i>	<i>Nil</i>	47	14	907	724	960
Mulline	50	63	<i>Nil</i>	<i>Nil</i>	28	33	55	414	33	<i>Nil</i>	35	44	755	542	969
Davyhurst	30	104	15	15	105	33	187	278	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>	767	663	965
Siberia	57	196	10	2	123	60	173	275	10	<i>Nil</i>	28	28	962	731	979
Goongarrie	50	300	16	<i>Nil</i>	73	108	126	310	3	23	61	49	1,119	606	950
Black Flag	36	253	8	<i>Nil</i>	109	109	118	275	<i>Nil</i>	8	52	20	988	692	930
Gindalbie	<i>Nil</i>	340	5	<i>Nil</i>	74	72	138	289	4	<i>Nil</i>	90	10	1,022	625	980
Kunanalling	7	71	<i>Nil</i>	<i>Nil</i>	141	101	101	253	17	<i>Nil</i>	39	19	769	700	940
Coolgardie	33	84	<i>Nil</i>	<i>Nil</i>	154	111	61	212	<i>Nil</i>	7	30	27	719	724	1,115
Widgiemooltha	45	75	<i>Nil</i>	5	185	125	56	267	50	18	100	14	940	781	1,033
Wingarnie	152	193	<i>Nil</i>	<i>Nil</i>	168	85	83	273	50	14	177	24	1,219	821	1,185
15-Mile Condenser	68	257	<i>Nil</i>	<i>Nil</i>	148	78	33	222	45	15	172	22	1,060	1,090	1,242
Norseman	49	180	<i>Nil</i>	<i>Nil</i>	92	47	77	223	36	21	166	19	910	954	1,374

MINES WATER SUPPLY BRANCH.

EASTERN GOLDFIELDS.

*Return of Revenue and Expenditure for the 12 months, January
to December, 1906.*

Name of Watering Station.	Revenue.			Expenditure.		
	£	s.	d.	£	s.	d.
Swan Lagoon Condenser ... ..	...	...	...	65	7	6
Norseman No. 1 Tank and Condenser	694	16	1	827	6	2
Norseman No. 2 Tank	8	10	3	...	...	...
15-Mile Condenser	33	15	6	186	17	8
Widgiemooltha Tank	104	16	5	89	16	0
Mt. Clifford Well ... ..	...	...	...	23	0	0
Siberia Tank	6	0	0	28	17	5
Kanowna Tank	22	13	2	21	13	9
Bulong Tank	52	18	2	202	1	0
Menzies No. 1 Tank	602	14	9	587	14	11
Menzies No. 2 Tank	1,073	10	8	275	7	5
27-Mile Condenser ... ..	...	...	...	49	10	0
Niagara Reservoir	1,080	8	8	177	17	7
No. 1 Well, Kookynie-Edjudina Road ... ..	...	...	...	57	2	1
No. 2 Well, Kookynie-Edjudina Road ... ..	...	...	...	46	17	9
47-Mile Well ... ..	...	...	...	61	15	5
Kunanalling Tank	161	12	4	174	19	9
Mulline Tank	26	7	2	116	9	2
45-Mile Well	2	0	0	16	7	6
Dingo Creek Well ... ..	...	...	...	0	2	0
Mt. Ida Soak ... ..	...	...	...	5	0	0
51-Mile Well ... ..	...	...	...	25	10	0
Black Flag Tank	52	0	0	...	...	...
Gwalia Bach Well (Pig Well)	28	0	11	139	19	7
Granites Well (Yundamindera)	40	2	2	130	12	10
Goongarrie Tank	377	9	9	277	9	3
Wingarnie Tank (50-Mile)	81	18	0	15	11	0
McKenzie Well ... ..	...	...	...	18	13	9
French's Soak	6	0	0	...	...	...
Davyhurst Water Supply and Condenser	2,428	7	5	1,362	3	10
Mertondale Well	54	0	0	3	4	0
Gindalbie Tank	41	18	5	119	14	8
Ularring Soak ... ..	...	...	...	24	18	0
Flora Well... ..	...	...	...	29	12	0
Binyarinyinna Soak	4	0	0	...	...	...
Dundas Tank	21	0	0	...	...	...
Gindalbie Condenser	12	16	4	114	6	1
30-Mile Condenser ... ..	...	...	...	84	17	0
Gibson's Soak ... ..	...	...	...	89	5	7
Chain of Waterholes ... ..	...	...	...	5	1	4
92-Mile Condenser ... ..	...	...	...	56	11	6
Yarri Town Well (No. 3 Well) ... ..	...	...	...	154	13	0
Pink Well ... ..	...	...	...	1	19	4
Wangine Well	3	0	0	24	1	10
Emu Well ... ..	...	...	...	0	8	0
Menzies Well, No. 1 Pumping Station	942	8	7	599	13	3
Salmon Gum Condenser ... ..	...	...	...	52	2	9
Bullock Holes	8	4	2	39	15	8
Jacoletti Well	29	3	4	...	...	...
Donkey Rocks Well	13	0	0	...	...	...
Yilgangie Dam	11	7	6	...	...	...
Eucalyptus Well ... ..	...	...	...	22	3	4
North Mt. Weld Well	12	0	0	...	...	...
Yowie Rock Holes ... ..	...	...	...	10	16	0
Gilvally Tank ... ..	...	...	...	14	16	0
Flat Rocks Well	56	0	0	...	...	...
Londonderry Tank	4	0	0	20	18	5
Pindinnie Well ... ..	...	...	...	5	0	0
Kaiki Soak Well ... ..	...	...	...	9	0	0
Cardina Well ... ..	...	...	...	8	8	0
Coworna Holes ... ..	...	...	...	21	0	0
Wilson Well ... ..	...	...	...	7	12	0
Doctor's Well ... ..	...	...	...	1	12	0
Waite Kauri Well ... ..	...	...	...	3	19	8
No. 10 Chain Waterholes ... ..	...	...	...	1	18	0
Mt. Margaret Well ... ..	...	...	...	2	10	8
Red Flag Well ... ..	...	...	...	4	15	4
Crawford Soak ... ..	...	...	...	4	12	0
Cork Tree Well ... ..	...	...	...	2	5	4
Carried forward	8,096	19	9	6,525	14	1

Return of Revenue and Expenditure—continued.

Name of Watering Station.	Revenue.	Expenditure.
	£ s. d.	£ s. d.
Brought forward	8,096 19 9	6,525 14 1
Kirkpatrick Well... ..	...	2 5 4
Swanson Creek Well ... ..	...	2 5 0
Duketon Well ... ..	...	2 14 8
Prospector Bore Well ... ..	...	1 18 0
Mulga Queen Well ... ..	...	6 0 0
Hawk Nest Well ... ..	...	4 19 4
7-Mile West Morgan Road Well ... ..	...	9 18 0
Australia United Well ... ..	...	2 12 8
Kilkenny Well	7 4 0	4 14 0
No. 1 Soak, Coolgardie-Jaurdie Hills Rd. ... ..	...	26 12 0
No. 2 do. do. do. ... ..	...	3 14 0
28-Mile Well ... ..	...	3 16 0
Doyle's Well ... ..	...	2 0 0
No. 2 Well, Kurnalpi (Polhill)	5 0 0	0 10 0
Dodger's Well ... ..	...	5 2 1
Goose's Soak ... ..	...	1 9 4
42-Mile Tank	12 0 0	0 18 4
Old Margaret Brewery Well ... ..	...	1 12 0
Redcastle Well ... ..	...	1 17 3
May Nulty Well ... ..	...	2 8 0
No. 9 Well ... ..	...	3 12 0
Gilgarna Well ... ..	...	13 12 0
Yarri Battery Well	11 18 0	...
Jaurdie Hills Well	76 4 0	...
Jessup's Well	1 1 8	...
14-Mile Well	1 18 0	...
No. 2 Well, Yerilla-Edjudina Road	12 0 0	...
No. 2 Well, Kurnalpi (Hackett's)	5 0 0	...
Golden Cube Well	5 0 0	...
Higginsville Water Supply	229 13 6	...
9-Mile Bore Well ... ..	...	3 8 0
Golden King ... ..	...	1 14 0
Bummer's Creek Soak ... ..	...	3 14 8
Mt. Jackson Tank ... ..	...	20 19 0
Doherty's Soak, Red Hill ... ..	...	26 19 0
	£8,463 18 11	£6,686 18 9
<i>Charged to C.F. Authorities, but not allocated to any particular Watering Station.</i>		
Wages of Caretakers, Upkeep of Tanks, etc. ... ..	...	1,170 13 5
Plant for Maintenance ... ..	...	959 4 3
Office Expenses, etc. ... ..	...	27 14 3
Forage ... ..	...	463 14 9
	£8,463 18 11	£9,308 5 5

Murchison and East Murchison Goldfield.

Peak Hill Well	64 16 2	280 11 7
Day Dawn Well	23 6 4	24 3 4
Beat's (32-Mile Well, New England) ... ..	...	36 1 10
Fallon's Well ... ..	...	9 13 4
Ogilvie's Well ... ..	...	63 13 8
Peregrine Well ... ..	...	25 9 6
McCaffrey's or 4-Mile Well ... ..	...	11 6 2
No. 6 Well ... ..	...	18 17 8
17-Mile, Darlot Road ... ..	...	1 9 4
Biera-Bubba ... ..	...	9 3 10
Prindergast ... ..	...	2 16 8
Darlot Claypan Well ... ..	...	4 8 0
19-Mile Well ... ..	...	1 8 4
Woodarra Old Workings ... ..	...	1 8 4
Jack's Well ... ..	...	5 7 8
Minderoo ... ..	...	4 7 0
Tuckanarra ... ..	...	26 9 10
Mummara ... ..	...	10 2 8
Lloyd's ... ..	...	3 1 0
Reedy's Well ... ..	...	4 10 0
Gap Well ... ..	...	2 16 8
34-Mile ... ..	...	1 10 8
Mistake ... ..	...	1 9 4
Red Well ... ..	...	3 11 8
Daniels ... ..	...	5 14 4
Fisher's Well ... ..	...	4 2 8
Worthington Well ... ..	...	14 13 0
Carried forward	88 2 6	578 8 1

Return of Revenue and Expenditure—continued.

Name of Watering Station.	Revenue.		Expenditure.	
	£	s. d.	£	s. d.
Brought forward	88	2 6	578	8 1
Mt. Fraser Well			3	3 8
Murphy Well			24	9 0
Murchison Well			5	15 4
Sir Samuel Stock Well	8	5 0	8	6 4
Ruby Well			12	12 8
Moolygool			21	15 4
Darlot Well			5	2 0
" Soak			2	18 8
Walby Nob			15	10 8
Diamond Well			14	1 2
Millie Station Well, near Cue			2	18 6
Mollie Well			38	6 4
Abercrombie			2	16 8
Cork Tree, No. 1 Well			2	16 8
Oasis			2	16 8
Kathleen Valley, No. 1 Well			9	5 6
Wilson Creek, No. 1 Well			2	18 8
Cody's Well			1	9 4
No. 2, Lawlers-Magnet Road			0	1 0
Lawlers Stock Well			19	6 2
Gum Creek			18	1 2
No. 4, Lawlers-Magnet Road			1	2 5
Burnakurra			0	2 6
No. 3, Black Range			15	15 6
Breakaway			15	6 5
Bulkabardoo			22	2 6
Muletah			6	14 6
Webb's Patch			8	18 9
Magnet Stock Well			2	5 10
Cue Town Well			1	13 9
Yarraquin			4	18 0
Garden Granites			6	19 4
Doctor's Well			2	18 8
Teutonic Well			4	5 4
Moondarra Well			9	15 6
West Creek Well			19	18 8
Doyle's Well			16	18 8
No. 1 Well on Cue-Black Range Route			4	4 2
No. 2 Well do. do.			5	13 0
Bulchina Well (Nungarra)			34	12 0
Upper Ord Deep Well			5	19 2
New Granites Well			2	0 0
Quinns Town Well			1	8 4
Boogardie Town Well	16	0 0	3	5 0
Sullivan Creek			4	8 0
Fairyland			1	9 4
21-Mile Well			2	4 0
Day Dawn Horse Paddock			4	13 4
May Nulty			5	17 4
Nannine Water Supply	258	8 0	37	2 10
No. 68, Nungarra	10	0 0		
Maninga Marley Well, Nungarra			27	8 3
Bore Well, 14 miles from Nungarra			15	15 0
Boogardie Stock Well	1	0 0	14	10 0
Kataka Well			6	1 10
Kiloloo			2	16 8
Cork Tree Flat Well			2	16 8
No. 3 Well, Nungarra			6	19 0
Bore Well			5	6 8
No. 2 Bore Well			2	15 0
No. 40, Lawlers-Black Range			20	3 2
Lennonville Water Supply	99	19 10	193	18 3
Lawlers Town Well	26	0 0		
Scotty Well			4	8 4
Simpson Well			21	6 8
Snake Well			1	8 4
Hancock's Well			4	5 0
Diorite King			3	14 8
No. 5, Rocky Soak			3	12 4
7-Mile Bore Well			5	13 4
5-Mile Soak			35	12 4
Barrambie Well	4	4 0	30	1 8
Brewery Well			7	18 0
No. 3 Well, Lawlers-Black Range Road			9	18 4
No. 4 Well, Lawlers-Black Range Road			7	1 8
No. 3 Cue Well, Black Range Road			1	6 8
Magnet Stock Well			1	10 0
Carried forward	511	19 4	1,482	0 3

Return of Revenue and Expenditure—continued.

Name of Watering Station.	Revenue.	Expenditure.
	£ s. d.	£ s. d.
Brought forward	511 19 4	1,482 0 3
Ned's Well, Day Dawn-Magnet Road		3 13 4
Jack's Well, Tuckanarra		3 13 4
Buzza Well, Nungarra District		6 6 8
Hancock's Well		2 16 8
No. 3 Bore Well, Nungarra-Montague Road		2 16 8
No. 5 Bore Well, Nungarra-Montague Road		1 8 4
71-Mile Well, Montague-Black Range Road		1 8 4
Pindamurra Well		1 8 4
Muletan		1 8 4
Camel Well		24 16 8
Burnakurra		2 16 8
Quinn's Stock Well		4 5 0
Gabanintha Windmill Well		9 4 5
Portella Well		2 5 0
Star of the East		2 5 0
Roads Board Well... ..		3 0 0
Chumerang		1 10 0
Limestone Well		1 10 0
New Granites Well		3 0 0
Con's Well		3 15 0
Diorite Well		1 0 6
Ward's Well		11 17 6
Sandstone Well	3 0 0	2 0 0
Abbott's Well		0 3 0
Mt. Fraser Well		39 4 10
Garden Gully		1 8 4
Meekatharra Well... ..		70 7 0
Wiluna Stock Well		6 8 0
Johnson's Well		4 15 0
Granites Well		1 10 0
Mt. Townsend Well		3 0 0
Walgagumyah Well		2 4 5
Bubba-n-gundi Well		1 10 0
Nandi Well... ..		1 10 0
Boyd's Well		1 11 8
Commodore Well		5 14 2
Crown Well, Garden Gully		4 7 6
Contradiction Well		1 8 4
36-Mile Well		0 15 0
	£514 19 4	£1,726 3 3
<i>Charged to C.F. Authorities, but not allocated to any particular Watering Station.</i>		
Wages of Caretakers, upkeep of tanks, etc.		1,128 19 9
Plant for maintenance		703 12 3
Office Expenses, etc.		12 6 0
Forage		364 0 1
	£514 19 4	£3,935 1 4
<i>Pilbarra and West Pilbarra Goldfields.</i>		
Marble Bar Town Well	11 0 0	34 11 4
Sandy Creek Well		15 6 8
Station Peak Well		5 15 8
20-Mile Sandy Well		8 0 0
Nullagine (4-Mile) Well		5 0 0
Warrawoona		60 9 1
McKinnon's Flat Well		1 0 0
Kangaroo Well		21 14 4
Black Gin Well		24 13 0
Annie's Gap		12 19 9
3-Mile Well		2 10 0
Wyman's Well		15 3 4
Pilbarra Well		16 11 11
Kitty's Gap		19 13 2
Coppen's Gap		5 14 8
Bamboo, 8-Mile		26 9 5
Hongkong		33 8 9
Friendly Creek Well		14 18 0
Top Camp Well		29 5 4
Egina		20 11 8
Trig Hill Well		8 10 0
Robinson's 5-Mile		10 4 0
Robinson's 10-Mile		8 2 0
Carried forward	11 0 0	400 12 1

Return of Revenue and Expenditure—continued.

Name of Watering Station.	Revenue.	Expenditure.
	£ s. d.	£ s. d.
Brought forward	11 0 0	400 12 1
Pierre Creek		8 2 0
Ellerine Well		35 15 5
Mulyie Well		6 0 0
3-Mile Well		19 12 0
Big Schist Well		55 12 0
Spinaway's Well		1 2 9
Shady Camp Well		5 19 4
Little Shaw Well		5 19 4
Lalla Rookh Well		6 8 10
Coonterooona		5 19 4
42-Mile Well		6 1 7
Box Creek Well		5 19 4
Lower Middle Creek Well		6 0 0
Pippingarra Well		17 8 0
Poondina Well		4 17 8
Tabba Tabba Well		16 0 11
Millindiinna Well		25 0 8
Mallina		21 10 4
Port Hedland, 1-Mile Well		3 13 0
Port Hedland, 4-Mile Well		10 15 0
Paterson's Well		1 14 0
Strelly Well		1 14 0
Carlinda Well		3 8 0
Pindan Well		3 12 0
Gorge Creek Well		1 14 0
Whim Creek Well		56 7 1
Nullagine Well		0 12 0
Balla Balla Well		54 18 0
Port Hedland Well, 5-Mile		5 8 6
Capom's Well		43 3 8
Farwig's Well		18 15 0
Moolyella Well		10 8 0
Western Shaw Well		10 6 8
Table Top Well		12 6 7
Ely Old Shaw Well		6 5 8
Old Shaw, No. 2 Well		1 15 0
Black Range Well		1 15 0
Dead Bullock Well		90 18 4
Mundine, No. 1 Well		5 8 4
Do. No. 2		12 0 11
Tambourah Well		1 19 5
Croyden Top Camp Well		50 10 0
Coongan Soak Well		1 5 6
North Shaw Well		2 10 0
Condon Well		1 15 0
Do. 12-Mile Well		3 0 0
	£11 0 0	£1,072 0 1
<i>Charged to C.F. Authorities but not allocated to any particular Watering Station.</i>		
Wages of Yardmen and Drivers, Upkeep, etc.		515 5 11
Plant for Maintenance		752 18 7
Office expenses		35 17 6
Forage		155 19 3
	£11 0 0	£2,532 1 4
<i>Other Goldfields.</i>		
Ravensthorpe, No. 1 Well		1 15 11
Ravensthorpe, No. 2 Well		1 15 10
Cordingup Soak	93 14 7	69 0 0
Elverton Dam		0 12 0
Hopetoun Well	6 2 10	24 18 6
Ravensthorpe, No. 1 Tank	137 19 3	88 12 6
	237 16 8	186 14 9
<i>Charged to C.F. Authorities but not allocated to any particular Watering Station.</i>		
Upkeep, etc.		59 11 5
	237 16 8	246 6 2
<i>Summary.</i>		
EASTERN GOLDFIELDS	8,463 18 11	9,308 5 5
MURCHISON AND EAST MURCHISON GOLDFIELDS	514 19 4	3,935 1 4
PILBARRA AND WEST PILBARRA GOLDFIELDS	11 0 0	2,532 1 4
OTHER GOLDFIELDS	237 16 8	246 6 2
	9,227 14 11	16,021 14 3

DIVISION V.

ANNUAL PROGRESS REPORT

OF THE

GEOLOGICAL SURVEY

FOR THE YEAR 1906.

TABLE OF CONTENTS.

Title.	Page
Table of Contents	139
Administrative Report	141
The Staff	141
Fieldwork	141
Laboratory Work	142
Geological Collection	143
Publications	143
Palæontological Work	143
Principal Results of the Year's Field Operations	143
Mineral Resources	143
State Aid towards the Development of the North End of the Kalgoorlie Goldfield	143
Mineral Discoveries at Narlarla, in the West Kimberley District	147
Cue, Day Dawn, and Cuddingwarra	149
Barrambie and Errol's	151
Lawlers, Mount Sir Samuel, Mount Ida, Darlôt, and Wilson's Patch	153
The Saxon Lead Mine, Northampton	156
Wagin	157
Arrino and Yandanooka	159
Clay Deposits of the Clackline District	160
Beverley District	161
Miscellaneous Mineral Notes	164
Index to Names of Places, Mines, Reefs, etc.	166

Annual Progress Report of the Geological Survey for the Year 1906.

The Under Secretary for Mines.

Geological Survey Office,
Perth, 13th February, 1907.

SIR,

In conformity with the usual practice, I have the honour to submit for the information of the Hon. the Minister for Mines a succinct account of the operations of the Geological Survey for the calendar year 1906.

This account, which contains a statement of the work carried out by the various members of the staff both in the office, the museum, the laboratory, and the field, has been arranged on approximately the same lines and sequence as that hitherto adopted.

In addition to what may be called the ordinary work of the staff, 127 special reports bearing on the alienation of mineral lands, and 21 in connection with the granting of State aid under the provisions of the Mining Development Act were made, as well as six special reports relating to Mining on Private Property, under the provisions of "The Mining Act of 1904."

THE STAFF.

The operations of the Department have been carried out during the year under review by 14 officers.

Recent experience having demonstrated that the strength of the staff is hardly capable of efficiently meeting the requirements of the day, it is to be hoped that adequate provision will ultimately be made to overcome this, and that, in the event of the exigencies of the Treasury admitting of any additional appointments being made, such salaries will be offered as will enable the Government to secure and retain the services of highly qualified officers.

The only change in the *personnel* of the staff during the year was the resignation of Mr. C. C. Williams, Laboratory Assistant, which took effect from the 30th of April, but his position having been temporarily regraded, he rejoined the Department on the 26th of September.

It was found necessary to temporarily enlist the services of Dr. F. S. Earp from the 1st of March to the 31st of August, and Mr. A. Farrant from the 1st to the 30th of September, in order to assist in some special investigations carried out in the Laboratory. The salary of Dr. Earp, however, was paid by the Department in whose interest the special work was carried out.

FIELD WORK.

The field work of 1906 has been distributed over various portions of the State as exigencies of the public requirements demanded.

A GIBB MAITLAND. The Administrative duties of my office prevented me devoting very much time during the year in the field. A short visit was paid to Kalgoorlie between the 22nd of June and the 11th of July, in connection with proposals to grant State Aid under the terms of the Mining Development Act, and another to Albany, between the 3rd and the 15th of October, in connection with the reputed occurrence of oil in the harbour. Altogether 34 days were spent by myself in field work.

H. P. WOODWARD.—In the early part of the year this officer's time was occupied upon the compilation of his report and plan of the Menzies District, which also included two special reports for subsidies, one for the Queensland Menzies and one for the Menzies Crusoe Gold Mines. He also visited the Wagin District between March 24th and 28th, with the object of reporting upon recent gold discoveries. The month of April was occupied with various office matters and minor reports and upon the preparation of plans, etc., for the proposed Murchison field work. From 3rd May until 19th June he was engaged upon mapping and examining the Cue District. This work included a special report for subsidy upon the Cue No. 1 mine. Mr. Woodward was then recalled to Perth in order that he might proceed to Kimberley to make a report upon the Narlarla Hills, for which place he left Perth on 26th June, returning upon 23rd August. A few days were then spent upon the preparation of a report, when he again returned to the Murchison Goldfield on 7th September. Whilst there he completed his examination of the Day Dawn and Cuddingwarra districts and also made a flying trip out to Barrambie and Errols; he also made a special report for subsidy upon the Caledonia Hill mine at Cue. On his return journey to Perth he examined the Saxon Lead mine in the Northampton district to report upon the application to have this brought under the Mining on Private Property Act. He arrived in Perth on 8th November, when he prepared a short report upon his field work and made arrangements for starting for Onslow, for which port he left upon 22nd November for the purpose of defining the artesian area between that place and Carnarvon, and was engaged thereon at the close of 1906. During the year, this officer has been 210 days in the field.

W. D. CAMPBELL. This officer made in all nine trips in the field during 1906. These included visits to Beverley, the Dale River and Wagin regarding the occurrence of auriferous deposits; to the Greenough River in connection with the question of the

occurrence of coal in the vicinity; to Dandarraga examining phosphate deposits. Visits of more or less short duration were paid to Clackline, and the neighbourhood of Perth. The remainder of the year was devoted to those multifarious office duties which the various matters dealt with by the Geological Staff entail. This officer spent 92 days in the field.

CHAS. G. GIBSON. This officer spent the greater portion of his season's field work in the East Murchison and Mt. Margaret Goldfields. Between 1st February and 3rd March Mr. Gibson was engaged reporting upon the Whim Creek Copper Mine in the West Pilbara Goldfield. From the 1st of June until the 31st of October was devoted to a more or less detailed examination of the East Murchison and Mount Margaret Goldfields. The balance of the year, except that from the 22nd of November until the 31st of December, when Mr. Gibson was absent on leave, was spent in the preparation of reports and maps bearing upon the field work on which he had been engaged. This officer spent 183 days in the field.

H. W. B. TALBOT. Between the 23rd of April and the 17th of September this officer was engaged

at Cue, Day Dawn, and Cuddingwarra on field work in connection with the detailed Geological Survey of those centres, then in progress. Between the 1st of October and the 2nd of November found him on the Coolgardie Goldfield engaged upon the prosecution of certain preliminary field work in connection with a proposed geological examination of Bonnievale, Kintore, Carbine, Carnage, and Cashman's. The remaining portion of the year was devoted to writing reports, the compilation of mining statistics, the preparation of plans, and assisting in the arrangement of the Government Mineral Exhibit at the Exhibition held under the auspices of the Western Australian Chamber of Manufactures. During the year Mr. Talbot was engaged in the field for 183 days.

LABORATORY WORK.

As usual, the work in the Survey Laboratory has been under the control of Mr. E. S. Simpson.

The following table shows a detailed statement of the work carried out during the period covered by this report:—

Table showing details of Assays, etc., made in the Geological Survey Laboratory during 1906.

Classification.	Public.		Official.		Total.
	Pay.	Free.	Geological Survey.	Other Departments.	
Total Samples dealt with.	184.	570.	154.	210.	1,118.
Assays for Platinum	...	1	...	...	1
" Gold	135	311	62	78	586
" Silver	7	112	3	13	140
" Mercury	...	3	...	...	3
" Copper	21	68	10	14	113
" Tin	5	55	4	1	65
" Lead	3	29	6	...	38
" Zinc	...	3	6	...	9
" Nickel	...	.1	1	...	2
" Cobalt	...	...	1	...	1
" Iron	1	4	...	1	6
" Manganese	...	1	...	...	1
" Chromium	...	2	...	...	2
" Tungsten	...	3	...	...	3
" Tantalum	8	12	...	...	20
" Niobium	8	12	...	...	20
" Molybdenum	...	1	...	...	1
" Tellurium	...	1	...	...	1
" Arsenic	...	1	...	...	1
" Phosphorus	...	11	11	2	24
" Radium	...	1	...	...	1
Analyses Complete	2	4	14	76	96
" Proximate	1	9	7	2	19
" Partial	...	7	2	23	32
Determination of Rocks and Minerals	10	180	49	56	295
Miscellaneous	4	10	8	8	30
Totals	205	842	189	274	1,510

In reporting upon the work done in this branch of the Survey's operations, Mr. Simpson informs me:—

"On comparing these figures with those for previous years it will be seen that a record has been established, the total number of samples and estimations exceeding those for 1905 by about 25 per cent. and equalling the combined totals for the two years 1903 and 1904. This is due in a large measure to a revival in prospecting brought about by the phenomenal rise in the price of almost all metals

during the past eighteen months. This rise is shown by the following figures:—

	Price 30-6-05.	Price 21-12-06.
Copper, standard, ton	£65 16 9	£106 15 0
Tin	142 0 0	197 10 0
Lead, soft	13 6 0	19 18 3
Zinc	24 5 0	28 10 0
Antimony	52 10 0	107 10 0
Nickel (98-99%),	165 0 0	185 0 0
Aluminium (98-99½%), lb.	0 1 4	0 2 1
Silver, standard, oz.	0 2 2½	0 2 8¼

"It was found impossible to deal with this volume of work with the ordinary staff of the laboratory,

and temporary additions were made to the staff from time to time.

"The assay fees received during the year amounted to £149 14s. 6d.

"A collection of minerals, illustrative of the mineral resources of the State, was prepared and exhibited at the Exhibition of the Perth Chamber of Manufactures which opened on 5th December. In view of the frequent necessity for advertising the mineral wealth of the State in this way, it is highly desirable that efforts should be made to get together a floating collection of minerals which would be available for exhibition in any part of the world as required."

It will thus be seen that a very large portion of the time of the Laboratory staff has been taken up with what may be called work of a purely routine nature, and that very little opportunity has been left for devoting any time to those important mineralogical, petrographical, and other questions which have arisen in the course of the field work.

The time has now arrived when either some additions to, or rearrangements in, the Staff of the Department must be made to enable these very necessary duties to be carried out, if the work of the Survey is to maintain its efficiency.

GEOLOGICAL COLLECTION.

In consequence of the large amount of routine work in the laboratory, it has been found impossible for much attention to be devoted to the arrangement of the Museum during the year.

There have been added 524 new specimens to the Survey Collection during 1906, thus bringing the total number up to 7,096; of microscopic slides there have been made 99, making a total of 719 entered in the register. The various members of the staff have taken 37 negatives of different subjects in connection with their work, and many of them have been used in illustration of the official reports, or enlarged for use in the Museum. The total registered number of negatives of geological and cognate subjects now amounts to 290.

PUBLICATIONS.

The following is a list of the different publications prepared by the Geological Survey during the past year:—

Annual Progress Report for the year 1905.

The Geology and Mineral Resources of the Norseman District, Dundas Goldfield: by W. D. Campbell.

The Auriferous Deposits and Mines of Menzies, North Coolgardie Goldfield: by H. P. Woodward.

Third Report on the Geological Features and Mineral Resources of the Pilbara Goldfield: by A. Gibb Maitland.

The Laverton, Burtville, and Erlistoun Auriferous Belt: by Chas. G. Gibson.

The Prospects of obtaining Artesian Water in the Kimberley District: by R. Logan Jack, L.L.D., F.G.S., F.R.G.S.

The Library of the Department contains 2,596 volumes devoted to works on Geology, Mineralogy, and cognate subjects; of these 2,259 were received as donations from the various Geological

Surveys, and Mining Departments, throughout the World, and 337 have been acquired by purchase. There have been received in addition 1,294 maps presented by the Geological Surveys of Great Britain and Ireland, Canada, Cape of Good Hope, Transvaal, British Guiana, Russia, Sweden, Austria, Java, Philippine Islands, and Japan. Many of these publications, some of which cannot be replaced, are unbound, and it is hoped that an early opportunity will be taken of having this done for the double purpose of facilitating their preservation and ready reference. The Library continues to be, as it has always been, available for consultation by those desiring any information having a geological bearing.

PALAEONTOLOGICAL WORK.

Mr. R. Etheridge, of the Australian Museum, Sydney, continues to act in an honorary capacity as Palaeontologist to the Department, and during the year several consignments of fossils have been despatched to him for determination and description.

Mr. F. Chapman, the Palaeontologist to the National Museum, Melbourne, has submitted "Some Notes on Fossils from the Collie Coalfield" in the collection of the National Museum, Melbourne, which are about to be printed, with other matter from Messrs. Etheridge and Howchin, in bulletin form.

The fossils to which Mr. Chapman's report refers were forwarded to Melbourne by the then Premier of Western Australia in the year 1898; they were however not collected by, nor were they ever seen by any member of the Western Australian Geological Staff. Mr. Chapman recognised the plants:—*Glossopteris browniana*; *G. browniana*, var. *indica*; *G. browniana*, var. *communis*; *G. browniana*, var. *angustifolia*, and *G. gangamopteroides* in the associated sandstones, the following Foraminifera:—*Endothyra* sp., *Valvulina plicata*, *Bulimina* sp., *Truncatulina haidingeri*, and *Pulvinulina exigua*.

Mr. Chapman's observations, in conjunction with those of Mr. R. Etheridge, jun., referred to on page 6 of the Annual Progress Report for 1903, corroborates the view of the late Mr. R. Etheridge that the Collie River Beds are of Permo-Carboniferous Age. In view of all the evidence at present to be deduced from the plant remains and the marine organisms in the beds associated with the Collie Coal Seams—despite the nature of the coal and the physical characteristics of the basin, it seems that a Permo-Carboniferous Age for the series presents very strong claims to acceptance.

PRINCIPAL RESULTS OF THE YEAR'S FIELD OPERATIONS.

MINERAL RESOURCES.

State Aid towards the Development of the North End of the Kalgoorlie Goldfield.—In the month of August, I submitted the following report upon the question of the development of the North End of the Kalgoorlie Goldfield by State Aid. The various properties to which allusion is made may be found by reference to the 10-chain Geological Map of Kalgoorlie issued in 1902.

In March the following notice was inserted in the *Kalgoorlie Miner*, by Authority:—

"It is hereby notified, for general information, that applications will be received at the Department of Mines, Perth, until 14th of April, from any persons

or companies holding G.M. Leases at the Northern end of the 'Boulder Belt,' who desire to obtain assistance under 'The Mining Development Act, 1902,' for prospecting and developing their holdings. The particulars required by Section 6 of the Mining Development Act must accompany each application.

"H. S. KING,
"Secretary for Mines.

"Perth, 9th March, 1906."

In response to this, nine applications were received, viz.:-

- (a) Hannan's Hope, 4046E and 4157E.
- (b) Hird's Lease, 3991E.
- (c) Sarnian, 4115E.
- (d) Treasurer, 4147E.
- (e) Lucknow, 4103E.
- (f) Hannans Reward North, 1228E and 796E.
- (g) Devon Consols South Extended, 4037E.
- (h) Ivy Gold Mine, 3965E.
- (i) Criterion, 4057E.

The application from the Hannans Reward North has been withdrawn.

With one exception (The Criterion) none of the applications are accompanied by the statutory declaration which the Mines Development Act requires; this omission being probably due to the applicants not being quite familiar with the requirements of the Act.

An inspection of the Geological Map of Kalgoorlie shows (and the work done since it was prepared bears this out) that lodes lines traverse the whole of the North end of the field, though the results have indicated that they are not of that size or value which characterises the lodes of the Southern end of the belt.

The position of the properties held by the various applicants for State aid have been indicated by a red colour on the excerpt from the Geological map attached.

I am of opinion that the guiding principle in the granting of State aid towards the development of such a field as Kalgoorlie should be in the direction of the acquisition of information which would be of general benefit to the community at large, rather than indiscriminate assistance to struggling prospectors, no matter how deserving of encouragement, for claims of this latter nature bulk very largely amongst those soliciting aid from the public purse.

The proving of the existence of lodes at much greater depths than has hitherto been done at the Northern extremity of Kalgoorlie, if successful, would in my opinion tend to encourage deeper sinking elsewhere in this portion of the district, and may be held to warrant the expenditure necessary to subsidise the applicant whose property seems to present reasonable prospects of success.

Having this in view, the applications may be narrowed down to the following:-

- (a) Devon Consols South Extended, 4037E.
(North End Gold Mine).
- (b) Hird's Lease, 3991E.
- (c) Criterion, 4057E.

The North End Gold Mining Company owning the Devon Consols South Extended G.M.Ls. have opened up one of the easternmost lodes on the field,

and a rich shoot has been opened out at a vertical depth of about 230 feet below the surface.

The Hird's Lease property has had a good deal of work done upon it, but despite this not much gold has been won. The owner proposes to crosscut westwards from the bottom of the main shaft at a depth of 370 feet. To do so would, as may be seen by the geological map, test the country lying between the Hidden Secret Lode and the Isabel-Etrawenie Lode.

The Criterion Company's ground is somewhat favourably situated for intersecting the north-west extension of the Hidden Secret Lode if not interrupted by faults. The deepest shaft however has only been carried down to a vertical depth of 160 feet.

Assistance being granted, it should in my opinion be given to owners of mines to enable them to go deeper and should be exclusively devoted to sinking, driving, crosscutting, or boring, at greater depths than have hitherto been attained; for every shaft sunk, level driven, etc., may be held to be, in a sense, a national asset, which the purchase of machinery for development purposes is not.

Whilst there are undoubtedly strong points in favour of the claims of the owners of the Criterion Lease, and Hird's Lease, I am of opinion that, that of the North End Gold Mining Company presents, *caeteris paribus*, the greatest possibilities of success.

I therefore recommend that State aid be granted to the North End Gold Mining Company for the purpose of carrying the main shaft down to a vertical depth of 400 feet and crosscutting or boring west to pick up the main lode, and if necessary driving thereon at that depth, provided the statements in their application are supported by the statutory declaration as required by the Act, and that the mine has been worked to the satisfaction of the local inspector.

The following is a description of the workings, etc., in the different properties:-

- (a) HANNAN'S HOPE G.M.L.'s 4046E AND 4157E.

Mr. Thomas Thompson applied for assistance to further develop his mine. On visiting the property (after communicating with the applicant) I learned that he had abandoned the property and had left the district.

None of the workings were accessible.

- (b) HIRD'S LEASE, G.M.L. 3991E.

There has been a good deal of work done upon this property since it was first taken up. There are five shafts, which have been sunk to varying depths, varying from 70 to 374 feet.

The main shaft which is near the centre of the lease, sunk by former owners of the lease, has levels driven at 100, 160, 220, 300, and 360 feet; there are however no mining plans, hence an intelligible description of the workings cannot be given.

It is proposed crosscutting in a westerly direction from the bottom of the main shaft.

This property is reported to have yielded 391.16 ozs. of gold, obtained by milling 253.50 tons of ore, or at the rate of about 1.5 ozs. per ton.

- (c) SARNIAN, G.M.L. 4115E.

This property is traversed by a well-defined quartz reef, trending generally north and south and underlying at a high angle to the east, which has been

exploited by means of a vertical shaft 100 feet deep, sunk on the west side of the outcrop.

Work however has been concentrated upon a deep shaft situated near the eastern portion of the lease, about 30 feet west from the boundary between it and 4043E.

This shaft, which was inaccessible to me, had been carried down to a depth of 164 feet, and it is proposed to continue it a further distance of 100 feet, with the object of intersecting the lode worked in the adjoining lease 4043E, a sketch of which is shown on page 10, Mines file 3075/04.

From the data at my command, it does not however appear likely that this lode can possibly be the same as that in the Hidden Secret, which lies further to the east.

This application has been fully reported upon by Mr. Inspector Lightly, and the applicant informed accordingly.

(d) TREASURER, G.M.L. 417E.

Mr. Inspector Hudson reports (30-7-06) that "the main shaft is 12ft. by 4ft., and is 150 feet in depth; at 100 feet a drive south-east for a distance of 100 feet, 64 feet of the drive is in lode formation carrying values of 2 to 3 dwts. per ton.

"One hundred and fifty foot level, crosscut north-east distance 165 feet, the present holders have driven 145 feet of the crosscut. The lode at the 100 feet level was driven through but the values were nil. This crosscut is now being extended, and the last 40 feet has been in hard mineralised greenstone of no value. It is the intention of the holders to extend the crosscut with a view of cutting a supposed lode to the east, they estimate that it will be necessary to drive 40 feet to cut it, which would cost about £5 per foot. This lease is north of the Great Northern which has just completed a subsidy of £200 without anything payable being located. There is no machinery on the lease. The work for which the subsidy is required can only be classed as a prospecting venture."

(e) LUCKNOW, G.M.L. 4103E.

The Secretary, Mr. W. H. Fisher, applies for assistance in developing the lease. It is proposed, in the event of assistance being granted, to open out and drive on the lode at the 160 feet level in No. 3 shaft, and also to pump the water in a winze in No. 1 shaft and exploit a large sulphide lode said to exist there.

A well-defined belt of graphitic schist traverses the western portion of the lease in a general north-west and south-east direction and forms an important structural feature.

There are three shafts upon the lease.

The main shaft, No. 1 (or the black dump shaft) sunk to a depth of about 214 feet, vertically below the surface.

At 100 feet in this shaft, a crosscut has been carried north-eastwards and intersects No. 2 shaft.

In the main shaft and about 20 feet therefrom is a short drive put in on a lode trending north-west and south-east.

The "lode" which has only been followed for a short distance is of the banded ferruginous type, and at the face of the south-east end of the drive is about 3ft. 6in. thick. The long crosscut which

connects the two shafts has been continued for a distance of about 300 feet in a north-east direction from the No. 2 shaft. The rock exposed is of the usual decomposed (Kaolinic?) type with here and there a few insignificant quartz leaders. At one spot in the crosscut, a small ironstone vein has been opened up and is said to have assayed on careful sampling about 11 dwts. per ton.

At the 200 foot level and at the foot of the main shaft is a black graphitic schist, with small irregular veins and pellets of pyrites; the footwall of this vein is a thin hard hæmatitic band. The graphitic schist is at the foot of the shaft 12 feet in thickness, and dips east at a high angle.

In the eastern crosscut from the shaft and about 50 feet from it is a winze now full of water, and said to be 112 feet in depth, it is inaccessible in consequence.

This crosscut has been continued eastward from the winze, through country rock for a considerable distance and ends in a band of quartzite (?) of as yet unknown thickness.

The owners of the property propose to use any subsidy to pump the water from the winze and exploit the large sulphide lode (?) said to occur therein. Obviously to work the lode (?) it will be necessary to deepen the main shaft.

No. 3 Shaft which lies some distance north of No. 1 has been carried down to a vertical depth of 160 feet. At a depth of 50 feet, a crosscut has been put in for a distance of 18 feet to the south-east, through a band of ironstone of the type prevailing on the field, and 20 feet to the north-west.

From this point a drive has been put in for a considerable distance along a band of sheared or cleaved country rock, and thence a short crosscut in the direction of the shaft, with the object of exploring the country but without any success.

At a depth of 100 feet, a crosscut has been driven 45 feet to the east and drives north and south, of about 65 feet respectively. The crosscut has been carried through bands of ferruginous quartz (?) which are asserted to be appreciably auriferous.

At a vertical depth of 150 feet, the lode is to the east of the shaft, and is about 7 feet thick; this has been followed for about 20 or 30 feet northwards.

It is proposed to exploit this lode with the aid of any subsidy which may be granted.

A good deal of dry-blowing has been carried out over the surface of the lease with apparently good results.

Up to the end of 1905, this lease has yielded 88.40 ozs. of gold from the milling of 341.50 tons of quartz, or at the rate of .259 ozs. per ton.

(f) HANNANS REWARD NORTH, G.M.L's 1228E. 796E.

This application has been dealt with in its proper file.

(g) DEVON CONSOLS SOUTH EXTENDED, G.M.L. 4037E (The North End Gold Mines, Ltd.).

This is one of the easternmost leases, upon which any active work is going on, at the North end of Kalgoorlie.

Mining operations have been carried out upon a well-defined lode which has a trend approximately parallel to that of the main lode system of Kalgoorlie.

The lode has been worked from the surface to a vertical depth of about 230 feet, and one of the levels, No. 2, has been driven for about 500 feet.

At No. 1 level, the lode lies about 30 feet east of the main shaft; at No. 2 about 12 feet and at the bottom of the shaft (V.D. 234 feet), it is 18 feet to the west.

A well-defined and apparently rich lode, about 6 or 7 feet in thickness, has been met with in No. 1 winze below the floor of No. 2 level. This lens of good ore had been opened up to a depth of about 45 feet and about 40 feet in length.

A level was being driven from the crosscut at the bottom of the shaft to intersect the shoot at a greater depth and so far as operations had been carried, the assays as shown by the Assay Register at the mine showed that the ore was of good value.

From information which was supplied to me at my request, it appears that about 690 tons of ore have been taken from this lens of an average assay value of 1 oz. 12 dwts. per ton.

Owing to the ore from this lens having been milled along with that from No. 1 level, which is considerably lower value, it is not possible to arrive at the actual quantity of gold won.

So far as can be ascertained from the official figures, it appears that this lode yielded:—

Year.	Tons.	Ozs.	Rate per ton.
1904	970	688·19	ozs. ·71
1905	1,281	712·57	·55
1906	4,651	1,847·04	·38
Total	6,902	3,247·80	·47

(h) IVY, G.M.L. 3965E.

Messrs. Frank Smith, Robert Bradshaw and party, the owners of Prospecting Area 111E (18 acres), included within the boundaries of G.M.L.'s 3965E and 3966E, are applicants for a subsidy.

At the date of the application (March) the shaft, which is situated on the west side of the Railway Line, and not far from it, had been carried down to a depth of 190 feet, and it is contemplated continuing it down to 200 feet. A little gold was discovered on the surface by the present applicants, which resulted in their sinking the shaft on the present site.

An inspection of the Geological map of the north end of the Kalgoorlie field, which is attached, indicates that the site of the shaft put down by the applicants lies along, or in close proximity to, what may be called the Main Devon Consols and Kapai Lode.

At 50 feet from the surface, a crosscut 34 feet in length has been put in in a direction of north 30 degrees east, through decomposed country rock; at the face is a thin ferruginous band, striking at right angles to the general trend of the crosscut, and underlying to the north-east. The country

rock in the crosscut is traversed by a few quartz leaders, which are said to be auriferous, though by no means payable. Another crosscut, bearing south 30 degrees west, and distant about 30 feet, has been put in through similar country, but was inaccessible to me. At 100 feet, a drive had been put in for a distance of about 50 feet in a southerly direction. A well-defined slickensided face marks the lode and can be followed to the face, where however the lode lens appears to have almost disappeared; the average width of the lode at this level is about 5 feet. From this level fair prospects are said to have been obtained from the lode and a trial crushing at the Devon Consols Battery of 14 tons yielded 5.12 ozs. while later on 31 tons yielded 7.87 ozs.

At a depth of 190 feet, the lode was met with at a point 18 feet west from the shaft. So far as could be ascertained, the general trend of the lode is north 20 degrees west, with a very high underlay to the east. At the face of the north drive on the lode free gold was visible in the rubbly quartz which forms the lode, which at this point proved to be about 2 feet in thickness. The vein carrying the free gold occurred about the centre of the lode, and was intersected by an almost horizontal vein of quartz 2 to 3 inches in thickness, which was abruptly truncated at both walls of the lode, from which it appears that the latter is along a fault line. The lode has been followed about 18 feet south at this level, where at the face of the drive a well-defined quartz vein occurs on the footwall.

Adjoining the shaft sunk by Messrs. Smith, Bradshaw and party, a good deal of work had been done, in the way of shaft sinking, driving, crosscutting, and diamond drilling, but as these workings are inaccessible no description thereof can be obtained. It does not appear however that the results have been very satisfactory.

(j) CRITERION, G.M.L. 4052E.

The Criterion Lease lies some distance to the north of the Hidden Secret Lease and there seems good reason for the belief that what may be called the shatter zone of the Hidden Secret traverses the property.

There are two shafts upon the property but only upon one of them was any work being done. This shaft, No. 1, upon which operations are being concentrated is situated on the eastern portion of the ground.

The shaft attained a vertical depth of 160 feet; from the bottom of the shaft a crosscut has been put in for a distance of about 80 feet north-east. At a point in the crosscut, 30 feet distant from the shaft, is a fault (? lode) underlying to the west, and said to have assayed about 2½ dwts. per ton; and 9 ozs. 16 dwts. of silver. A commencement has been made with sinking a winze upon it.

From the winze, the crosscut has been carried through a belt of very much contorted and banded ironstone. At the surface is a band of 3 or 4 inches of a black pyritous quartz inclined at a high angle to the east; abutting against this is a band of graphitic schist of the usual type, the thickness of which however has not been ascertained.

It is proposed to deepen the shaft 50 feet and crosscut for the lode intersected in the crosscut.

MINERAL DISCOVERIES AT NARLARLA, IN THE WEST KIMBERLEY DISTRICT.

In the month of August Mr. H. P. Woodward, the Assistant Government Geologist, submitted the following report:—

"In the early part of June this year considerable excitement was caused by the publication of a report by Mr. J. H. Grant, who was engaged by the Narlarla Hills Silver Lead Co. This company's shares had for some time previous been quoted on the market but until this report appeared in the Press it was not generally known that the properties were situated in this State.

"These properties consisted of the Narlarla Hills silver-lead leases, which are situated in the Napier Range, West Kimberley district (142 deg. 43 min. E. long., 17 deg. 16 min. S. lat.) 75 miles due east of Derby upon the south side of the Barker River Gorge at a point a little above that river's junction with the Leonard River, at Narlarla, or Marlarla by the native name; and Mondooma Copper leases situated about 30 miles north-west of the Narlarla blocks close to Trig. Station L 2 (124 deg. 28 min. E. long., 16 deg. 56 min. S. lat.) at the north end of the Napier Range and about 10 miles south-east of Old Mondooma Station upon the Robinson River.

"These leases had in the early part of the year been applied for by Mr. Poulton, the company's representative, who was one of the early settlers of this district and at one time owner of the Mondooma Station.

"These discoveries were by no means new since leases at both localities had been taken up by Mr. Pettigrew as far back as 1900 and 1901, but as developments did not turn out to his satisfaction they were abandoned.

"A good deal of confusion has been caused by the use of the name Narlarla Hills because this name does not appear upon the maps, neither is it known by the settlers whilst the name of Napier Range has been known and used upon all the State maps, for the last 25 years.

"The Napier Range, the rocks of which are crystalline limestone, was described in 1884 by the late Mr. E. T. Hardman, who was at that time Government Geologist, and are classed by him in conjunction with the overlying sandstones and shales as Lower Carboniferous. The rocks strike in a north-west and south-east direction whilst the individual beds dip at an angle of from 12 to 23 degrees to the south-west, the lower or basal beds consisting of limestone conglomerates containing fragments and boulders of the schistose and granitic rocks which underlies them unconformably.

"The range rises abruptly from the flat which lies to the westward to an altitude of from 200 to 400 feet, whilst both the Barker and Leonard Rivers have cut gorges through it, the latter known as the Wingrah Pass, being historic as the stronghold of the outlaw Pigeon.

"This range like most limestone hills is riddled by numerous caverns, some of which are of very considerable dimensions and have in the past been used by the natives as places of interment, but strange to say they are almost destitute of stalactites, and when these do occur they are of a dull grey colour.

"There are a number of fine springs along the base upon the western side of the range, some of which flow from caverns whilst others are met with at some little distance from the hills.

"The Narlarla blocks are situated on the top of the range upon the south side of the Barker gorge, the leases being pegged in a more or less north and south direction under the supposition that the lode followed that course.

"The ore deposits consist of two small parallel iron-stained blows of carbonate of lead about 20 chains apart whilst the limestone country between is found upon close examination to contain small stains of carbonate of copper here and there which apparently gave rise to the belief that the lode ran in a north and south direction.

"These blows upon development proved to be small veins of lead ore following the bedding of the rocks, the caps of which had fallen over, thus making a considerable surface show whilst the supposed width, viz. 40 or 50 feet is in reality the length of the vein beyond which no sign of a fissure can be traced.

"The south blow from which some high-grade ore was obtained at the surface is found upon sinking to pass into iron pyrites with little or no lead at a depth of 8 or 9 feet.

"The north blow is better defined, the vein apparently following the bedding of the limestone in a north-west and south-east direction with a dip of 23 degrees to the south-west. The ore in the lode cap is iron and copper stained carbonate of lead but this passes rapidly into the sulphides near the water level which is here strange to state only 19 feet below the surface although the river gorge which is close by is some 200 feet below. The lode at the water level is much more settled, there being one well-defined vein of galena about 2 feet in thickness, whilst the other portions carry a considerable quantity of zinc and iron pyrites.

"The lode contains a considerable quantity of talcspars in places, some of which is of a brown colour, this is what was supposed to be scheelite.

"A number of other leases have been applied for but little or no work has been done upon them, some have been taken up on account of copper stains, some upon small lead outcrops, but mostly as position blocks.

"Although there are a good number of tons of very fair ore upon the surface of these leases, even with its silver contents it is not of sufficient value to pay the cost of mining, transport, and treatment, whilst the lodes themselves give no indication of continuity either horizontally or vertically, being in all probability nothing more or less than segregations deposited in fissures in the limestones which themselves apparently carry small quantities of metallic ores.

"The Napier Range terminates to the northward a little south of Trig. Station L 2, the limestone being replaced by mica schist and diorite dykes, which here strike nearly east and west, and it is at the contact of these latter rocks that a copper stained ferruginous reef can be traced for a distance at the surface of about 300 yards.

"The cap of this reef has been crosscut at three points in each trench, however the lode proves to be very small and to carry very little copper ore.

"Although a few tons of fair ore might be raised which would possibly pay expenses, the negative character of the developments are such as to prove beyond a doubt that the lode is of no value.

"As the outcome of the reported discoveries before referred to, further prospecting companies were formed, the most noticeable amongst these being Grant's North West Prospecting, the local representative of which, Mr. J. H. Grant, in July last reported certain fresh copper discoveries in the vicinity of Mt. Nellie. These he applied for as a reward claim and a number of leases on behalf of his company. He also applied for certain leases called the Mt. Nellie blocks, on behalf of the Narlarla Hills Silver Lead Company.

"Mt. Nellie is situated (124 deg. 3 min. E. long., 16 deg. 33 min. S. lat.) about 60 miles north-east of Derby and about 15 miles south-west of Collin Bay. It has been used as a locality name although the discoveries are situated at some distance from it owing to the fact that this tract of country is unsurveyed and therefore this is the nearest named hill. The Mineral discoveries are in reality situated some few miles east of Mt. Nellie upon the Little Taragee River, which is not shown upon the map, although it is of considerable size.

"The mineral belt which is schist and slate intersected by quartz reefs and diorite dykes extends in a north-westerly direction from Mondooma upon the Robinson River to Mt. Nellie, where it is overlaid by a flat-topped quartzite range from beneath which it again appears to the northward and apparently extends in the same direction towards Yampi Sound.

"In this schist belt to the northward of the Taragee River and extending up to the base of the quartz range, there are a series of dyke-like mineralised quartzose ridges, containing quartz veins usually much copper stained. These ridges which are generally of considerable length have the appearance of being fissure lines which have allowed the flow of the mineral solutions that have altered and silicified the adjoining schistose rocks.

"These dyke-like lines are intersected by numerous quartz veins or lodes some of which are of considerable size and length being usually copper stained whilst they sometimes contain copper ore either in veins, bunches, or disseminated through the quartz itself.

"Numerous leases have been pegged out of which Grant's Reward is one of the most promising, this is situated at the extreme north end of the mineral belt close to the quartzite range. The lode mass rises in the form of a razor-back up to a height of 100 feet above the adjoining flat, its base being about 50 feet in width whilst it can be traced for a distance of over $1\frac{1}{4}$ miles in length. In this there are three distinct quartz veins or shoots, the central one which is the largest being seven chains in length and varies from 2 up to 17 feet in width at the surface.

"The ore, which is mostly green carbonate with a little red oxide, is met with at one or two points in the form of small veins or bunches of high-grade ore, but it generally occurs intimately intermixed with quartz, when it varies from a low-grade siliceous ore to stained quartz.

"Since the outcrop must have been subjected to considerable leaching action, in its present unde-

veloped state it is absolutely impossible to form anything like an estimate of the value of the lode but this, owing to its character, can be quickly and cheaply proved by crosscutting by means of drives from the adjoining flat which will not only demonstrate its character in the solid ground but will prove its richness at points varying from 50 to 80 feet below the outcrop and so near the water level that it is quite possible that sulphides will be met with.

"There are a number of similar lode masses in this locality but so far these possess no further indications than copper stains, they therefore are apparently of no value and are not worth expending money upon unless Grant's Reward proves when developed that this class of lode improves with depth.

"Upon the north side of the Taragee River and about six miles south of Grant's Reward and the same distance north of Boulder Hill, Mr. R. Wilson has pegged out some leases upon a series of broken ridges which are very similar in character to those previously mentioned, the copper ore however is generally of a higher grade and is in more concentrated condition but the individual portions of the lode which carry the ore are not so extensive either in length or breadth.

"Upon the northern block, a series of small but rich veins of ore occur, which apparently cross the quartz lode at an angle, whilst upon the southern blocks the veins run parallel with the quartz. These ore bodies cannot be so cheaply tested as Grant's since the portions of greatest enrichment are not met with at points where the lode attains any considerable elevation, and therefore sinking will be necessary.

"The examination of this district has demonstrated that a highly promising mineral belt extends for a distance of 40 miles in a north-westerly direction from Mondooma upon the Robinson River to Mt. Nellie on the quartzite range, and since the schists outcrop again to the northward of that range it will probably be found to continue further.

"At the south end of this belt to the westward of Mondooma, the slatey country is intersected by numerous parallel quartz reefs of considerable length and of a very promising appearance. This tract of country should be well worthy of the attention of prospectors.

"Mt. Broome diggings situated at the foot of the Leopold Range at the head of the Richenda River was also visited, but although this area has been worked off and on for a number of years, only comparatively small quantities of gold have been obtained, whilst owing to the fact that there are no quartz reefs, dykes, or lodes it is not probable that any great discovery will be made in this locality.

"In conclusion it may be stated that although a very promising belt of mineral country exists it would not be advisable for prospectors to undertake its examination unless a strong party with ample funds, for not only may trouble be experienced with the natives but owing to the fact that large tracts of country are flooded in the wet season it will be necessary to have sufficient supplies to last over this uncertain period.

"It has been stated that a good road without engineering difficulties can be obtained to Secure

Bay, this there is good authority for stating is not a fact. Whilst owing to the bad nature of the surface even carting to the Robinson landing will be always expensive and quite impossible in the wet season, whilst the river below the landing is so full

of banks that a 4-ton boat can only attempt the passage twice a month on the spring tides."

The following are the results of assays of six samples from this district made in the Departmental Laboratory:—

Locality.	Class of Ore.	Copper.	Lead.	Zinc.	Silver per ton.	Gold per ton.
		per cent.	per cent.	per cent.	ozs. dwts. grs.	grs.
Narlarla North Shaft	Oxide	4.43	42.39	4.47	4 8 14	3
Do. do.	Sulphide ... ..	.42	13.94	40.83	3 7 0	Nil
Do. South Shaft	Transition ... ..	.52	39.66	1.34	5 1 6	Trace
Grant's Reward	Oxide	34.63	.72	?	0 4 22	20
Do.	do.	23.22	Nil	?	0 1 15	20
Wilson's Reward	do.	37.58	Nil	?	0 11 10	20

CUE, DAY DAWN, AND CUDDINGWARRA.

A more or less detailed Geological Survey of Cue, Day Dawn, and Cuddingwarra was carried out by Mr. H. P. Woodward, with the co-operation of the Field Assistant, Mr. Talbot. The following synopsis of the results of Mr. Woodward's observations was prepared on his return to Perth on the conclusion of the field work; a detailed report accompanied by explanatory mining plans and geological maps and sections is in course of preparation. In consequence of the exigencies of the service necessitating Mr. Woodward's presence in the Minilya River district, in connection with an important geological question affecting the water supply of the district, it has not been possible for him to proceed immediately with the preparation of his report on the Cue Survey; this delay, however, has not been without its uses, in that it has enabled good progress to be made with the drafting of several of the more important of the maps.

"Cue, which is the official centre of the Murchison Goldfield, is one of the oldest gold-mining centres in the southern portion of this State, and from it a very large quantity of both alluvial and reef gold has been obtained.

"In the early portion of 1890, it attracted considerable attention and a large number of properties were floated upon the London market, but owing largely to the heavy expenses that were necessarily incurred upon transport, etc., and to the fact that milling appliances were erected previous to development the expected returns were not forthcoming and as a consequence the greater part of the capital was withdrawn to be placed in the then booming Kalgoorlie district.

"The greater number of the mines are in practically the same condition as when abandoned some 10 years ago, but they are inaccessible owing to the fact that the workings are flooded and in most cases the shaft collars and logging have been removed. Masonry foundations indicate the positions of batteries and engines, etc., but sands resulting from the crushings have for the most part been removed to cyanide works or have been subsequently treated on the spot when the quantity warranted it. The mines being worked and those worked during the last ten years are for the most part privately owned, the stone being crushed at one of the Public Batteries. The only Company working at the present time is the Salisbury where an up-to-date mill has been erected which is employed solely upon the treatment of ore from that mine.

"The Cue area of reproductiveness is situated at the junction of the Grano-diorites (called granite) and the greenstones, the greater number of the mines being in the granite area.

"The reefs generally may be classed under two heads: first, those which radiate from the contact zone in a northerly direction into the granite, and secondly, those which follow the contact zone, having a more or less easterly and westerly course; these latter are met with on both sides of the junction and may be called parallel contact veins. The universal dip of the radiating series is to the westward, whilst the parallel contact series with one exception dip to the northward.

"The radiating series as a rule present well-defined outcrops which can be traced in some cases for a distance of a mile, whilst half a mile is quite common, but the parallel contacts are not individually of great extent although a series of lenticular veins may be so grouped as to present the appearance of one continuous fissure.

"Under the head of radiating reefs may be classed the Victoria, the Deceiver (Brilliant and Lily), the Belgravia, the Campania (Real MacKay), the Bonnie Dundee, the Welcome (New England and Maori), the Young Colonial (Maude), the Lady Mary (Lady Florence), the Cue No. 1 (Rising Sun), the Arcadia, the Salisbury, the Light of Asia, the Perseverance (Star of Asia and Three Crows), the Sarepta (New Bismark), the Duke of York (Great White Eye).*

"Of these only three are being worked at the present time, viz.:—Cue No. 1, which is situated upon the northern boundary of the town, which mine is practically idle at present but a Government Subsidy has been granted the owners for driving southward at the 500 feet level in order to prove whether the reef, which produced a considerable quantity of gold, carries its values at depth.

"In this mine the zone of enrichment (? shoot) in the upper levels appeared to dip to the southward, which is quite exceptional in this district. The question therefore to be tested is whether or not a shoot does dip in this direction; if this should prove to be the case it will possibly throw a considerable light upon a class of ore deposits upon the field which have been looked upon as bunches without continuity in depth, therefore this work will be watched with very considerable interest.

"Upon the Salisbury, development work is being energetically carried on, the main shaft has now

*Names in parentheses refer either to other leases upon the same line or to names by which the individual mine has been called.

been connected with the lode at the 250 feet level and the reef driven on to the northward with the object of cutting a well-defined shoot of stone which has been worked from the surface to the 200 feet level. The reef is contained in a large formation between good walls, the whole of which carries gold but the reef is the only portion which so far has proved to be payable.

"The Light of Asia is a large quartz reef in which two shoots of gold have been discovered, the southern of which was worked down to the water level some years ago by a company, whilst the northern one which is being worked by the present owner is rapidly approaching that depth. The quartz body is of considerable size but is not very rich; however it pays well to raise and cart to the Gem of Cue Extended Battery.

"Of the parallel contact lodes, only a few are being worked at the present time; the Princess Royal, which is situated at the back of the Hospital, is being tributed in the upper levels.

"The Catalpa, which lies to the eastward of it, is being unwatered with the object of further trial.

"The Caledonia Hill upon the Northern boundary of the town is being worked at the 100ft. level where occasional rich patches are met with.

"Upon the Princess, a small cross reef is being worked, whilst the Cue Victory and Golden Stream Extended are being worked in the upper levels only.

"The Agamemnon, which is a large quartz blow, was originally worked by an English Company to the water level, but the present owners have discovered another shoot farther to the eastward, which being of considerable size pays well to cart and crush.

"Other parallel contact veins such as the Lady Forrest, Polar Star, and the Homeward Bound, upon which considerable work has been done, are at present idle.

"Beneath the rich dryblowing patch, which is situated upon the northern side of the town, a series of flat reefs have been discovered and worked, being generally known as the Volunteer Group; they include the various Volunteer leases, the Starlight, the Twilight, and the Countess Extended.

"Upon the surface of this area not only was free gold discovered but also a large number of specimens (quartz embedded with gold) which would generally be considered as indications of the proximity of an auriferous reef, so far however all the outcrops have proved to be practically of low value, therefore the only solution which can be suggested is that the gold and specimens were derived from the disintegration of a horizontal vein overlying those recently worked.

"Although the flat reefs overlying this area are not of phenomenal richness they have yielded, for a considerable period, a very material proportion of the gold production of the district, therefore assuming that the surface gold was derived from a similar deposit, it would be reasonable to expect that other veins of the same class might exist at a greater depth. This question could be readily tested by boring at points above where the greatest enrichment has been proved to exist in the flat reefs already worked.

"Besides the reefs before mentioned there is a group situated about 2½ miles to the north-westward of Cue which strike in a north-easterly direction dipping to the north-west, but although several of these present bold outcrops for a considerable distance, little work has been done upon them since the Companies abandoned them in the early days.

"When everything is considered, it must be allowed that the Cue district has never had a really fair trial since capital was withdrawn at a critical stage, therefore what work has been done since has not been carried out in the best interests of the mining, because only the richest portions of the lode would pay, the balance of lower grade ore, which would have paid well if treated with the richer ore on the spot, has been left *in situ* and is therefore by itself of no value.

"*Day Dawn*.—Upon the north side of the Trenton Hill at a point about four miles to the southward of Cue is the township of Day Dawn. The country rock consists entirely of greenstones, which are sometimes schistose but often massive, the foliation rarely extending much below the water level except along the main lode fissures. The main fissures of this district may be said to run in a northerly direction, but apparently owing to a line of disturbance which crosses the foliation of the rocks in a south-westerly direction certain of the reefs have changed their course for a short distance.

"At the present time and for some time past, very little productive mining has been done in this district, with the exception of the Great Fingall, where work of such magnitude has been carried on as to dwarf all others.

"The large rich shoot in this mine has produced about three-quarters of a million tons of stone, which has yielded upon the average about one ounce of fine gold per ton. It occurs in the reef at a point where the buckling of the rock has turned the fissure from its normal northerly course to the north-west, in which direction the shoot dips. This shoot has now been followed down to a vertical depth of about 1,300 feet where although the stone is not of great value it is payable and the reef well formed and of great size.

"The zone of greatest enrichment in this shoot appears to have been mainly influenced by the junction of a comparatively flat reef upon the footwall side at the No. 5 level; should another of these unite with the main body it is quite possible that the values may again be considerably raised.

"The Trenton mine is situated upon the eastern side of the hill of that name and it is now after many years of idleness being reopened by an underlay shaft which it is proposed to continue down to a depth of 500 feet. The old workings in the early days of the field were carried down to a depth of 250 feet upon a well-defined ore shoot which increased in size from the surface downwards dipping to the north, but although there was a battery upon the mine and some 8,000 tons of stone crushed, which yielded 14 dwts. to the ton over the tables, it was not in those days considered to be worth working.

"The Kinsella mine is situated upon the eastern side of the railway line; the reef is of great size in places and upon it a considerable quantity of work has been done, but owing to the fact that the payable stone appears to occur in patches without

definition and of rather low grade, the mine is at present idle and full of water.

"The Creme d'Or, adjoining the railway yard upon the east, upon which a long and rich shoot was worked some years ago, is now being opened by a vertical shaft sunk to a depth of 200 feet, from which a crosscut is being driven to the reef. In a winze sunk below the old workings in the direction of this crosscut the reef was found to go down strongly and to carry gold at the rate of $1\frac{1}{2}$ ozs. per ton.

"To the northward of the last is the East Fingall, where a vertical shaft has been sunk to a depth of 500 feet with the object of cutting the dip of the Eureka No. 5, which belongs to the same company. Two quartz reefs have been cut at the bottom level, one of which carries gold in payable quantities, but without some very great dislocation has taken place it cannot be the Eureka reef.

"A fissure, very heavily charged with water, was cut in the 250ft. crosscut, therefore this has now been dammed up; however had it been possible to continue that another 40 feet the Eureka reef must have been cut.

"The Rubicon has practically ceased to be a productive mine since the lode in the lower levels, although of considerable size and well defined, carries no values. Prospecting has been carried on upon a most extensive and systematic style to a depth of 800 feet, but unfortunately so far without results.

"Adjoining the Rubicon upon the east are some old mineral leases which have recently been retaken up. Upon these there are some small copper lodes of very fair ore, but sufficient work has not yet been done to form any opinion as to their permanency.

"There are a large number of these gold-bearing reefs in the district some of which are being worked upon a small scale, but owing to the large volume of water met with at a comparatively shallow depth and the expense of getting the stone crushed and carted when raised, proprietary mining is on the whole extremely quiet.

"*Cuddingwarra* is situated about seven miles to the westward of Cue, in the greenstone area upon the western side of the grano-diorite belt.

"At the present time there is only one mine working, viz., the Victory United, and upon this property only development work is going on.

"In this mine, a short but rich shoot has been traced down from the surface to the 600ft. level and the lode, apparently rich, followed down for another 100 feet by a winze.

"There are a number of apparently promising reefs in this district, but owing to the heavy water struck at a shallow depth and other great expenses such as cartage and treatment it would be quite impossible to work there without capital."

BARRAMBIE AND ERROL'S.

Mr. H. P. Woodward visited Barrambie and Errol's and in November submitted the following report on the result of his inspection:—

"*Barrambie* is situated at the 284 mile post upon the Rabbit-proof Fence and about 72 miles due east of Cue; by road however the distance is about 90 miles owing to the fact that the old Lake Way road

is followed (which runs in a north-easterly direction) until it intersects the new cut track from Nannine to Barrambie at a point near Barangi Rock. Several attempts have been made to obtain a direct track from Cue but owing to the rough and broken nature of the country between the two points this has so far proved to be impossible.

"The nearest railway station is Nannine, which is 60 miles distant, and from it a direct road *via* Quinns has been cleared, but since there is at present no State Battery at this centre a good deal of the traffic has been diverted to Tuckanarra, 70 miles distant, where there is one, on account of the chance of return loading.

"The Barrambie Ranges present a bold appearance when approached from the westward, but since they are backed up by an elevated tableland upon the east, from that side they appear only like a series of low rocky peaks.

"The rocks composing this range are schistose greenstones the foliation of which runs in a nearly north and south direction with a dip to the eastward. The surface is extremely rough, the rocks being little weathered except immediately along the ore channels along which they have been considerably altered to a depth of 100 feet.

"Upon the eastern side of the range the rocks are much more highly altered where, in some canyon-like ravines, sections of 30 to 40 feet of weathered rock with cappings of detrital laterite are exposed.

"Little quartz is exposed along the main belt but in the direction of the General Kuropatkin, which is about $1\frac{1}{2}$ miles in a south-easterly direction, large reefs are in abundance.

"The main lode can be traced at the surface along the range for a distance of 34 chains without a break, but about 3 chains south of the main shaft in a small cross gully it apparently ends. This is possibly a fault line which has thrown the reef to the westward since south of this point a well-defined lode can be traced for 15 chains in that direction.

"The Barrambie Ranges G.M. Co. own the principal group of leases but it is only upon one of these that any development work can be said to have been done, this is called the Golden Treasure, G.M.L. 1458, and upon it three shafts have been sunk to a depth of about 100 feet and one to 45 feet and the whole connected by a level. There has also been sunk a shaft to the same level upon the boundary of this lease with the Golden Hill, G.M.L. 1459, which together prove the existence of the lode at the 100ft. level for a length of 500 feet.

"The main shaft, which is upon the underlay, has been sunk to a depth of 105 feet, the grade being about 70 degrees from the horizontal. This shaft is now equipped with a head gear and winding engine, the latter being located in the engine room which also contains the engine intended to drive the 10-head stamper mill, which latter is already erected and housed. It is proposed to add rock breakers and automatic feeders to the plant, also concentrating tables, in order to eliminate the sulphides before the sands are passed in to the cyanide vats.

"From the bottom of the main shaft, the lode has been driven on in a northerly direction for a distance of about 400 feet and this level will be carried on (so soon as the winding engine is working) to the shaft that has been sunk just within the Golden

Hill lease, which is about 100 feet distant from the present face.

"The lode has also been driven on for a length of about 200 feet at the 45-foot level, whilst the other two underlay shafts exclusive of the Golden Hill shaft have been sunk to the 100 feet level.

"The lode is well defined showing a particularly well-formed hanging wall at one or two points where it is exposed but the footwall is not so marked. The entire lode between the walls where crosscut is from 5 to 6 feet but since only from 20 inches to 2 feet upon the footwall side is rich the portion upon the hanging wall side has not been removed although to judge from its character and the richness of the footwall portion it is probable that it will be found more profitable to work the whole body as a lower grade rather than only a portion as a higher.

"So far the value of the lode has been estimated only by the dolly pot, therefore the values of the sulphides have not been taken into consideration and as a consequence the formation without quartz upon the hanging wall side, which carries pyrites, is looked upon as barren.

"Quartz only occurs in small veins and strings in the rich footwall portion of the lode, this at the 100-foot level is heavily mineralised but still carries free gold in considerable quantities, whilst in the oxidised zone the cavities from which the sulphides have been removed are often filled with spidery forms of gold.

"Large quantities of very rich specimens were obtained from this mine, so rich in fact that it was found necessary to bag many tons, but still upon examination the dumps which contain close upon 1,000 tons are seen to be covered thickly with specimens, whilst all the stone yields good prospects.

"It is proposed to carry down the main shaft still upon the underlay to the 200-foot level as soon as the winding gear is in working order, this should go far to demonstrate the permanency and value of the lode and may possibly also prove the existence of a water supply upon the mine.

"So far as can be judged at present this lode, owing to its well-defined hanging wall, angle of its dip, and length of the outcrop, appears to be of the class generally called true fissure veins whilst the length over which the rich stone extends in the sulphide zone promises well for its continuation to lower levels.

"It appears that the shoot or shoots are dipping to the northward but no decided opinion can be expressed upon this point until the 200-foot level has been driven, and until this question is determined it would be wise to postpone the question of sinking a main vertical shaft.

"At present the water supply is being obtained from a water shaft upon the flat about three-quarters of a mile to the south-west, the water level being 130 feet, but it is probable that a supply will be cut in the mine in the course of sinking to the 200-foot level.

"The water is of fair potable quality but hard.

"Timber for mining purposes is not plentiful but there is a considerable quantity of firewood in the neighbourhood which should last for some time.

"Upon the other properties not held by the Company very little work has been done owing to the fact that the nearest State Battery is at Tuckanarra, therefore the owners who are mostly working miners find it difficult to devote much time to them, but are holding with the object of a sale; however properties like the Magnum Bonum, Dawn of Hope, Barrambie South, Queen, and General Kuropatkin appear to be worthy of development.

"*Errol's* is situated upon the flats about 10 miles to the north-west of Barrambie. There are no rock outcrops, the whole surface being covered by a cement capping much quartz strewn, with here and there reef outcrops having very variable courses.

"The main line, which is called the Legacy, can be traced at the surface by a series of blows for a distance of 30 chains, striking in a north-westerly direction with a westerly dip.

"This reef was tested by a series of trenches cut across it at distances of 10 feet apart, the results being apparently satisfactory to the purchasing company.

"The stone is for the most part massive, fine grained, and ironstained in places having an alabaster-like fracture with lines of cubical-shaped cavities often very rich in gold; they are apparently the moulds from which the pyrites has been leached.

"The solid stone carries very fine gold in places, but the only visible gold met with is in these cavities or along thin mineral lines, but upon the whole the stone prospects well.

"The reef has been opened upon by shafts at four points, Nos. 1 and 2 shafts being at the south end upon G.M.L. 1465, No. 3 or water shaft upon G.M.L. 1466, and No. 4 close to the boundaries of G.M.L.'s Nos. 1466 and 1474.

"In No. 1 shaft, which is 50 feet in vertical depth, from 6 to 7 feet of stone was cut at 20 feet from the surface.

"No. 2 shaft is 10 feet vertical where it cuts the reef, which is here 8 feet in width; from this point it was followed on the underlay for a distance of 25 feet, the dip being about 35 degrees west. At this point it was cut off by what appears to be a decomposed diorite dyke, which dyke was driven on a short distance to the northward, but in it no stone is visible; it was then crosscut when about 3 or 4 feet of quartz was passed through, dipping steeply towards what is apparently a decomposed granite dyke.

"At the cap of the reef at this point it appears to turn over in an anticlinal fold dipping both east and west; it may therefore possibly be a saddle reef as the management hope, or this may only represent a spur or leader running off from it to the eastward; and this question it is proposed to set at rest by boring. The stone in this shaft is estimated at worth 15 dwts. No. 3 or water shaft so called from the fact that it was sunk to a vertical depth of 60 feet in order to obtain a supply of water for the battery. Just above the water level, a small quartz vein was cut which varied from 6 inches to 1 foot, but this opened out to 4 feet just beneath the water.

"No. 4 shaft has been sunk vertically to the water level upon the western side of the reef, and a crosscut is now being driven towards it.

"There is unquestionably a large quantity of payable stone in sight along the outcrop, but so far the limited explorations in depth have been of rather a negative character, this however is very possibly due to the fact that a reef of such variable size at the surface will maintain this character at a depth, therefore until it has been driven upon at the water level it is quite impossible to express an opinion as to its character with any degree of confidence.

"A 10-head mill is in the course of erection, whilst a good water supply has been struck in the mine itself at a depth of 60 feet.

"Good timber for mining purposes, like the Barambie district, is not over-plentiful in the immediate vicinity, but the firewood supply should last for some time.

"There are several other properties which are at the present time attracting considerable attention, the principal of these is the Three Star, G.M.L. 1490, which is situated at the north end of the belt. This is an east and west reef which dips southerly at an angle of about 45 degrees. Only a small outcrop was visible at the surface, but it has now been traced for a length of 3 chains, the cap being covered by from 4 to 8 feet of cement.

"The west shaft was sunk to a depth of 12 feet, from which a crosscut was driven 10 feet south to the footwall of the reef, from which 4 to 5 feet of stone was taken out which prospected well, the remainder of the reef upon the hanging wall side as far as tested by drill holes was of little value, but its size is unknown.

"About three chains south in the main shaft, which has been sunk to a vertical depth of 20 feet with a winze 25 feet, a reef was cut so identical in character to that in the west shaft that it is apparently the same.

"The stone from the footwall portion of this reef has been stoped from the 20ft. level to the surface for a distance of 30 feet east of the shaft, but at this end the ore body is small, being only a few inches in the face.

"Two crushings have been taken from this reef, the first reported in the March statistics is 10 tons, yielding 55.66 ozs. of fine gold, or 5.66 ozs. per ton; the tailings from this parcel are said to assay 23 dwts per ton. The second parcel is not yet officially reported, but the 41 tons crushed yielded gold at the rate of $2\frac{1}{2}$ ozs. per ton, but the sands have not yet been assayed.

"To judge from the nature of the decomposed rock passed through in these workings the country is apparently a porphyritic rock, most probably a dyke.

"The Inheritance, G.M.L. 1528, is situated immediately to the eastward of the last mentioned, but the reef here, which may possibly be the northern extension of the Legacy, strikes north and south, dipping west. An underlay shaft has been sunk to a depth of 59 feet with a drive north for a distance of 30 feet, the stone in these workings averaging about 2 feet, but is only about 10 inches at the south end.

"The stone differs from the other in this locality, being schistose, gossany, and much ironstained, whilst the country is weathered greenstone.

"A parcel of 11 tons was crushed from this lease which yielded 19.25 ozs. of fine gold, or at the rate of 1.75 ozs. per ton, whilst the sands are reported to assay 1 oz. 22 dwts. per ton.

"About 2 chains to the northward, a shaft has been sunk to a vertical depth of 30 feet, where a decomposed granite bar was met with and some broken reef, but northward of this although several shafts have been sunk no stone has been cut.

"At the south end of the line is the Legacy South, G.M.L. 1470, upon which there is an outcrop which prospected well, being apparently the extension of the Legacy line. A shaft had been sunk upon this, but collapsed after the rain.

"Some two miles south a lease called the Barambie Perseverance has been pegged upon a large quartz blow which strikes east and west and dips north. From a crosscut at the west end of the blow some good prospects were obtained, and a vertical shaft is now being sunk with the object of cutting the reef at the water level, the country passed through so far being apparently a decomposed porphyritic dyke.

"The outcrop can be traced for a distance of 5 chains to the westward of the blow, where it is considerably broken, one branch apparently turning away upon a southerly course.

"There are several other leases upon which gold has been discovered, but so little work has been done upon them that they are not worth mentioning.

"As a whole the district is a promising one on account of the size, number, and value of the auriferous outcrops, large quantities of stone from which should pay the owners well to crush, but no opinion can at the present stage of the developments be expressed upon the permanency of the ore bodies in depth."

LAWLERS, MOUNT SIR SAMUEL, MOUNT IDA, DARLOT, AND WILSON'S PATCH.

In connection with the field work on the East Murchison and Mount Margaret Goldfields, the following mining centres were examined and reported upon by Mr. Gibson, who furnished the following interim report:—

"Lawlers, Mount Ida, Mount Sir Samuel, Darlot, and Wilson's Patch; in addition to which a brief examination was made of the country between these places and also between Wilson's Patch and Laverton.

"*Lawlers.*—This place is the administrative centre of the East Murchison Goldfield, and is situated about 80 miles north-west from Leonora, which is the nearest railway station.

"The rocks comprising the auriferous series are the usual type of greenstones, intersected by bosses and dykes of granite, the intrusive nature of which is beyond dispute; this main body of quartz is, in turn, intersected by numerous felsitic dykes, these occurring chiefly along, or close to, the junction of the two classes of rocks.

"The auriferous belt has a width of from 12 to 16 miles, and is known to be continuous between Lawlers and Mount Sir Samuel, cutting out northerly a little to the north of Abbots, its southern limit being some ten miles or so to the south of

Lawlers, thus having a total length of from 50 to 60 miles.

"The ore deposits fall into three classes:—

- (a) contact reefs,
- (b) normal quartz reefs (fissure reefs), and
- (c) lodes.

"The first class occurs along the junction between the greenstones and the granite, and are usually somewhat irregular. Reefs of this description have been worked at the Eastern and Caroline mines.

"The second class is found both in the granite and the greenstones, but as a general rule it is only those in the greenstones that are auriferous; they are often of large size, and run for considerable distances. The reef worked at the Vivien may be taken as a typical example of this class.

"The only lode formation being worked is at the Waroonga, and this is of large size and very persistent.

"Generally speaking, all the deposits of the Lawlers district are low grade; they are however mostly of large size and shew every sign of permanency.

"There is a good supply of fresh water throughout the district, but timber is scarce and is rapidly becoming a serious item with the larger mines.

"The Leviathan District, Lawlers.—The Leviathan—or as it is better known locally, the Fairyland—district is situated some ten miles slightly south of east of Lawlers and within the same auriferous belt, close to its eastern junction with the main body of granite.

"At the time of my visit (Aug. 30th) the only lease being worked was the Leviathan, G.M.L. 846; other leases in the district on which work has been done in the past are the Excelsior, G.M.L. 762; Excelsior North, G.M.L. 786; Kinglike, G.M.L. 774, and Fairyland, G.M.L. 761.

"The country generally speaking is flat and mostly covered with a varying thickness of recent detrital deposits, so that very few reefs are found outcropping on the surface.

"There is a Government well close to the Fairyland lease from which a good supply of fresh water is obtainable.

"Leviathan G.M.L. 846.—This is a twenty-four acre block situated about two miles east-south-east from the Government well and about twelve miles from Lawlers. At the time of my visit, it was the only lease being worked, and only two men were employed on it.

"A quartz reef runs through the block on a bearing ranging between north and north-north-east; it is of fair size, and outcrops almost continuously for a length of about 20 chains, though towards the north end it is apparently a good deal broken and very irregular, and is also much smaller than at the south end.

"Close to the present workings, which are situated on a slight rise, and on the main line of reef, there is a very large outcrop, or 'blow,' of quartz some 6 or 8 feet in width but very irregular, as these large 'blows' almost invariably are. Just here there are three parallel lines of reef about 20 feet apart, the western one being the main line and the other two only extending on the surface for

a short distance. All these reefs dip at a fairly flat angle to the east.

"A little to the east of the main 'blow' two vertical shafts have been put down: No. 1 to a depth of 100 feet and No. 2 75 feet. No. 1, which is the most easterly, has not been sunk deep enough to cut any of the reefs, but should cut the east one in another 20 or 30 feet. No. 2 shaft has been put down on the middle reef, the first part underlay and the remainder vertical, and at the 75ft. level a crosscut has been put in about 30 feet to cut the reef, and about 40 feet of driving has been done on it; the west (main) reef comes into the shaft near the bottom and cuts out altogether in the shaft, but makes again in the bottom of the crosscut where it is some 18 inches in thickness. The reef on which work is being done at present is irregular and bunched, being about 12 inches in thickness at the crosscut, 5 feet a little farther north, 4½ feet in the north face of the drive, and 3 feet in the south face. The quartz is for the most part white and glassy and often laminated, with thin seams of chlorite along the cleavages; it carries a little pyrites at depth and is a good deal ironstained near the surface; a little metallic bismuth and oxide of bismuth is also present in places, and when this occurs the gold contents are said to be usually higher; this bismuth will prove troublesome when the stone comes to be cyanided, and will considerably detract from the value of the tailings.

"As a whole the gold contents of the stone are said to vary a good deal, some patches being very good whilst others again are just the reverse; the stone at present opened up is expected to average about 10 dwts. per ton. A parcel of about 30 tons obtained in sinking the first part of the shaft is said to have been crushed for an average yield of about 5 dwts.

"The country is a foliated greenstone, the foliation running about north and south, and is very soft and rotten and will require heavy timbering below water. Insufficient work has been done on the property to thoroughly prove the value of the main line of reef, which although of considerable length is very irregular both in size and gold contents; the lenticular character which is noticeable in the workings is also present at the surface, and it is difficult to form even an approximate estimate of its average size; generally speaking it is decidedly low grade and not likely to prove of much value to its owners as long as it is worked under existing conditions.

"The official returns from this lease to date are 31 tons for 7.95 ozs.

"Excelsior, G.M.L. 762.—On this property three lines of reef about a chain apart have been worked, but not much has been done on any of them. These reefs strike about east and west and dip at a fairly flat angle to the south; owing to the covering of recent deposits it is impossible to follow them on the surface, and the workings have not proved them for more than three or four chains. Most of the work has been done on the middle reef, which has been opened up to a depth of about 100 feet; the shaft however at the time of my visit had been filled in, and the workings were inaccessible; there appeared to be from 100 to 150 tons of stone at grass at this shaft; this reef at the surface was about 2 feet in thickness, and the quartz was very glassy and a good

deal ironstained. The south reef has also apparently been worked to a depth of about 100 feet, but the main underlay shaft on this has been filled in; the reef where visible near the surface is about 2 feet in thickness. The north reef appears to have been the smallest, and not much work has been done on it. Altogether on this lease there are probably a couple of hundred tons of stone at grass evidently too low grade to be of any value.

"From information received subsequent to my visit, it appears that the stone crushed was obtained from a small rubbly quartz leader along the footwall of the main reef and that this (the leader) cut out at a depth of about 90 feet. The stone in the main reef is said to be of no value.

"The total returns up to the end of August, 1906, are 30 tons for a yield of 53.85 ozs.

"Excelsior North, G.M.L. 786.—On this lease an underlay shaft has been put down to a depth of 50 or 60 feet on a small east and west quartz reef dipping pretty flat to the south. Apparently very little work has been done from the shaft, and only a couple of tons of stone are at grass. The property was undoubtedly abandoned owing to the poor quality of the stone. No stone has been crushed from this lease.

"Kinglike, G.M.L. 774.—No work worth speaking of has been done on this lease, and no stone has been crushed.

"Fairyland, G.M.L. 761.—The only work done on this block consists of a shaft down some 50 feet from which about twelve tons of low-grade stone has been raised. The workings were inaccessible but the reef, which runs east and west and dips south, appears to have been not more than 12 inches or so in thickness. There has been no stone crushed from the lease.

"In conclusion, I am of opinion that this district is a poor one and not likely to prove of any great importance. Prospecting will always be rendered difficult owing to the recent deposits which cover the greater part of the district and beneath which the reefs are hidden. The reefs, judging from those prospected, are irregular and very low grade, and the east and west reefs, of the class opened up on the Excelsior leases, are apparently of no value at all.

"The nearest public crushing plant at the present time is Smith's battery, near Lawlers and about 15 miles from the Leviathan.

"*Mount Sir Samuel*.—The town of Mount Sir Samuel is situated about 32 miles north from Lawlers on the north side of Lake Miranda and at the southern extremity of the Violet Range. This range is from one to two miles in width and extends northerly in an irregular line as far as Abbots; east and west of it flats covered with a considerable thickness of recent deposits extend indefinitely. The rocks forming the range are, for the most part, massive and foliated greenstones of the usual type, and generally speaking are pretty hard and unweathered; they are intersected by numerous granitic dykes, especially towards the northern end, these often being of considerable size and running in all directions, being evidently offshoots from the main body of granite which is said to make its appearance again a few miles to the east.

"Mining matters at the present time are very quiet at Mount Sir Samuel, there being only two mines working in the district, and on only one of these, the Bellevue, is any considerable amount of work being done. All the reefs that have been opened up are normal fissure reefs, and one or two of them are of fair size. Most of them are low grade, and this is a serious drawback in a district so far removed from the railway line.

"Timber is getting very scarce, and has to be brought in considerable distances, principally on camel teams. Salt water for battery purposes is of course plentiful enough near the lake, but the want of an adequate supply of fresh water for boiler use was proving a serious drawback to the big mine until a few months ago, when a good supply was met with on the flat a mile or so to the east.

"*Mt. Ida*.—This centre is situated in the North Coolgardie Goldfield some 65 to 70 miles north-west from Menzies, this being the nearest point on the railway. Travelling from Lawlers, the road passes over granite country the entire way until about three miles from Mt. Ida, where the greenstones again make their appearance. This greenstone belt is here said to have a width of some 12 miles or so, and runs in a somewhat north-westerly direction; it is apparently a continuation of that belt in which the auriferous deposits of Menzies are situated. At Mt. Ida a boss of granite some two miles in width and probably 12 miles or so in length has been rendered schistose for some distance on each side of it, and it is within these two belts of schists that the majority of the auriferous reefs are found. The schists run on a bearing generally slightly west of north and dip away from the granite on either side, and the reefs run and dip with the schists.

"The reefs, taking them as a whole, are of considerable length, but are generally small and irregular; those at present being worked are mostly, to a very marked degree, lenticular—being locally known as 'kidney' reefs—and consist often of merely a series of varying sized lenses of quartz connected by a thread of quartz and often only by the line of the walls. These lenses are sometimes almost contiguous, and sometimes are 50 or 100 feet apart, and as they vary greatly in length and depth, and there is nothing to show when they are going to cut out or come in, the reefs are naturally unsatisfactory for a prospector to work on; they have however the compensating feature that they are usually pretty high grade. There are a few well-defined and continuous lines of reef in the district which have been worked with success, and a good example of one of these is the Copperfield line, which has been opened up for a continuous length of over 1,000 feet. A typical example of the lenticular form of reef is being worked on the Unexpected lease.

"The district has been considerably handicapped owing to insufficient development having been done on many of the properties in past years, and I am of opinion that if one or two of the properties which are now abandoned were properly opened up and exploited they would turn out to be payable propositions.

"There is at present a fairly plentiful supply of timber in the district for mining and other purposes; there is also a good supply of water, fresh water being obtained in the granite country, while

the majority of that so far met with in the schists is salt.

"*Darlot*.—This centre is situated about 50 miles slightly north of east of Lawlers. The country between the two places consists of a granite tableland for the most part covered with extensive deposits of loose sand, this being the result of the gradual weathering and decomposition *in situ* of the granite.

"The workings at Darlot are situated within an area of greenstones of the usual type, the belt extending in width for three to four miles both east and west of Darlot townsite; its northern limit is not known, but it runs southerly for about 8 or 10 miles; east from Darlot, granite tableland country apparently extends uninterruptedly to the Erlistoun district.

"The country at Darlot is mostly flat and covered with a considerable thickness of recent deposits so that very few rock outcrops are visible. About three miles north of the townsite is a low ridge of 'break-away' hills trending in a general north-westerly direction and apparently marking a big fault or shearing line; it is along this line that most of the principal reefs have been worked and that all the alluvial which made Darlot famous some years ago was obtained.

"At the time of my visit mining at Darlot was fairly quiet; all the alluvial appears to have been worked out, and not much was being done in the reefing line.

"Several pretty good lines of reef have been worked in the past, and one of these (the Zanglar line) is now being opened up with apparently every chance of success. Taking the district as a whole, reefs are fairly numerous but vary greatly in size and values; they can for general purposes be divided into two classes:—

"(a) reefs in which the gold occurs in irregular bunches or pockets, and

"(b) reefs in which the gold is uniformly distributed throughout the stone.

"The first class is formed principally at the north end of the field along, or close to, the line of break-aways, and the pockets are usually found at the point where a second reef or leader comes into the main line. These pockets vary greatly in size, but when they are met with the stone is invariably dollying stone, the rest of the reef being practically barren. It is from the breaking down of the reefs of this class that the majority of the alluvial gold has been derived.

"The second class of reefs is by far the most important, as it is on these that the district has to depend for its future; they are usually of fair size, and can often be followed for considerable distances, they are well defined, and show all signs of permanency; whether the gold will live down with them is a matter that can only be proved by trial. So far the majority of these reefs have proved of pretty low grade. The Zaigbar-Monte Christo reef is a good example of this type.

"Water is plentiful throughout the district, being salt on the west side towards the southerly continuation of Lake Darlot, but fresh at the townsite and to the north and east. Timber is not too plentiful, and will shortly have to be brought in from considerable distances.

"*Wilson's Patch*.—Mining operations at this centre are very quiet at the present time, there being only one mine working. The country is essentially granite, the area being part of the main belt which extends practically unbroken between Lawlers and Erlistoun. A few small isolated patches of greenstone occur scattered throughout this area, and it is usually along the junction of these with the granite that the principal gold-bearing reefs are found. There are however a good number of well-defined and fair-sized quartz reefs in the granite; these usually have an east and west trend, and so far have proved unpayable.

"The Great Western, which is the only mine working in the district, is working a quartz reef of an average width of about two feet which runs in an east and west direction alongside a lenticular mass of greenstone which has been caught up in the granite. The reef is pretty irregular, and taking it right through decidedly low grade.

"A good deal of alluvial gold has been got in this district in past years, mostly resulting from the breaking down of small quartz leaders in the granite; these patches however have been abandoned for some time, and nothing is being done in this line now, though I see no reason why this should be so.

"Water and timber are both fairly abundant in the district.

"From Wilson's Patch to Laverton, the road passes over granite country all the way until within a few miles of Mt. Morgans. This granite belt extends northerly indefinitely, but its southern limit is practically marked by the road as a mile or two south of this, and practically following it all the way, is that extensive area of greenstones in which the centres of Leonora, Mertondale, Malcolm, and Morgans are situated.

"About 25 miles from Wilson's Patch along this road are situated what are known as the Linger and Die workings. Here a small alluvial patch was worked about 10 years ago and a fair amount of gold won from it. At the present time a couple of small parties are working some small leaders in granite country. These leaders are only an inch or two in width but are sometimes exceptionally rich; no work however of any importance has been done.

"A full description, with geological map, of these centres and the mines working will be given in a bulletin now in course of preparation."

THE SAXON LEAD MINE, NORTHAMPTON.

Mr. Woodward reported, in November, on the Saxon Lead Mine, as follows:—

"This old mine is situated upon Location 470 in the Northampton district, being about 30 chains east of the railway line from a point about one mile north of the White Peak Railway Station, which is nine miles from Geraldton. The country rock is gneissic granite, the foliation of which runs in a northerly direction with an underlay to the westward. Following this is a well-defined quartzose lode of considerable size, upon which at a point a little north of the surveyed road near the centre of the block, a rich shoot of lead ore appears to have been worked. The workings consist of a winze (mostly collapsed) down to the water level (40 or 50 feet), from which the ore won from the stopes

was raised, but of what extent the latter are it is impossible to state, since without means of descent no inspection can be made, besides which the old workings are at present quite unsafe. It is evident that a considerable quantity of ore must have been removed from this mine, since the road from the workings, which has not been used for the last 30 years, shows signs of heavy traffic, whilst further, the ore must have been of high grade because little refuse is met with in the spoil heaps. The galena appears to have been practically all removed, but the carbonates were discarded, since a considerable quantity of the latter still remains at the surface. There is an abundant supply of water for dressing purposes, whilst timber for mining purposes and fuel is abundant. The position of the property reduces cartage to the lowest limits, whilst the 9-mile railage to a port is greatly in its favour. It is quite impossible, under the circumstances, to make any definite statement with regard to this property, but to judge from surface indications there is a reasonable probability of it containing minerals in payable quantities at the present market value of lead."

WAGIN.

In consequence of the discoveries in the vicinity of Wagin, Mr. Woodward was deputed to visit and report thereon. In the month of April, this officer submitted the following report:—

"The discovery is upon Mr. H. W. Spragge's property 1010/56, which is situated about two miles south of Badgarning Hill and four miles west of Wagin (see Crown Lands litho. 409/80).

"From Badgarning Hill, which is a bold granite outcrop, the country falls rapidly in a southerly direction, the surface being covered by a feldspathic and micaceous grit indicative of its derivation from the disintegration of granitic rocks.

"In the vicinity of the find no rocks outcrop, but the surface is strewn along a well-defined line which runs in a north-east and south-west direction with fragments of a granular ironstained quartz from which the first prospects are said to have been obtained.

"Upon the eastern side of this blow a shaft has been sunk to a depth of 20 feet (water level) in white quartz and kaolin. From the bottom of this shaft a crosscut has been driven 35 feet north-west through a kaolinized rock with bands of quartz, many of which are ferruginous. At this point what is apparently the main formation was cut and driven upon 30 feet south-west and 15 feet north-east, whilst the crosscut was continued in quartz and formation for a further distance of 12 feet, thus, including the level which is 7 feet wide at this point, 19 feet of quartz veins and formation have been proved to exist.

"Some of the quartz veins are large, barren, and white, yielding no prospect of gold, but associated with them are ferruginous veins which yield prospects of fine gold.

"At the point where this formation was first cut in the crosscut there appear to be indications of a footwall dipping to the north-west, but so far no hanging wall has been met with.

"A short distance south of the shaft the formation has been crosscut by a trench, samples from which yielded prospects of fine gold.

"So far as can be judged from the character of the stone in the oxidised zone, the gold will most probably be carried in veins of pyritic quartz below the water level.

"The ferruginous quartz and formation yields fine colours of gold with a dish, as do also the sands of the creek to the southward.

"The following is the result of the sampling:—

"No. 1, from the north side of the trench, 6 feet in width, gold: 4 dwts. 2 grs. per ton.

"No. 2, from the south side of the trench, 6 feet wide, gold: 4 dwts. 22 grs. per ton.

"No. 3, from the north drive, 3 feet wide, 10 grs. per ton.

"No. 4, from the south drive, gold: *nil*.

"No. 5, from the face of south drive, 4 feet wide, gold: minute trace.

"No. 6, from dump, gold: minute trace.

"From the above it will be seen that the results of the sampling of the shaft workings is not at all encouraging, but that from the trench is much more so; since however it proves conclusively that a formation of six feet in width carries between 4 and 5 dwts. of gold to the ton, it is decidedly worth further prospecting.

"With this object in view, and in order to avoid expending labour upon barren ground, it would be advisable to prospect the cap of the lode at distances of 50 feet by shallow trenches, average samples from which should be tested; after which a shaft should be sunk at the point where the lode proved to be of the highest value; this shaft should be at least 50 feet deep, from which the lode should be crosscut and driven upon.

"At the present time an examination can only be made with the object of ascertaining whether gold really does exist, and this end has been attained, the results not only proving that gold does exist, but in sufficient quantity to encourage further prospecting. When this work has been carried out, another inspection could be made, since it then might be possible to express a much more definite opinion than it is at present."

The following are the results of the Mineralogist and Assayer's assays of the samples from Wagin:—

L 1899, W. 1.—Gold, 4 dwts. 2 grs. per ton.

L 1900, W. 2.—Gold, 4 dwts. 22 grs. per ton.

L 1901, W. 3.—Gold, 10 grs. per ton.

L 1902, W. 4.—Gold, *nil*.

L 1903, W. 5.—Gold, minute trace.

L 1904, W. 6.—Gold, minute trace.

Acting under my instructions, the Assistant Geologist, Mr. W. D. Campbell, visited Wagin, and in August submitted the following report upon the recent mining developments at that centre:—

"I visited Messrs. Spragge and Murray's reward lease on the 2nd inst. Since Mr. Woodward's report of the 9th April a second vertical shaft has been sunk to a depth of 55 feet at a distance of 77 feet south-west from the first shaft, at the place in the

costeen where some gold was found to occur. Water had been allowed to accumulate in both shafts, and stood at normal height, about 20 feet below the surface. At the time of my visit I was therefore unable to examine the workings. The owners informed me that practically no work had been done at the first shaft since Mr. Woodward's report. In regard to the second shaft, they state that the first 40 feet was wholly in quartz which included seven ferruginous bands, about two feet apart each, then the footwall was met with underlying north-westerly; below this there were 15 feet of stiff kaolin and then a parallel rubbly quartz vein, 18 inches wide, which showed gold. This vein was not driven on, however, on account of water. At 50 feet depth a crosscut was made northerly for 15 feet; here a drop of 7 feet was made (I presume to the footwall again), and the crosscut was continued again for 15 feet without meeting the hanging wall. Ten tons of ore obtained from this development work were treated at the Coolgardie State Battery and yielded 5 ozs. 14 dwts., which is at the rate of .57 oz. per ton (11 dwts.). Mineral specimen No. 1 in the accompanying list was obtained from the north side of the shaft at 2 feet depth; it is an opaque whitish quartz of the usual type in the district, and is very similar to those near Beverley. Mr. Murray informed me that I was taking this sample from the poorest part of the reef, it however assays minute traces of gold. A new shaft has been begun 59 feet north-westerly from the second shaft. From what I could see of the reef, it appears to be underlying 50 degrees in that direction, with a strike of 223 degrees, but the latter is somewhat uncertain. About 2 chains north-easterly from the No. 1 shaft a costeen has been made across the line of reef and shows quartz similar to the bulk of the quartz in the two shafts.

"I may remark here that the workings appear to be in a very insecure state, through the absence of timbering.

"Sinclair's prospecting area, No. 3, adjoins the north-east end of Messrs. Spragge and Murray's ground; here some trenching is being carried out. In one trench there is a layer of well worn quartz pebbles at 2ft. 6in. depth; the trenches are down to a depth of four feet in the slightly ferruginous kaolin, but the cap of the reef has not yet been found. About 7 or 8 chains north from here there is an outcrop of a glassy quartz, which probably belongs to different line of reef (see Collection Nos. 14 and 16).

"Another prospecting area, No. 7, has been taken up about half a mile farther north-easterly on what may be a reappearance of Spragge's reef.

"About half a mile northward of this are Prospecting Areas 8 and 9, where there is an outcrop of whitish quartz; a small pothole only has been made here as yet. Sample No. 3 in list is from here; the strike of the reef is 25 degrees. This reef outcrops again in Loc. 3996, south of Mr. C. A. Piessé's house, and one mile due north of this again there is an outcrop of a white quartz; this is probably another parallel reef, strike 33 degrees, with cross-jointing 70 degrees; this has been taken up by Messrs. Conder and Gill, but no work has yet been done on it. Two miles farther north-easterly, on the west side of the Railway, is Messrs. Bailey

and party's ground in Loc. 4245, which I did not visit, as only a little trenching had been done there.

"Three miles south-west of Wagin in Loc. 3632 is Messrs. Doig and Hanke's ground, in which there is a well-defined outcrop of quartz forming a slight ridge, striking about 35 degrees. The reef is about 24 feet wide and has cross-jointing 95 degrees. A costeen was being made across the reef, with a depth of 4ft. 6in. The quartz has ferruginous portions, and somewhat resembles Spragge's reef. Collection No. 2 is from the bottom of the middle of the trench, but does not assay any gold.

"Prospecting Areas Nos. 5, 10, and 11 are on the west side of the main line of railway about 2½ miles south of Wagin in Loc. 1804, where a low ridge indicates the line of reef for over half a mile striking 29 degrees, but towards the south end the reef deviates to 57 degrees. Messrs. Mann and Hawkins have made two costeens across the reef about 135 feet apart. The northernmost of these is about 4 feet deep, and shows the quartz mixed with partings of a dark coloured gossan. The walls of the reef are not clearly shown in the costeen, but the width of the reef is evidently over 30 feet. Some good prospects are stated to have been obtained from the drillings here. Samples Nos. 8 and 9 were obtained from about mid length in the costeen at 4ft. depth, and were selected as fairly representative samples of the quartz and gossan respectively; both have yielded minute traces of gold on assay.

"In the southern costeen, the quartz reef is solid and whiter, but the average depth would be little more than 18 inches. At the west end a shaft has been begun in the decomposed granite on the side of the reef, and was about 5 feet deep. This shaft will follow the reef underlay to the east. The reef is at least 37 feet wide here, and as the eastern end of the costeen shows rubbly quartz, the width may be more than this. There are three slightly ferruginous bands at 10, 26, and 32 feet from the west side. Sample No. 7 is from the centre at 10 feet, Nos. 5 and 6 are from the north and south sides at 26 feet, and No. 4 from the centre at 32 feet, and all except the last assay minute traces of gold. The ferruginous bands are usually the most favourable portions of the reef. About 7 chains north of these two there is another smaller costeen showing similar quartz.

"Three miles northwards from here on the east boundary of Wagin Townsite, and in Mr. Just's Loc. 518, is an outcrop of quartz, which may be a continuation of Mann's reef. It strikes 27 degrees, and a costeen about 20 feet long and 4 feet deep has been made by Mr. Simms across it at the top of the rise. Prospects of gold are stated to have been obtained from the surface stone here. My samples also from the surface, as the trench was full of water, have not yielded any gold (see Nos. 12 and 13).

"There are other outcrops of reefs in or parallel to the line of Spragge's reef for some miles south-westerly; one or more occur in Gleeson's holding (Loc. 953?) four miles from the reward lease (see sample No. 10), which shows minute traces of gold. Two miles farther, quartz rubble occurs on the east side of Loc. 2109; some of this is very ferruginous (see sample 11), which however does not assay any gold.

"The only diorite dykes that I saw were some ranging from 3in. to 12in. thick, trending 122 degrees, which is nearly at right angles to the prevailing course of the reefs (*see* Collection No. 15).

"I took the opportunity to visit Lime Lake, and obtained two samples of the lime, and some of the small shells enclosed in the deposit, and took the three attached photographs showing the kilns owned by Mr. W. E. Clark.* Operations are suspended here during the winter months owing to the boggy nature of the ground around the lake. There are now ten special leases of about 25 acres each; these and the various prospecting areas and leases are shown on the attached litho plan 409/80 and 409/40 B. and C.*

"It is not possible in the present early stage of development to express any very definite opinion regarding the further occurrence of gold in the district. The results from Mr. Spragge's mine are certainly very encouraging, and justify careful prospecting elsewhere around Wagin. Messrs. Spragge and Murray show their confidence by working their mine without outside aid, but better results would probably be obtained by opening up the mine on a larger and more systematic scale."

*List of Mineral Specimens and results of Analyses,
by Mr. E. S. Simpson.*

G.S.L. No.	Coll. No.		Gold.
2266	1	Spragge & Murray's shaft, Loc. 1504	Minute trace
2267	2	Dog's costeen, Loc. 3632	Nil
2268	3	Sinclair's P.A. 9, Loc. 617	"
2269	4	Mann's costeen, Loc. 1804	"
2270	5	" " "	Minute trace
2271	6	" " "	"
2272	7	" " "	"
2273	8	Mann's costeen, 2½ ch. north of Nos. 4 to 7	"
2274	9	Mann's costeen, 2¼ ch. north of Nos. 4 to 7	"
2275	10	Gleeson's reef, Loc. 953	"
2276	11	Ferruginous reef, Loc. 2109	Nil
2277	12	Just's Loc. 518, at costeen	"
2278	13	Just's Loc. 518, near town-site boundary	"
	14	Quartz outcrop, Loc. 1645	
	15	Diorite, Loc. 1566	
	16	Waterworn quartz pebbles, Sinclair's P.A. 3	
	17	Lime from small pit, Lease No. 4, shown in photo.	
	18	Limestone ridge, 3 chs. north of kiln, Lease 4, shown in photo.	
	19	Shells from limestone in lake bed, west of kilns	

"On the 22nd of August, an auriferous specimen, received through the West Australian Bank, was handed to me by you for inspection and report. After careful examination I submitted the following memorandum thereon:—

"In reply to your memorandum of the 22nd inst., which did not reach me until 4.30 yesterday, the specimen is not of the same type as that which characterises the quartz of any of the Wagin reefs known to me, neither does it in any way resemble the ore obtained by Mr. Campbell on the occasion of his recent visit to the locality, and referred to

in his report. Owing to the condition in which the stone recently submitted by you for assay was received it is hardly possible to state whether it bears any resemblance to the sample accompanying your memorandum, and which is returned herewith. I may add, however, for your information, that I have very good grounds for suspecting that some of the rich ore purporting to have been obtained from certain of the Wagin reefs has come from a much more distant source."

ARRINO AND YANDANOOKA.

Mr. Campbell submitted the following memorandum on some observations made by him in the vicinity of Arrino and Yandanooka during the year:—

"The Eastern boundary of the granite in the Arrino and Yandanooka districts is shown in two plates in the Departmental Report for the year 1903, reproduced from the map accompanying my report of September 30th in that year, on the Arrino Copper deposits; this embraced about six miles; since then the boundary has been traced as opportunity offered for a further distance of nine miles northwards to near the Yandanooka Railway Station. The illustrative rock specimens have also been extended, and they now number 52, nearly all collected by the Department. Their localities are shown on the map, and they are enumerated in the accompanying list.

"The sedimentary beds adjacent easterly to this granite are a series of sandstones and conglomerates, which are occasionally altered into quartzites; they have a general underlie of about 60 degrees to the east; with them are associated beds of fine-grained chocolate-coloured tuff or tuffaceous sandstone; these occur mostly along the immediate contact with the crystalline rocks, and are plainly seen near Mt. Muggawa and northwards, blocks of travertine up to 12 inches thick occur frequently along its outcrop, and are burnt when required for lime: the calcareous nature of this tuff produces a fertile soil which has caused this ground to be sought for occupation. Both the sandstone and conglomerates are largely ferruginous and often capped by laterite, or occur as quartz conglomerates as at the hill misnamed Granite Hill at Yandanooka. The age of these beds have not yet been ascertained, but they may be Permo-Carboniferous.

"At Mt. Muggawa the lodes occur in the granite gneiss and mica schist, but at Arrino they penetrate the sedimentary beds in which they are dispersed into small veins of ore rarely more than half an inch wide. When I was at Arrino in January last ore was still being raised near Baxter's shaft on Block 342 by means of open cut, worked on tribute.

"The western margin of the granite area has not yet been mapped; it is much obscured by the sand forming the adjacent sandplains, which have apparently resulted from the decomposition of the more recent horizontal sandstones that have been deposited along the old coast line of granite and older sedimentary beds; with these sandstones occur argillaceous beds as at the Yandanooka homestead of Forrest, Emanuel & Co. and the valley of the Arrowsmith River (*see* 3 mineral specimens from there in the attached list). These clay beds cause springs to occur. The age of these beds may be Jurassic or Cretaceous.

* Not reproduced.

"Samples of water were taken from two springs at Yandanooka; an analysis of one of these has been made in the Survey Laboratory and is attached, the other sample will have to await the exigencies of the Departmental work."

Analysis of Water, by E. S. Simpson.

Locality—Yandanooka North Spring.

Geological Survey Laboratory No.—1839B.

	%	grs. per gall.
Sodium Chloride ... Na Cl	.1293	90.51
Potassium Chloride ... K Cl	.0015	1.05
Magnesium Chloride ... Mg Cl ₂	.0078	5.46
" Sulphate ... Mg S O ₄	.0086	6.02
" Carbonate ... Mg C O ₃	.0013	.91
Calcium Carbonate ... Ca C O ₃	.0011	.77
Sodium Nitrate ... Na N O ₃	.0011	.77
Silicate ... Si O ₂	.0097	6.79
Alumina... Al ₂ O ₃	.0001	.07
Iron Peroxide ... Fe ₂ O ₃	.0001	.07
Organic matter	strong trace	strong trace
	.1606	112.42
Hardness ...	...	11.7

CLAY DEPOSITS OF THE CLACKLINE DISTRICT.

In July the following report was submitted by Mr. Campbell:—

"The country around Clackline examined for the purpose of this report is included in a radius of about 1½ miles around the townsite. The country is hilly and is traversed in a general east and west direction by the Clackline Gully, which junctions with the north and south valley of the Nanamullen Brook a little to the east of the townsite.

"Granite and gneiss are the prevailing types of rock in this district, and these are traversed in various directions by dykes of diorite, which mostly outcrop along the tops of the ridges and spurs, having resisted the surface decomposition in a greater degree than the surrounding rock. There are also various outcrops of quartz of a 'glassy' character which appear to have been subjected to the same foliating action as the gneiss, for they have sometimes a fluted jointing and a straight cleavage and almost fibrous in texture, quite unlike the normal condition of quartz reefs.

"Some prospecting for gold was carried out some years ago by a miner named Ford near where are now the fire-brick works, a small specimen of gold having been said to have been found by George Bardon, a settler, and some pits were put down from 10 to 50 feet deep; a sample of stone from one of these is stated to have yielded on assay about 2 dwts. of gold per ton. Two of these shafts however proved the existence of fireclay to, it is said, 50 feet, this led eventually to the starting of fire-brick works there. These are situated in Loc. 19 about one mile west of the townsite. There is here a broad band of mica schist, crossing the valley of the Clackline Brook in a direction of about 155 de-

grees. On the north slope of this valley the schist has a width of about eight chains with ferruginous walls composed of laminated ironstone; between these walls the schist has been kaolinized into a grey and white clay, varying from pipeclay to hard kaolin, from which the fire-bricks are being made. The clay pit is 30 feet deep, but there is no sign of the clay being limited to that depth, nor is there any deterioration with depth. The kaolinization of the schist can be seen to extend for ¼ mile at least to the northward. In a southerly direction, the ironstone walls do not cross the brook, and the schist appears to widen out to about one-third of a mile, but as far as can be seen in three small wells there, it is not so completely kaolinized. Attached to this report is the result of an analysis by Mr. E. S. Simpson of a sample from a hard seam of clay in the pit, and also a test of the fire-brick produced at these works.

"Most of the dykes are formed of coarsely crystalline quartzose hornblende with occasional finely crystalline portions, as may be seen in the main dyke to the south-east of the town boundary, and in the bed of the Clackline Brook, within the school-ground. In the latter instance the dyke has evidently been intruded while the adjacent gneiss was in a semi-plastic state, for spurs and scraps of diorite occur in the gneiss and small streaks of gneiss occur within the diorite, as shown in the attached sketch.

"The gneiss in the district is almost uniformly very white and quartzose, but adjacent to this dyke it has dark hornblende bands as if produced by an admixture of the same magma that produced the dyke. It is probable that the course of the brook is along a line of fracture in the rocks, with also probably a throw of the southern portion to the eastward. Mineral specimen (6709) is from a bulge-like protrusion from the east side of the dyke on the ridge about seven (7) chains south of the south end of Dwyer Street; here there are several feet thickness of hornblende-mica schist. Several instances of a partial alteration of the diorite towards an epidote rock are to be seen in the neighbourhood.

"The Clackline Brook water has not been found to be suitable for boiler purposes. A small well near the brook was first used for the engine at the fire-brick works, but that source was abandoned in favour of the Coolgardie Water Supply, the pipes of which pass close to the railway there, as the former was found to contain a large proportion of salts of lime and magnesia, as shown by the following analysis made in January last by Mr. S. S. Dougall, F.I.C.:—

	Grains No. 1.	per gallon. No. 2.
Salt ...	199.0	249.4
Magnesium chloride ...	46.1	77.2
Calcium sulphate ...	11.2	16.6
Do. carbonate ...	23.7	2.0
Phosphoric acid ...	2.5	4.4
Soluble silica ...	1.0	3.0
Organic matter and water or hydration	103.8	94.0
	387.3	446.6

"The dam in the brook opposite the railway station, made for the use of the locomotive engines,

has also been abandoned in favour of the Coolgardie Water Supply."

Analysis of and report upon a hard seam of Clackline fireclay, by E. S. Simpson, Mineralogist and Assayer.

Geological Museum, No. 6256
Do. Laboratory, No. 1896

Silica SiO_2	51.55
Titanic Oxide TiO_2	2.19
Combined Water H_2O	10.41
Soda Na_2O} ... ..	.31
Potash K_2O} ... ..	.11
Magnesia MgO} ... ..	.40
Lime CaO} ... ..	.09
Iron peroxide Fe_2O_3 ... ..	.43
Alumina Al_2O_3	33.25
Hygroscopic Water H_2O} ... ..	.90
	<hr/>
	99.64

From the analysis it would appear to be of excellent quality.

"I have examined the samples of Clackline firebricks submitted (by the State Mining Engineer), testing them against the well-known Garteraig bricks from Scotland, which so far as I know are the best obtainable in the local market. The following are the outlines of the test, which is as severe as it can be. The bricks as received were examined for cracks, for fused spots, and for grain. A test was made of their toughness and porosity, and the percentage of silica present was determined. They were then put cold into a red-hot fire packed round with coarse coke and brought to a white heat; after being in the fire for an hour, they were taken out, and whilst still bright red, tested for toughness and plunged into cold water, where they were left till cold. They were then again examined for cracks and signs of fusion, and tested for toughness. The results obtained were as follows:—

	Garteraig.	Clackline.
<i>As received—</i>		
Silica percentage	60.1	65.6
Large cracks	none	none
Small surface cracks	very few	numerous
Fused iron spots	few	medium
Toughness	very high	high
Grain, coarsest fragments	$\frac{1}{4}$ inch	$\frac{1}{4}$ inch
Density, weight of 1 cub. in.	.068	.063
Water absorbed	12.9 per cent.	20.4 per cent.
<i>When red hot—</i>		
Toughness	very high	high
<i>After quenching—</i>		
Signs of fusion	none	none
Cracks	very few	few
Toughness	moderate	moderate."

BEVERLEY DISTRICT.

In March, Mr. Campbell submitted the following report on the results of a geological examination of the Beverley District:—

"In accordance with your instructions of the 7th December last, I made a visit to the Beverley district from 24th January to 19th February, taking first the easterly portion on the Mount Caroling Road and the neighbourhood of County Peak, 12 miles south from that road, and returned to Beverley *via* Bally Bally and Mount Kokeby on the 1st February.

"On the 5th February I left Beverley for Dale River westerly and examined the neighbourhood of Bechtel's station, and crossed the head of the Dale Valley westward to the Canning watershed, and thence in a south-west direction to the 47 mile post on the Albany Road on 13th February, returning to Perth on the 19th February.

"At Ford's location 3886, about two miles north of the Caroling Road and 14 from Beverley, there is a large ferruginously laminated quartz reef, strike about north and south, underlaying easterly about 63 degrees; it is apparently about 30 feet wide (6609.) At a large outcrop of this reef about 10 chains south of Ford's north boundary several potholes were made many years ago, and some fair prospects are said to have been obtained. The samples collected by myself from both here and from the same reef about four chains north of the north boundary of Loc. 3886 have been tested in the laboratory, but have yielded only minute traces of gold. The reef is flanked on its western side by ferruginous schist (6610). The reef is considerably brecciated, showing that movement of the rocks has taken place. About ten chains north of the same boundary there is an east and west reef, much faulted, and both it and the adjacent gneiss rock are greatly contorted (6608); about a mile north from here there is a porphyry dyke (6607). There are numerous flat-topped hills about here with a capping of laterite, or ironstone conglomerate.

"The next locality visited was the small watercourse on the south boundary of Loc. 6043 about 21 miles from Beverley, where a small nugget of gold was found lately by Mr. C. Hine, Government Land Guide.

"Three samples of the wash in this watercourse were obtained from 6 to 15 inches depth, and also some samples of a rose-coloured quartz that lay scattered about on the north-east bank, and from some small quartz veins in the south-west bank; these samples and also some collected by Mr. Hine have been tested in the laboratory, minute traces of gold being found in the quartz samples only. The country rock is hornblende gneiss. There is a large white quartz reef about $\frac{1}{4}$ of a mile west of the watercourse having a north and south direction, and which has an unpromising appearance. The watercourse extends only about 12 chains from the road northwards, there being no outcrop of the quartz at this spot. I was not able to form any opinion in regard to it.

"I then proceeded to County Peak and inspected the large quartz reef on which a shaft has been sunk at the north corner of Loc. 2587; this shaft was made by one Jenkins, and is said to be 40 feet deep with a crosscut to the east and a winze. It is said that some prospects of 13 dwts value were obtained here. This reef is over 30 feet wide, and it outcrops very conspicuously for half a mile to the north and south: beyond this distance northward it seems to disappear, but it can be traced at intervals for 3 miles to the south, outcropping very distinctly on the north boundary of Loc. 3705. The quartz throughout is mostly very white with rose-coloured patches, more particularly where cross-jointing occurs.

"On the north boundary of Loc. 3863 about $\frac{3}{4}$ mile east of County Peak, or Quajabin, two fencers, Dan Turnbull and John Ryan, found a 1dwt. slug of gold about November last, while sinking holes for posts. The gravelly soil is here about 18 inches thick, resting on the granite; a small patch has been stripped and shows veins of an amber coloured quartz. There are two diorite dykes adjacent (6614, 6615). The best method of testing both this gravel and the wash in the watercourse at Loc. 6043 would be by means of dryblowing. About $\frac{3}{4}$ mile from here, near the east boundary of Loc. 3190, there is another outcrop of a rosy quartz reef, and another very ferruginous one in Loc. 4945 (6620). None of my samples of quartz and soil from this neighbourhood however have been found according to the Laboratory analyses to contain any gold.

"An east and west dyke of a very coarse-grained diorite, resembling a green syenite, occurs in Loc. 2614, half a mile south of County Peak; it outcrops in large boulder-like blocks (6612). The adjacent rock is a coarsely laminated gneiss (6611). Another very similar outcrop occurs farther south on the north margin of the salt lake.

"Quajabin Peak and the line of laterite topped hills north-westerly from there comprise a belt of hornblende gneiss and granite (6613, 6617). The decomposition of this rock forms most of the rich chocolate coloured soil in this neighbourhood.

"My return journey was made through Bally Bally, where there is a very large white quartz reef about 45 feet wide, forming the top of 'Quartz Hill' in Loc. 3735; it is very similar in character to the large reef near County Peak; its strike is 35 degrees. There is a parallel diorite dyke a few chains to the eastward of this reef and another $\frac{3}{4}$ mile to the east which passes through Kilpatrick's homestead ground.

"My visit to the Dale River was made by the road through Annandale to Bechtel's station, where at Loc. 6447 and Loc. 6448 there is a large reef having an approximate east and west course. At an outcrop in a gully a little north of the north-west corner of Loc. 6445, some surface work has been done by Mr. Bechtel; the reef is here about 22 feet; it underlays south. A diorite dyke about 100 feet wide crosses the reef about 100 feet west of the place; both the quartz and the diorite are slightly pyritic. There is another large outcrop of quartz in the centre of Loc. 6444 having a slightly more north-easterly course, which may be the same reef. Samples from both these localities have yielded minute traces of gold according to the Laboratory report.

"Outcrops of a continuation westerly from these localities were inspected at the division line between Loc. 6447 and 6448 where there is a ferruginous schist on the north side of the reef and at the west boundary of 6448 and along a ridge for 15 chains westerly; at the crossing of the watercourse at the latter place a pothole was made by Jones and party, but no gold occurs in my samples from these two places according to the Laboratory tests. The reef reappears $\frac{1}{4}$ mile westerly and continues for about half a mile farther.

"I was informed by old residents that about the year 1887 a hawker named Carl Heider lost his way in this neighbourhood and found his way out to the Perth-Albany road somewhat south of the 47 mile post, where there was then the Coach and Horses Inn. When there he showed some quartz with gold in it, which he said he had found in a gully within 24 hours before reaching the road. He afterwards spent a month in company with Mr. T. Willey searching for it, but without success. I saw Mr. Willey, and he showed me a piece of this stone, and I thought that it would be worth while to travel through this tract of country, and on 12th February I left the boundary of Bechtel's Loc. 6448 and journeyed 7 miles west with a pack-horse to the surveyed watershed boundary of the Canning. At about $73\frac{3}{4}$ miles according to the plan numbering, if my identification of the spot is correct. It is most unfortunate that neither the Canning nor the Helena river's watershed survey posts are numbered so that identification of the posts is rendered difficult even to a surveyor: this is, I submit, an omission that ought to be rectified before the cut lines are too much overgrown or obliterated. On my way I found all the watercourses' pools dry, so that when on the ridge I decided to take a south-west direction so as to cut the Albany road in the shortest possible direction, 11 miles. It was across the trend of all the valleys and ridges of the head of the Canning watershed, and I passed over some very rough country and bare granite tracts before I struck the road at the 47 mile post. The Dale side is largely undulating country, but the western side is very rough. I saw a few quartz reefs, and also some diorite resembling the coarse kind near County Peak. I did not see any gold. I then proceeded to the Bannister River, reaching Pollard's on the evening of the 13th. At the Bannister River I noticed some quartz reefs and diorite dykes and was told of some other reefs in the neighbourhood; a little alluvial gold was found eight years ago in Loc. 341.

"Mr. Schorer, the postmaster of Wandering and now of York, I was told, found a small piece of gold-bearing quartz at Wandering, and Mr. Geo. Watts I understand has a slug of gold found by Mr. R. Pollard on the Hotham river, eight miles south of Bannister. I however did not spend any time in this locality, and made as speedy a return as possible by conveyance *via* the Wandering settlement to the Dale river, and returned to Perth on the 19th February.

"My journey showed that there are numerous quartz reefs in the Beverley district, some very promising looking, but only the samples from Ford's and Bechtel's selections yielded any traces of gold on assay in the Laboratory; but the finding of occasional nuggets of alluvial gold and pieces of auriferous quartz show that there may yet be some gold patches in the district. I regretted having to make such a hurried journey across the Canning area. The month of September would probably be the best time to go there.

"Attached is a list of mineral specimens obtained from these districts, and also three lithos 343A/40, 342/80, and 379/80 showing the route and localities visited."

Mineral Specimens from Beverley District.

Regd. No.	Lab. No.	Coll. No.	Specimen.	Gold Assay.	No. of Specimens.
6607	...	1	Porphyry dyke, 3 miles N. of Mt. Coroling Road and N. of Loc. 3886	...	3
6608	...	2	Contorted gneiss and quartz veins, 10 chs. N. of Loc. 3886	...	1
...	1700	3	Quartz, 10 chs. N.E. of spec. No. 4, E. and W. reef	Minute trace	
6609	1701	4	Ferruginous quartz reef, 3 chs. N. of Loc. 3886	do.	
...	1702	5	Ferruginous quartz reef, E. side of high outcrop of Loc. 3886	do.	
...	...	6	Ferruginous gossan of reef	...	
...	1703	7	Earth at 2 chs. S. of No. 5	do.	
6610	...	8	Ferruginous schist, W. side of reef, Loc. 3866	...	3
...	1704	9	Quartz floaters, adjacent to Coll. No. 11	Minute trace	
...	1705	9a	Do. do.	do.	
...	1706	10	Earth at Coll. No. 9	Nil	
...	1707	11	Earth at Watercourse, 15 chs. from road, Loc. 6043	Nil	
...	1708	12	Earth opposite (20ft. N.) of 10 ch. peg N. side of road crossing, Loc. 6043	Nil	
...	...	13	Hornblende gneiss, head of the above small gully	...	
6611	...	14	Coarsely laminated gneiss, Loc. 2614, half mile S.W. of Quajabin or County Peak, S. boundary	...	2
6612	...	15	Coarse-grained diorite, Loc. 2614, S. boundary	...	3
6613	...	16	Hornblende gneiss, near top of County Peak	...	3
...	...	17	Granite, N.E. side of County Peak, Loc. 3191; a similar rock occurs in Loc. 2620	...	
...	...	18	Quartz, Loc. 3190, $\frac{3}{4}$ mile N.W. of County Peak	Nil	2
6614	1709	19	Diorite, Loc. 3863, 5 chs. S. of N. boundary E. and W. dyke	...	1
6615	...	20	Diorite, Loc. 3863, N. boundary, N.W. and S.E. dyke near where 1dwt. nugget of gold was found	...	3
6616	...	21	Epidote, Loc. 2587, about one mile N.W. from Quajabin Peak, N. side of diorite	...	2
6617	...	22	Hornblende gneiss, Loc. 5040, 2 miles N.W. of Peak	...	3
...	...	23	Coarse diorite, S. of Loc. 6854, at edge of Lake, similar to 6612, Coll. No. 15	...	
6618	...	24	Granite, Loc. 808, well dump	...	1
6619	1710	25	Quartz, Loc. 5040, 34 chs. N.E. of shaft	Nil	3
...	1711	26	Wash from where 1dwt. nugget was found on Loc. 3863	Nil	
6620	1712	27	Quartz, outcrop in Loc. 4945	Nil	
6621	1776	28	Quartz, near N.W. corner of 6445, Bechtel's	Minute trace	2
6622	...	29	Diorite, crossing reef, spec. 6621	...	2
...	1777	30	Quartz outcrop centre of 6444 strike 267ft.	Minute trace	
...	1778	31	Ferruginous casing of reef, crossing middle boundary, 6647-6648	Nil	
...	1779	32	Pothole in reef, crossing W. boundary 6448	Nil	
6623	...	33	Pyritous diorite, W.R. 9336, Dale River	...	3
...	...	34	Ferruginous gneiss, in W.R.	Gold, Nil Silver, Nil Copper, Nil	
6624	1780	35	Quartz, 7 chs. E. of W. boundary, Loc. 6448	Nil	
...	1781	36	Quartz, Loc. 6257 (Noonan's)	Nil	
...	1782	37	Quartz, Loc. 341, Bannister River	Nil	
6625	...	38	Diorite, central portion of dyke, Loc. 341	...	1
6626	...	39	Diorite, shows central change of texture	...	2
6627	...	40	Diorite, outer portion of dyke	...	2
6628	...	41	Granite, N.E. side of County Peak, Loc. 3191	...	2
6629	...	42	Felsite, S. boundary Loc. 6446, Bechtel's, Dale River	...	1
6630	...	43	Diorite, S. boundary Loc. 6446, Bare Hill	...	1
6631	...	44	Granite, Booraginning Rocks	...	2
6632	...	45	Granite, Conoring Rocks	...	1
6633	...	46	Granite, Loc. 2911, near Yenadine Pool, cave in granite, flake from interior of cave	...	1

MISCELLANEOUS MINERAL NOTES.

Mr. Simpson, the Mineralogist and Assayer, has furnished the following information regarding some of the more interesting material which has passed through the Laboratory during the year under review:—

L1692B. *Coal, Fly Brook*. A hard, bright brown coal from the lower seam at Fly Brook had the following composition:—

Moisture	13.31
Volatile hydrocarbons	37.42
Fixed carbon	46.45
Ash	2.82
	<hr/>
	100.00

Calorific value per lb. ... 10,167 B.T.U.

L1911B. *Diatomite, Cape Arid* (Eucla Division).

A second grade diatomite or kieselguhr of great purity but low absorptive capacity. It is of very little value as an absorbent base for dynamite, etc., but might well be employed for heat insulation, soluble-glass manufacture, etc.:—

Mechanical Analysis—

Diatoms and sponge spicules	97.88	%
Roots and other coarse organic matter	41	
Sand grit passing 60 sieve, refusing 90	82	
" 30 " " 60	65	
" 10 " " 30	24	1.71
	<hr/>	100.00

Percentage absorptive capacity 90

Chemical Analysis—

	Crude.	Calcined.
Moisture	2.39	...
Organic and combined water	10.94	...
Silica	83.84	96.74
Lime ... ..	.31	.36
Magnesia ... ..	.32	.37
Manganese oxide	Trace	Trace
Iron peroxide ... ..	.54	.62
Alumina ... ..	.98	1.13
Alkalis, etc. ... ..	.68	.78
	<hr/>	<hr/>
	100.00	100.00

L1978B. *Bitumen, Albany Harbour*. A high-grade asphalt of the following composition:—

Moisture	73
Petrolene	56.48
Asphaltene	42.22
Non-bituminous Organic	Trace
Ash	57
	<hr/>
	100.00

This is closely related to the other asphalts found on the south coast, and with them may not be of local origin, but drifted in by the sea, or dropped by whalers, etc. It is of excellent quality, well suited for paving or any other purpose to which asphalt is put.

L2075/8. *Ochres, Cossack*. These four samples were examined for their suitability for making paint. They were found to be readily ground, and with one exception (L2078B) very free from grit. In both the raw and burnt states they formed excellent pigments with plenty of body, and yielded smooth paints of good colour, high covering capacity, non-poisonous, and very permanent.

COLOURS.

	Raw.	Burnt.
2075.—Olive brown ... ..	...	Dark purple brown
2076.—Purple brown ... ..	...	Dark purple brown
2077.—Burnt sienna ... ..	...	Burnt sienna
2078.—Bright ochre yellow ... ..	...	Yellow brown

A bright red ochre of excellent quality (L2627B) was received from near Coondip in the Phillips River G.F.

L2111B. *Asbestos (Chrysotile), Tambourah*. The high-grade asbestos from some distance north of Tambourah has yielded the following results on analysis:—

Silica	42.98
Magnesia	39.92
Manganese protoxide	Trace
Iron protoxide ... ..	.24
Iron peroxide	1.68
Alumina ... ..	.44
Water above 100°	12.88
Water below 100°	1.94
	<hr/>
	100.08

Specific gravity 2.37

L2414B. *Gold-coated sheeps' jaws, Peak Hill*.

The teeth in these jaws were coated with a metallic-looking deposit suspected to consist largely of gold. No gold or other metallic mineral however was present, the deposit consisting of small scales of bronze-coloured mica cemented together with the organic matter usually occurring on teeth.

L2445/8B. *Argentiferous copper ores, Uaroo*.

These ores from Weston's Find, 12 miles south-west of Uaroo homestead, assayed:—

2445.—Copper, 54.69 per cent.; silver, 21ozs. 1dwt. per ton; gold, *nil*.

2446.—Copper, 62.35 per cent.; silver, 39ozs. 15dwts. per ton; gold, *nil*.

2447.—Copper, 54.11 per cent.; silver, 34ozs. 16dwts. per ton; gold, *nil*.

2448.—Copper, 4.22 per cent.; silver, 6ozs. 9dwts. per ton; gold, *nil*.

L1244B. *Meteorite, Nuleri District*. A small meteoric iron (Octahedrite) found by a prospector about 200 miles east of Sir Samuel. Composition:—

Iron	93.57
Nickel	5.79
Cobalt ... ..	.41
Magnesium ... ..	.09
Copper	Trace
Carbon ... ..	.01
Phosphorus ... ..	.13
Sulphur	Trace
Silicon	<i>Nil</i>
Chlorine	Trace
	<hr/>
	100.00
	<hr/>
Specific gravity	7.79

A complete report on this will appear in Bulletin No. 26.

L2264/5B. *Clays, Newlands*. Two clays from Newlands were examined with a view to determining their value for making stoneware pipes, etc., for which they appear to be well suited. They were

well vitrified on burning at 1,400 deg. In the raw state, after being air-dried, their composition was:—

G.S.L.	...	...	2264	...	2265
Colour	...	...	White	...	Red
Silica	...	...	65.45	...	61.39
Soda	...	...	.31	...	.40
Potash	...	...	1.69	...	1.98
Magnesia	...	...	.71	...	1.00
Lime	...	...	Nil	...	Trace
Manganese protoxide	...	...	.09	...	.11
Iron protoxide	...	...	.12	...	.12
Iron peroxide	...	...	.94	...	8.74
Alumina	...	...	21.53	...	18.12
Water above 100deg.	...	...	7.34	...	6.38
Water below 100deg.	...	...	1.96	...	2.16
			100.14	...	100.40

L2413B. *Briquettes of Collie Coal*. Briquettes made of a mixture of dried Collieburn slack coal and the resinous husk of the grass tree (*Macrozamia preissii*). Analyses:—

Coal,	{ Carbonaceous matter	...	77.1
77.7%	{ Pyrites	...	.6
Grasstree,	{ Resin	...	17.1
22.3%	{ Wood fibre	...	5.2
			100.0
Moisture	...	...	9.78
Volatile hydrocarbons	...	...	40.08
Fixed carbon	...	...	41.63
Ash	...	...	8.51
			100.00

Calorific value, 5,683 calories.
10,230 B.T.U.

L2600/4, 2610, 2613/7B. *Phosphatic rocks, Dandarraga*. A full report on these interesting rocks will appear in Bulletin No. 26. The rocks are sandstones and ironstones with variable amounts of fossil bone, lime-phosphate concretions (coprolites), dufrenite and other iron phosphates, and occasionally a little wavellite.

L2262B. *Microlite, Wodgina*. Several water-worn fragments of this rare tantalate of lime have been detected in two tantalum ores from Wodgina. A rough analysis of the mineral gave the following results:—

Tantalum and niobium pentoxides	...	77.16
Tin dioxide	...	Present
Lime	...	13.46
Magnesia	...	.42
Iron protoxide	...	3.64
Manganese protoxide	...	.60
Potash	...	.20
Soda	...	1.66
Water, etc., on ignition	...	1.06
Water below 100°	...	.22
		98.42
Specific gravity	...	5.422

I have, etc.,

A. GIBB MAITLAND,
Government Geologist.

INDEX TO NAMES OF PLACES, MINES, REEFS, ETC.

Agamemnon Lease	Page	150
Albany	141	
Albany Harbour	164	
Alienation of Mineral Lands	141	
Aluminium	142	
Analyses	142, 159-61, 164-5	
Annual Progress Report, 1905	143	
Antimony	142	
Arcadia Reef	149	
Argentiferous Copper Ores	164	
Arrino	159	
Artesian Water	141, 143	
Asbestos	164	
Assay Fees	143	
Assays	142, 157, 164	
Australian Museum, Sydney	143	
Austria, Geological Survey of	143	
Badgarning Hill	157	
Bailey and party	158	
Bally Bally	162	
Barrambie	141, 151	
Barrambie Perseverance Lease	153	
Barrambie Ranges	151	
Barrambie South Lease	152	
Belgravia Reef	149	
Bellevue Lease	155	
Beverley	141, 161	
Bitumen	164	
Bonnie Dundee Reef	149	
Bonnievale	142	
Brilliant Lease	149	
Briquettes	165	
British Guiana, Geological Survey of	143	
Burtville	143	
Caledonia Hill Mine	141, 150	
Campania Reef	149	
Campbell, W. D.	141, 143, 157, 159-61	
Canada, Geological Survey of	143	
Cape Arid	164	
Cape of Good Hope, Geological Survey of	143	
Carbine	142	
Carnage	142	
Carnarvon	141	
Caroline Lease	154	
Cashmans	142	
Catalpa Lease	150	
Chapman, F.	143	
Chrysotile	164	
Clackline	142, 160	
Clay Deposits	160, 164	
Coal	142, 164	
Collection, Geological	143	
Collie Coalfield	143	
Collie River Beds	143	
Conder & Gill	158	
Coolgardie Goldfield	142	
Coolgardie, North, Goldfield	143	
Coondip	164	
Copper	142	
Copperfield Reef	155	
Copper Ores, Argentiferous	164	
Cossack	164	
Countess Extended Lease	150	
County Peak	161-2	
Crème d'Or Lease	151	
Criterion Lease	144, 146	
Cue District	141-2, 149	
Cue No. 1 Mine	141, 149	
Cue Victory Lease	Page	150
Cuddingwarra District	141-2, 149, 151	
Dale River	141, 161-2	
Dandarraga	142, 165	
Darlot	153, 156	
Dawn of Hope Lease	152	
Day Dawn District	141-2, 149-50	
Deceiver Reef	149	
Determinations	142	
Devon Consols South Extended Lease	144-5	
Diatomite	164	
Doig & Hanke	158	
Duke of York Reef	149	
Dundas Goldfield	143	
Earp, Dr. F. S.	141	
Eastern Lease	154	
East Fingall Lease	151	
East Murchison Goldfield	142, 153	
Erlistoun	143	
Errol's	141, 151-2	
Etheridge, R.	143	
Eucla Division	164	
Eureka No. 5 Lease	151	
Excelsior Lease	154	
Excelsior North Lease	154-5	
Exhibition, W.A. Chamber of Manufactures'	142-3	
Fairyland Lease	154-5	
Farrant, A.	141	
Field Work	141	
Fireclay	160-1	
Fly Brook	164	
Fossils	143	
General Kuropatkine Lease	151-2	
Geological Collection	143	
Gibson, C. G.	142-3, 153	
Gill, Conder &	158	
Golden Hill Lease	151	
Golden Stream Extended Lease	150	
Golden Treasure Lease	151	
Grant's North-West Prospecting Co.	148	
Grant's Reward Lease	148-9	
Great Britain, Geological Survey of	143	
Great Fingall Mine	150	
Great Western Lease	156	
Great White Eye Lease	149	
Greenough River	141	
Hanke, Doig &	158	
Hannan's Hope	144	
Hannan's Reward North Leases	144-5	
Hardman, E. T.	147	
Hawkins, Mann &	158	
Hird's Lease	144	
Homeward Bound Lease	150	
Howchin, W.	143	
Inheritance Lease	153	
Ireland, Geological Survey of	143	
Ivy Gold Mine	144, 146	

INDEX TO NAMES OF PLACES, MINES, REEFS, ETC.—*continued.*

Jack, R. Logan	Page 143	Phosphate Deposits	Page 142, 165
Japan, Geological Survey of	143	Pilbara Goldfield	143
Java, Geological Survey of	143	Pilbara, West, Goldfield	142
		Polar Star Lease	150
		Princess Lease	150
		Progress Report, Annual, 1905	143
		Publications	143
		Quajabin Peak	162
		Queensland Menzies	141
		Queen Lease	152
		Real MacKay Lease	149
		Report, Annual Progress, 1905	143
		Rising Sun	149
		Rubicon Lease	151
		Russia, Geological Survey of	143
		Salisbury Lease	149
		Sarepta Reef	149
		Sarnian Lease	144
		Saxon Lead Mine	141, 156
		Silver	142
		Simpson, E. S.	142, 159-61, 164
		Sinclair's Prospecting Area	158
		Slides, Microscopic	143
		Spragge & Murray's Lease	157-8
		Staff, The	141
		Starlight Lease	150
		Star of Asia Lease	149
		Subsidies under Mining Development Act	141
		Sweden, Geological Survey of	143
		Talbot, H. W. B.	142, 149
		Tambourah	164
		Tantalum Ores	165
		Three Crows Lease	149
		Three Star Lease	153
		Tin	142
		Transvaal, Geological Survey of	143
		Treasurer Lease	144-5
		Trenton Mine	150
		Twilight Lease	150
		Uaroo	164
		Unexpected Lease	155
		Victoria Reef	149
		Victory United Lease	151
		Volunteer Leases	150
		Wagin District	141, 157
		Waronga Lease	154
		Water	152, 160
		Welcome Reef	149
		West Kimberley	147
		Weston's Find	164
		West Pilbara Goldfield	142
		Whim Creek Copper Mine	142
		Williams, C. C.	141
		Wilson's Patch	153, 156
		Wilson's Reward Lease	148-9
		Wingrah Pass	147
		Wodgina	165
		Woodward, H. P.	141, 143, 147, 149, 151, 156-7
		Yanjanooka	159
		Young Colonial Reef	149
		Zanglar Reef	156
		Zinc	142

DIVISION VI.

School of Mines of Western Australia.

DIRECTOR'S REPORT.

The Under Secretary for Mines.

I have the honour to submit for the information of the Hon. the Minister my Annual Report for the year 1906.

The past year has been one of steady progress, the attendance at classes has increased, several new subjects for the diploma courses have been commenced, and the examination results again show a decided improvement.

The tabulated statement of results shows that not only have a greater number of subjects of examination been taken up by the students, but there has been an increase of over 50 per cent. in the number of passes secured, while the standard of the examination papers submitted has been well up to that of the previous years.

Although the lack of knowledge in elementary principles is still evident, the men now being attracted to the school in many respects make good students; they are regular in attendance, attentive to their studies, and are steadily working their way through the various classes. Although handicapped by the limited time at their disposal after the completion of their day's work, they persevere with the class work, and in many cases show excellent results. The classes formerly held at the Boulder State School were transferred to the new Technical School at the Boulder last May, and I am pleased to be able to record that at the time when the technical classes were largely increasing in size owing to the better accommodation afforded, the attendance of students at the School of Mines also increased. The two institutions, performing different functions, are likely to materially assist each other in the future.

The position of Assistant in Chemistry at the School of Mines was filled during the first half of the year by Mr. J. D. Connor, B.Sc., and on his promotion to a position on the Great Boulder Perseverance the vacancy was filled by the appointment of Mr. Phillip Adams, formerly Assistant at the Perth Technical School. The control of the Metallurgy classes has been taken over by Mr. Baker; Mathematics is now under the charge of Mr. McDougall, and the office work of the school has throughout the year been conducted by Mr. McDougall with the assistance first of Mr. McMillan and later on of Mr. Shand as temporary clerk.

The progress made during the year and the successes achieved by the students show that the members of the Staff have accomplished good work and have been painstaking in their efforts to further the interests of the School.

The School of Mines has again taken premier position for the whole State in the Engine-drivers' examinations held by the Chief Inspector of Machinery during April. Two School of Mines students, J. E. Chubb and A. Bishop, were placed

first and second respectively in the examination for first class Engine-drivers' certificates. E. H. McMullen and A. G. Newton gained third class certificates, and there were no failures. The Instructor, Mr. C. Bircher, is to be congratulated on the results achieved, and it is also noteworthy that W. H. Whitford, a former student under Mr. Butement, gained the first place in the examination for the Locomotive and Traction Certificates.

At the Engine-driver's examination held last October the School of Mines students further distinguished themselves by obtaining two first-class certificates, three second class, two third class, and two Loco. and Traction Competency certificates.

To further meet the requirements of students preparing for the Government Examinations, two divisions, Junior and Senior, have been made in the Engine-driving classes. These are well supplied with suitable models illustrative of Engine details, and, as shown by the Government examinations, have produced satisfactory results.

The workshops for Practical Electricity have been further equipped during the year, notably with a fine motor generator set; the students have erected and fitted with the necessary instruments a large switchboard, so that exceptional opportunities are now afforded students of obtaining good sound instruction in this important subject.

The classes in Practical Electricity have been so well appreciated that to meet the wishes of the students who had already passed through the first and second courses it became necessary to establish a third year course for the continuance of some of the more advanced work.

The School has continued its system of free assays for Prospectors, to whom much valuable information has been given concerning the samples brought in for inspection. During the year 648 free assays and mineral determinations have been made for prospectors, as follows:—

Assays for gold and silver	539
Assays for copper	60
Mineral determinations	48
Analysis	1
Total	648

This total shows a slight increase over the previous year, with a marked increase in the number of copper assays. Credit is due to Messrs. W. H. Baker and H. J. Jessup for the careful and conscientious manner in which they have performed the extra duties entailed by the large number of prospectors' assays, and also to Mr. L. K. Ward for the blowpipe determinations of mineral samples brought in for identification.

Besides the many donations of catalogues, mineral samples, etc., which have been received by the School, two rock drills kindly lent by the Ingersoll Rand Co. for instruction purposes, are of especial interest to the students. F. A. Moss, Esq., General Manager of the Kalgurli G.M. Co., has generously forwarded for the use of the workshop a quantity of machinery parts. These will be taken to pieces and repaired by the students, who will thus acquire an intimate knowledge of the separate parts of the machines and the principles on which they work. Gifts of this nature prove very acceptable, and are a great aid to the class work.

A very gratifying feature of the year has been the number of valuable Scholarships and Prizes offered to students of the School of Mines by Mine Managers and others interested in the work of the School.

Early in 1906 a scheme of scholarships was proposed by G. C. Klug, Esq., General Manager of the Great Boulder Perseverance, and other Mine Managers, with the pleasing result that the Chamber of Mines has liberally promised £100 per annum for two years to be divided up into a number of scholarships for Mining, Metallurgy, and Engineering, particulars of which are supplied elsewhere in this report.

J. W. Sutherland, Esq., General Manager of the Golden Horseshoe, has generously promised to provide students, on the completion of their diploma course, with 12 months' employment to enable them to secure without loss of time the practical experience required before the diploma can be granted.

In addition to various gifts made to the Students' Association, the Mayor, J. H. Cummins, Esq., has kindly promised a valuable prize for annual competition. For these gifts, as well as for the numerous other donations made to the School, I have much pleasure in recording my thanks on behalf of the Department, the staff, and the students.

The Geology classroom that has been erected in connection with the Museum Building just completed will prove a great convenience to the staff and the students, but additional lecture rooms are still required to adequately accommodate all the classes that are now being held. It is expected that the fittings for the new buildings will be in position early in the new year, and as soon as the Museum cases are completed the large number of minerals and rock samples now on hand will be properly displayed for the benefit of the students and the general public.

A large number of visitors has been shown through the School during the year, and the staff have been unremitting in their efforts to make the inspection interesting and instructive.

A number of Engine-drivers', Adelaide University, and other examinations have been supervised by the staff at the School of Mines during the year, and several free lectures have been delivered outside.

In consequence of the attention directed by Mr. Bircher at one of these lectures to the use of X-rays in Surgery, a child who had swallowed a halfpenny four months previously was brought round to the school for examination. The radiograph taken by Messrs. Bircher, McDougall, and Murray enabled the doctors to extract the coin without a surgical operation and probably saved the child's life.

Practical Classes.—As far as possible prominence has been given to practical work in connection with the School classes. Students have excellent opportunities of gaining practical experience in Chemistry, Assaying, and Metallurgy in the well-equipped laboratories. Models for the Mechanics, Engineering, and Mining classes, suitable collections of rocks and minerals for the Geology and Mineralogy classes, and instruments for the Surveying class, enable the lecture work to be thoroughly well demonstrated. A special testing room has been set aside for practical electricity, while more ample accommodation is now being provided for the practical classes in physics. Field practice in surveying is regularly carried on throughout the year, and in Geology the students make periodical excursions into the country and so gain a fuller understanding of the class work as well as an intimate knowledge of the Geology of the district.

Examinations.—The examinations held annually in connection with the diplomas and certificates issued by the Mines Department are conducted by Co-examiners appointed by the Minister of Mines. The appointment of outside examiners for the written papers has tended to maintain a high standard of work at the School.

The practical examinations covering the whole work of the students throughout the year, as well as the final test questions, are left in the hands of the staff.

During 1906 G. C. Klug, Esq., on his appointment as General Manager of the Ravensthorpe Copper Co., found it necessary to resign his position as examiner for the School of Mines in Metallurgy and Assaying. Mr. Klug's retirement as examiner is very much regretted, and the thanks of the Department are due to him for the excellent services he has rendered both to the School of Mines and the Perth Technical School. Mr. Klug's College training, followed by his varied practical experience, made him peculiarly well fitted to act as Examiner, and it will be no easy matter to secure the services of an equally qualified gentleman able and willing to take such a keen interest in all matters pertaining to the School of Mines as Mr. Klug has done during the past five years.

Prizes.—Thanks are due to Mr. Critchley Parker for his liberal offer of a copy of Mining and Metallurgy for the 1907 examinations and an annual prize of one year's issue of the Australian Mining Standard for the Senior Student completing his Associateship course.

I have, etc.,

F. B. ALLEN,

Director.

Kalgoorlie, 17th January, 1907.

DIVISION VII.

Annual Report for the Year 1906 on the Operations of "The Inspection of Machinery Act, 1904."

The Under Secretary for Mines, Mines Department, Perth.

Sir,

I have the honour to submit for the information of the Hon. the Minister for Mines, in accordance with Section 81 of the "Inspection of Machinery Act, 1904," the following Report together with the statistical tables on the operations of the Act, in the several districts proclaimed thereunder for the year ending 31st of December, 1906.

The provisions of the Act are unaltered since last Report, but in order to more clearly define the kinds and description of machinery to which the Act applies it has been deemed advisable to amend the Second Schedule, and a proposal to that end is now receiving careful consideration.

During the year the work carried out under the provisions of the Act, viz.:-

- (a.) Inspection of Factory and Mining Machinery.
- (b.) Survey of (1.) Machinery of Passenger Launches. (2.) Boilers and Machinery of River and Harbour Steamers.
- (c.) Accident Inquiries.
- (d.) Examination and Certification of Engine-drivers, and investigation of complaints relating thereto.

has been added to by direction of Cabinet, by including

- (e.) Engineering Surveys under "Navigation Act, 1904."

The main branches covering the work of this Department are as stated hereunder, and are, to facilitate reference, dealt with in this Report in the order named:-

- (1.) Inspection of Boilers.
- (2.) Inspection of Machinery.
- (3.) Survey of Machinery of Harbour and River Boats.
- (4.) Survey of Machinery registered under "Navigation Act, 1904."
- (5.) Engine-drivers' Examination, and Inquiries.
- (6.) Accidents.
- (7.) General Remarks.

(1.)—INSPECTION OF BOILERS.

New Registrations.—At the end of the year there were upon the registers 3,178 boilers which shows an increase of 118 when compared with total for corresponding period last year.

Types of Boilers in use.—The types principally represented in this increase are Loco. Portable, 30; Vertical, 27; Water-Tube, 25; Cornish, 23.

The Water-Tube type again shows by far the best percentage in new registrations, having augmented its class by 14.36 per cent. as against Loco. Portable 7.12 per cent., Cornish 3 per cent., and Vertical 2.84 per cent. Given good feed-water this type of boiler is undoubtedly the most popular. The new boilers have been of uniformly good material and workmanship and provided with necessary mountings and fittings required by the Act, before leaving the makers' works.

Return No. 1 shows classification of boilers registered in each district as on the 31st December, 1906.

RETURN NO. I.—Return showing Classification of the various Boilers registered in each District on 31st December, 1906.

Type of Boiler.	DISTRICTS.										Total.
	South Western.	Coolgardie and Yalgarn.	Dundas.	East Coolgardie.	North-East Coolgardie and Broad Arrow.	North Coolgardie.	Mt. Margaret.	East Murchison.	Murchison, Peak Hill, and Yalgoo.	Pilbara and West Pilbara.	
Lancashire	15	9	...	47	5	13	9	3	17	...	118
Cornish	91	91	19	185	53	91	95	54	114	...	793
Semi-Cornish	29	2	3	7	2	4	...	2	27	...	76
Vertical, Stationary	332	68	14	86	43	70	67	42	75	...	797
Do. Portable	71	6	...	2	...	1	...	...	8	...	88
Do. Multitubular, Stationary	31	3	...	4	1	9	8	1	5	...	62
Do. do. Portable	12	...	...	...	...	...	3	1	...	...	16
Do. Patent Tubular	11	...	...	2	...	...	...	...	...	...	13
Loco. Type, Rectangular Firebox, Stationary	62	7	3	14	11	9	14	10	17	...	147
Do. do. do. Portable...	280	15	4	15	9	9	6	7	12	...	357
Do. Circular Firebox, Portable	88	1	...	3	...	1	1	...	...	...	94
Locomotive	48	7	...	7	2	...	3	5	2	...	74
Water Tube	72	12	2	90	...	...	14	8	1	...	199
Return Multitubular, underfired, Stationary	75	17	2	45	6	11	14	7	10	...	187
Do. do. do. Portable...	4	7	...	2	2	...	...	...	3	...	18
Do. do. internally fired, Stationary	56	4	...	3	...	...	1	...	7	...	71
Do. do. do. Portable	1	...	...	...	...	3	...	...	...	...	4
Egg End and other types not elsewhere specified	15	7	...	5	3	...	2	...	1	20	53
Digesters	11	...	...	...	...	...	...	...	...	...	11
Totals	1,304	256	47	517	137	221	237	140	299	20	3,178

Imported Boilers.—New boilers have been generally of good material and workmanship, and with a few notable exceptions have been provided with fittings in accordance with the Act. It has been sought, with fairly successful results, to induce purchasers to first ascertain the requirements of the Law in the matter of fittings, etc., before indenting for boilers from abroad. Manufacturers in the Eastern States, England, and America, have likewise been made acquainted with this State's legislation relating to steam boilers, to which they have generally conformed with considerable alacrity.

Boilers locally constructed.—Sixteen boilers have been constructed in this State during the year, viz.:—15 Cornish type (10 by Messrs. Hoskins & Co., Perth, and five by Messrs. Silverthorne & Adair, Kalgoolie), and one Vertical Multitubular by Messrs. Millars' Karri & Jarrah Co., Yarloop. The

workmanship in each case has been satisfactory, and the materials used in construction of standard strength and approved brands. The whole of boiler plates required, for the want of necessary iron works within the Commonwealth, are still imported from other countries, and cases have come under notice where construction work has been subjected to considerable delay owing to want of requisite material. With one or two exceptions specifications for new boilers have been submitted to this Department for approval, and upon payment of statutory fees, work has been inspected at frequent intervals during construction by officers of this Department.

Operations in each District.—Return No. II. indicates the number of boilers registered, and the inspection work carried out in each of the proclaimed districts in so far as boilers are concerned.

RETURN No. II.

	DISTRICTS.										Total.	
	South-West.	Coolgardie and Yilgarn.	Dundas.	East Coolgardie.	North-East Coolgardie.	Broad Arrow.	North Coolgardie.	Mount Margaret.	East Murchison.	Murchison, Peak Hill and Yalgoo.		Pilbarra and West Pilbarra.
Total Number of Boilers	1,304	256	47	17	80	57	221	237	140	299	20*	3,178
Inspections { Thorough for the Year { Working	967	157	32	342	54	38	180	153	98	169	...	2,185
Boilers con- { Temporarily demned { Permanently	35	3	...	10	2	...	15	8	3	11	...	87
Total Number of Notices issued for Repairs	6	...	...	2	...	...	7	4	...	2	...	21
Number of Certificates issued	339	43	4	148	18	14	46	59	40	58	...	769
Total Amount of Fees brought to Revenue	£ s. d. 2,222 13 0	£ s. d. 353 10 0	£ s. d. 69 0 0	£ s. d. 923 5 0	£ s. d. 124 2 6	£ s. d. 81 7 6	£ s. d. 353 12 6	£ s. d. 335 5 0	£ s. d. 203 5 0	£ s. d. 346 5 0	£ s. d. ...	£ s. d. 5,012 5 6
Number of Inspectors ...	5 (a)	2 (b)	1	1	1	1	1	1	1	1	...	9

* District not yet proclaimed.

(a) Four Inspectors for seven months.

(b) Three Inspectors for five months.

Thorough Inspections and Certificates granted.—2,185 thorough inspections have been made during the year, and 2,021 certificates issued. 87 boilers were temporarily refused certificates pending the carrying out of necessary repairs (as detailed in Return III.), and 21 were condemned outright, as being dangerous and unfit for generating steam at any pressure.

In some of the outlying districts it has occasionally been found necessary to take advantage of Section 30 which was framed and intended to apply only in cases of emergency. Much difficulty has been experienced by Inspectors in inducing owners in some of the outlying districts to prepare boilers for inspection at the usual periodical visits. The excuses given being that shafts were flooded, or operations temporarily suspended, boilers indefinitely out of commission and so on. Such owners almost invariably desired the Inspector to examine the boilers at some other time when he (the Inspector) was perhaps hundreds of miles away in another portion of his district. In order to surmount these difficulties, sometimes intentionally created, to avoid the great expense involved in visiting the particular locality and to insure compliance with the Act, Section 30 provides for transferring the responsibility of inspection from the Inspector to the owner. The practice adopted being to request the production of a report from the engineer or manager, and a first-class certificated engine-driver that the boiler had been thoroughly cleaned out and examined externally and internally. If such report were satisfactory and in reasonable agreement with Inspector's records in the shape of his office files, a certificate was granted for a period not exceeding six months. If, however, the report furnished shows new defects or material extension of defects previously reported,

the Inspector has exercised his discretion as to whether he should altogether refuse a certificate or issue one at a lower pressure for a short term. In either case a further certificate will not be issued until after a thorough inspection is made by the inspector.

Working Inspections.—609 boilers have been inspected whilst under working conditions. These inspections are made during surprise visits, and are arranged chiefly for the purpose of checking working conditions and comparing the pressure carried, with the pressure authorised by the certificate. Many instances occur where an Inspector is otherwise unable to see the safety valves adjusted, *e.g.*, where boilers are not hydraulically tested, or where safety valves are removed for repairs prior to hydraulic test, or where they have not yet been fitted, such as in the case of a new boiler undergoing test before being built in, etc. The greater number, viz., 335 of these inspections have been made in the South-Western District, owing, no doubt, to locomotion facilities being better than in any other district.

Of the 2,185 boilers inspected 769 required repairs of a more or less extensive character, and necessitated the service of a corresponding number of "Repair Notices." Minor requirements not affecting the immediate safety of the boiler, but which must be effected within a specified period, fixed according to nature of repair or alteration necessary, represent 89 per cent. of total notices issued, and are not considered of sufficient interest to detail in this Report.

Return No. III. hereunder, shows the number of boilers which were refused certificates on account of important repairs, etc., being required, together with a description of repairs, etc.

RETURN NO. III.—Return of Boilers for which Certificates were refused pending Completion of Repairs.

No.	Type of Boiler.	Description of Repairs, etc.
1	Loco. Portable ...	All tubes to be drawn and lagging removed.
1	Do. ...	Mud-hole to be enlarged and new door fitted.
1	Do. ...	Patch to be fitted to throat plate.
6	Do. ...	All tubes and firebox crown stays to be removed and boiler further examined by Inspector.
1	Do. ...	Patch to be fitted round mud-hole; plug-hole in smokebox tubeplate to be retapped, mountings to be overhauled and boiler hydraulically tested after repairs are completed.
1	Do. ...	New set of tubes to be fitted, two broken stays to be renewed, fusible plug to be fitted; all man-holes to be overhauled, boiler to be put in good order and hydraulically tested after completion of repairs.
1	Do. ...	New crown-plate to be fitted to firebox; lagging to be removed.
1	Do. ...	Mud-hole in mud-well to be enlarged and new door fitted, new set of tubes to be fitted, all mountings to be overhauled, and made workable; boiler to be tested hydraulically after repairs completed.
1	Do. ...	New barrel required, defective stays and firebox to be renewed, and side plates strengthened, all defective tubes to be renewed, mountings to be made work efficiently.
1	Do. ...	Patch to be fitted on bottom of barrel, plug holes at bottom of smokebox tubeplate to be retapped, and boiler hydraulically tested after repairs completed.
1	Do. ...	New set of tubes to be fitted, patch to be fitted over mud-well, and boiler cleaned for further inspection.
1	Do. ...	Defective rivets in smokebox tubeplate to be renewed, defective stays round firebox to be renewed, and boiler to be cleaned up for further inspection.
1	Do. ...	Tubes to be drawn and scale and deposit removed from heating surfaces.
1	Do. ...	New set of tubes to be fitted.
1	Do. ...	Patch to be fitted on bottom of firebox casing, broken longitudinal stay to be renewed, mountings to be made workable, and boiler to be tested hydraulically after repairs completed.
1	Do. ...	New firebox to be fitted.
1	Locomotive ...	Crown stays to be removed; crown straightened, new throat plate, new set of tubes, new cover on mudblock to be fitted; all space stays to be re-riveted; new bottom to barrel; firebox to be patched as directed, etc.

RETURN NO. III.—Return of Boilers for which Certificates were refused, etc.—continued.

No.	Type of Boiler.	Description of Repairs, etc.
1	Locomotive	Smokebox tubeplate to be riveted on to barrel; new stays to be fitted around firebox; new set of palm stay studs and new set of tubes to be fitted; boiler to be tested hydraulically to 200lbs. per square inch after completion of repairs.
1	Do.	New copper tubeplate to be fitted; studs in corners of firebox to be renewed; mountings to be overhauled, and boiler to be hydraulically tested to 200lbs. per square inch after repairs are completed.
1	Do.	Eight tubeholes in copper plate to be bushed; tubes to be re-fitted; mountings to be overhauled, and boiler tested hydraulically to 180lbs. after repaired.
1	Do.	New set of crown stays to be fitted; all defective rivets in copper tubeplate, back plate, and barrel to be renewed; set of tubes to be fitted, and boiler to be hydraulically tested to 200lbs. per square inch after repairs are completed.
1	Do.	New smokebox tubeplate to be fitted; bottom portion of throatplate to be renewed; iron sheathing plate to be fitted to bottom of barrel; defective rivets round copper tubeplate to be renewed; copper patch to be fitted below firehole; boiler to be tested hydraulically to 200lbs. per square inch after repairs are completed.
1	Return Multitubular	All tubes to be drawn and bottom of barrel repaired. Further inspection to be made before issue of certificate.
1	Do.	New set of tubes to be fitted; plate, where bulged, to be cut out and patch fitted.
1	Loco. Stationary	New crown to be fitted to firebox; firebox back plate to be patched; tubeplate to be sheathed and bottom corners of back plate patched.
1	Do.	New bottom to be fitted to firebox and firebox casing; new bottom to be fitted to throatplate; two patches to be fitted over mudholes; new W.L. foundation ring to be fitted and boiler to be hydraulically tested after repairs are completed.
1	Do.	New set of tubes to be fitted; mountings to be overhauled and boiler hydraulically tested after being repaired.
1	Lancashire	Defective Galloway tubes to be renewed and holes in furnace to be patched over; boiler to be hydraulically tested after repairs are completed.
1	Do.	Defective flanges in both tubes to be repaired.
1	Do.	Defective portion of shell to be removed and patch fitted in manner specified in notice served; rivets securing gusset stays to be renewed; an additional 3-inch safety valve to be fitted, and boiler tested hydraulically after being repaired.
1	Do.	Defective portion of shell-plate to be removed round blow-off and patch fitted.
1	Do.	Two new flue tubes and face-plate to be fitted.
1	Do.	Two new flue tubes to be fitted, and shell to be thoroughly cleaned and examined after removal of old tubes.
8	Vertical	New uptakes to be fitted, and boilers to be further examined on removal of old uptakes.
1	Do.	New crown plate to be fitted to firebox, and further examination to be made after removal of old one.
1	Do.	Defective portion of plate to be renewed and new stays to be fitted.
1	Do.	Replace present lever safety valve by one of 3 inches diameter, and opening in shell to be made 3 inches diameter to suit valve.
1	Do.	Defective portion of crown to be removed and steel patch fitted.
1	Do.	Defective portion of firebox to be removed and steel patch fitted.
1	Do.	Boiler to be thoroughly examined by Inspector before certificate can be issued.
1	Do.	Firebox to be removed so that thorough internal examination can be made by Inspector.
2	Do.	Defective portions of fireboxes and shells to be repaired and further inspection to be made.
9	Cornish	Defective plates of shells to be removed and patches fitted.
3	Do.	Portions of back end plates to be re-riveted and bulged plates restored to shape.
7	Do.	Flues required to be partially renewed.
1	Do.	Flue required to be wholly renewed.
1	Do.	Not to be used as a steam generator before being again inspected.
1	Do.	Defective portion of shell to be removed and patch fitted; defective portion of flue to be removed and patch fitted.
1	Do.	All defective rivets in shell to be renewed; new furnace flue to be fitted and boiler to be hydraulically tested after repairs.
1	Do.	Patches round blow-off cock and on bottom of front end plate to be renewed; first Galloway tube to be removed and holes in flue patched over.
1	Do.	Defective portion of plate round blow-off to be removed and patch fitted; bulged flue tube to be restored to shape.
1	Do.	All defective rivets in flange of first section of tube to be renewed, also in front end plate, Adamson's joint and Galloway tubes. Gusset stay to be renewed; boiler to be hydraulically tested to 120lbs. per square inch after repairs are completed.
1	Do.	Patch to be fitted to shell. Galloway tube to be renewed and openings in flue plated over; compensating ring to be double riveted.
1	Do.	Circumferential seams to be re-riveted.
2	Water Tube	New plates to be fitted to lower halves of steam drums.
1	Semi-Cornish	New plate to be fitted to flue.
1	Do.	New tubes to be fitted; studded patch to be fitted round blow-off.

84

Condition of Boilers—Vertical Type.—The use of these boilers, the most numerous represented, is confined almost exclusively to industrial firms in and around the Metropolitan area, and in outlying districts on the goldfields.

The shells and fireboxes have been found generally good. A few cases of serious pitting and wasting

of uptake tube have been noted, but regarding this as a renewable part this type of boiler can be considered to be fairly long lived. Out of a total of 976 registered, 17 were refused certificates pending repairs being effected, a percentage of 1.7.

Cornish and Lancashire Types.—The interiors of these internally fired types have been generally re-

ported as fairly satisfactory, when consideration is given to difficulties in the way of maintaining supplies of good water in most goldfields districts. Several serious cases of severe corrosion have however been detected, as instanced by the issue of 25 notices to execute repairs to either the flue-tubes or bottoms of shells. In both these classes there are parts which are difficult to clean properly or to visually examine, *e.g.*, the bottoms of the shells of Cornish boilers below tubes and those parts of shells and tubes of Lancashire boilers at the narrow water spaces between shells and sides of tubes, and unfortunately these are places where serious corrosion is often met with.

Owners should therefore spare no effort to clean thoroughly all parts, as it is manifestly impossible for an Inspector to see through thick scale. As soon as owners realise that feed water containing excess of scale forming matter should be dealt with outside the boiler and not in it, there will be better results all round. Better inspections will be secured, greater economy effected, and risk of serious corrosion or other defects being overlooked will be reduced to a minimum.

Loco. Portable and Locomotive Types.—27 of these types have been put out of commission for various periods during the year, pending execution of more or less important repairs. Complete inspection of the interiors of such boilers is impracticable excepting at long intervals owing to cost and inconvenience incurred in removal of tubes, etc. In connection with removing tubes for better inspection this is a matter that must be left largely to the discretion of the Inspectors. Their wide experience, knowledge of feed-waters, etc., enabling them to form a correct opinion as to just how long it is safe to let boilers of this class run without withdrawing tubes. I am pleased to say that in spite of the difficulty of inspecting these boilers no cases of serious failure have occurred during the year which could have been prevented by more careful inspection. Corrosion of tubes, tube-plates, firebox, and firebox stays, mainly caused by use of bad feed-water and indifferent attention, has been responsible for the major portion of repairs ordered, though a large percentage of such repairs has been necessitated by absolute carelessness on the part of owners and attendants in neglecting slight leakages from mud-hole doors and other joints. A very slight leakage will quickly cause such extensive external wasting as to necessitate costly repairs in a very short time.

Return Multitubular Types.—These boilers more than favourably compare with other types in the matter of repairs, as during the year two only, or 71 per cent., have been stopped, owing to defective tubes.

Water-tube Type.—In only two instances has it been considered necessary to require important repairs to this type of boiler. In each case the steam drum was affected. This part being of comparatively small diameter there is generally ample thickness of metal to permit of considerable reduction in thickness before the factor of safety can be considered to be too small. Of course there have been the usual number of "burnt" tubes owing chiefly to accumulation of deposit and the introduction of greasy matter in the feed-water, and until a strong effort is made to provide better means of grease

separating and treating of feed-water, this state of things must continue.

Boilers Temporarily and Permanently Condemned.—The number of temporarily condemned boilers has, compared with previous year, increased by 1.14 per cent., and permanent condemnations have increased by .62 per cent.—being respectively 3.98 per cent. and .96 per cent. of total inspections made. Special causes for this increase are not apparent unless it is the fact that owners are inclined to discard boilers of comparatively low pressure in order that more modern types capable of carrying higher pressures might be installed.

Return IV. shows the number of temporarily and permanently condemned boilers per 100 inspections made since 1899:—

RETURN NO. IV.

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 " ...	.958 "
1903 ...	2.43 " ...	.697 "
1904 ...	3.08 " ...	.389 "
1905 ...	2.84 " ...	.338 "
1906 ...	3.98 " ...	.960 "

The provisions of the Act regarding boilers continue in the main to be well observed, except in outlying districts where the boilers are used intermittently. The owners of such appear not to appreciate the danger of neglecting the requirements of the Act, and as an instance of this I may say that cases have occurred where Inspectors have refused certificates, and owners have appealed to me for permission to continue working boilers whilst in a dangerous condition. As a matter of fact the chief offenders are owners who state that they only require to use their boiler for a "few weeks in the year," and others when oil, gas, or electricity is employed as the main motive power, and a steam engine "kept as a standby" in case of break-down of the other power. In such cases the owners contend that, as the boiler is only seldom used, a yearly inspection is not needed. As a matter of fact careful and periodical examination is even more necessary in such cases, as the boilers are generally left, often for long periods, in the condition in which they were last used—partially filled with water, and with their furnaces full of ashes. Under such circumstances rapid deterioration frequently takes place, and more than once it has been found necessary to condemn boilers after a prolonged period of inactivity, although, when last thoroughly examined they had been found in comparatively good order. Where carelessness has been apparent, owners have been notified of the fact. The dangers incurred and the obligations imposed on them by the Act have been clearly pointed out. In one case a vertical boiler had been standing out of use for a considerable period and had suffered from exposure to the weather, etc., a change of ownership took place, and the new proprietor at once put the boiler into commission. A leakage from a groove which had worked through crown of firebox soon made itself apparent, and in order to remedy this defect, the owners set to work to stop the leakage in this fashion:—A wall of painter's ordinary putty was built around the

groove (which was about 4½ in. long x ¼ in. wide at worst part) making a small reservoir, into which was poured molten lead, which in turn was covered with a liberal supply of putty. Owner was promptly requested to desist from working the boiler until properly repaired.

The provisions of the Act relating to guarding of water gauges on boilers carrying pressures over 80 lbs. per square inch, as also the fitting of reducing valves between boilers of different pressures have been tardily complied with. The principal reason given for non-compliance has been the difficulty to obtain necessary fittings. This has too often, unfortunately, proved to be correct.

The treatment of scale-forming feed-water is a matter at present receiving the serious consideration of steam-users, and I had expected to have been able to offer some suggestions on this important matter, but owing to incompleteness of data I have been compelled to hold this over for the present. Instances have come under my notice where it has cost from £36 to £40 to remove the scale from a boiler. It is obvious that the loss through the plates being covered with such a mass of non-conducting matter must have been great, and that, in addition to the expense of removal of the scale, there would be great delay occasioning further loss. In such a case the cost of one or two cleanings would go far to install a water-softening apparatus.

Care and Maintenance of Boilers.—In spite of the many adverse conditions the care and maintenance of boilers are reported by Inspectors to be fairly satisfactory with the probable exception of those used for agricultural and dairying purposes. These industries being exempt (under Section 53 of the Act) as regards certificated drivers, naturally, less intelligent mechanical skill is displayed than in others not so exempt. I am pleased to say that in the majority of cases the visits of the Inspectors are looked forward to by such owners as an opportunity to gain much necessary information. Incidentally the lack of skilled attendance leads to a good deal of work being thrown on Inspectors which was never contemplated. For instance, it has frequently happened that, rather than lose the chance of making

an examination, the Inspector himself has had to open up the boiler and practically prepare it for examination in the absence of any other person possessed of the necessary skill or knowledge to perform so simple an operation.

Mishaps and Explosions.—Fatal boiler explosions have been reported during the year from the Eastern States, but I am pleased to be able to again present a "Nil" Return and to record immunity from any such distressing occurrence. On 17th March a partial collapse of one of the flue-tubes of a Lancashire boiler was reported from "Sons of Gwalia Mine," Gwalia. Beyond wrecking portion of the brickwork and causing other slight damage to property, the accident was fortunately unattended by any other injury. A Departmental inquiry was duly held, and, from evidence collected, the cause was assigned to rapid wasting of flue-tube plate at narrowest space between flue-tube and shell.

Another mishap apparently attributable to the injudicious use of a "steam jet" causing a very fierce heat, was the collapse of an uptake in a Vertical boiler owned by Messrs. Silverthorne & Adair. In this case also there was not any injury or damage sustained beyond what occurred to the boiler. There was no rupture of the plate and not even any escape of steam. In fact the collapse was not suspected until the boiler was opened up. Upon cutting out the uptake after the accident the metal was found to be in excellent condition and quite unaffected by corrosion or wasting, a fact that was probably responsible for more damage not being done.

(2.)—MACHINERY INSPECTION.

Registration of Machinery.—As anticipated in my last Report there has been considerable increase in the number of machinery registrations, which now total 2,064, as compared with 1,549 for 1905, an increase of 515. There have been 1,625 inspections made, and 1,551 certificates issued. As a means of easy and convenient reference the inspection and registration work carried out in each of the proclaimed districts has been suitably summarised in Return No. V. hereunder:—

RETURN No. V.—Return showing Classification of Machinery and Operations during the Year ending 31st December, 1906.

	South-Western.	Coolgardie and Yalgarn.	Dundas.	East Coolgardie.	North-East Coolgardie	Broad Arrow.	North Coolgardie.	Mount Margaret.	East Murchison.	Murchison, Peak Hill, and Yalgoo.	Total, all districts.
Total number of registrations	905	146	22	343	20	10	146	156	93	223	2,064
Total number of inspections made	862	116	18	289	8	4	74	95	55	104	1,625
Certificates issued bearing fees	419	22	...	201	1	...	9	17	10	18	697
Certificates issued (steam) without fees	370	94	18	87	7	4	65	78	45	86	854
Fencing and repair notices issued	92	...	...	121	8	2	...	...	1	7	231
Electric Winding Engines (mining shaft) ... ..	...	...	...	1	...	...	...	...	...	...	1
Electric Lighting and Power Plants	16	...	...	10	2	...	1	...	3	5	37
Electric Motors for all purposes	212	1	...	124	2	...	5	18	8	16	386
B.H.P. Motors for all purposes	1,378.07	9.0	...	1,820.32	24.5	...	63.8	198.33	107.5	333.5	3,935.02
Electric Lifts for passengers	24	...	...	...	...	...	...	...	...	...	24
Electric Lifts for goods	24	...	...	7	...	...	...	...	...	...	31
Power Lifts (belt-driven) for passengers ... ..	...	...	...	...	...	...	...	...	...	...	...
Power Lifts (belt-driven) for goods	9	...	...	...	...	...	...	...	...	...	9
Refrigerating Plants	13	...	...	4	...	...	...	...	...	...	17
Oil Engines	178	1	...	5	1	...	5	4	5	12	211
H.P. of Oil Engines	1,315.55	7.75	...	60.0	20.0	...	66.25	10.0	30.5	55.3	1,565.55
Gas Engines	33	...	...	...	...	...	...	...	...	2	35
H.P. Gas Engines	234.5	...	...	...	...	...	...	...	...	17.5	252.0
Hydraulic Lifts for passengers	2	...	...	...	...	...	...	...	...	...	2
Hydraulic Lifts for goods	17	...	...	...	...	...	...	...	...	...	17
Air Winches	1	...	...	7	1	...	...	...	...	...	9

Dangerous Machinery.—Comparatively few complaints are received as to the want of fencing machinery. This I attribute to the almost pathetic belief in their own invulnerability which men who work amongst machinery seem to hold; a man will work for month after month without complaint near unfenced machinery, which he readily admits to be dangerous when the point is raised by an Inspector. 231 notices to fence or otherwise guard machinery were issued during the year, and these in the main have been given effect to promptly. A great many calls on my time, due to requests from different owners for interviews on various points, have been made. In this way contraventions of the Act are avoided, and possibly prosecutions averted. I have not found an owner, who has sought and obtained information in this manner, demur to endeavour to carry out the requirements of the Act after an explanation has been given at a personal visit. To attend to the large number of persons who have called at the office to make inquiry as to the provisions of the Act, lodge complaints *re* accidents, etc., the time of myself and staff is so much taken up as to make systematic district visitations very difficult. The routine work of the office is delayed, and the number of hours on duty thereby considerably augmented.

Some trouble with regard to fencing of oil and gas engines is still experienced. Occupiers will erect a wooden engine-house around the engine, and seem to think more is not necessary for safety. When informed that fencing is still required inside the engine-house they seem much astonished, and proudly proclaim the fact that the door of the engine-house is kept locked, and no one is allowed to enter but the engine-man. Again, in cases where engines are not housed, it is a common practice to erect a fence consisting of one or two horizontal rails close to the wheel and perhaps not more than 3 feet high. These are not considered safe, and improvements are required. Special attention has been given to the safeguarding of shafting, belts, flywheels, gear-wheels, wheel-races, etc., in such a manner as afford, if not absolute immunity, at least a large measure of protection from accidents, without causing inconvenience to work.

When last reporting on this division of the work I expressed the hope that machinery which had once been inspected and certificated as being adequately guarded would not require the same attention in future. It has been demonstrated during the year, however, that owing to the great number of alterations to, and rearrangement of plants, besides numerous changes of ownership, Inspectors have been obliged to go over the same ground again, where it was expected that a cursory examination only would be necessary.

Inspectors have devoted a good deal of time in devising means and making suggestions for the greater safety of those employed amongst machinery registered under the Act. Accidents are carefully inquired into, and where there is an opportunity for further protection it is insisted upon. The position of an employer is of such a serious nature in regard to accidents to his workmen that in his own interests it behoves him to look well to everything about the premises being (as far as possible) well and efficiently protected.

Lifts.—I have again to comment on the extreme apathy shown by many owners of lifts as to the upkeep and general care of the operating machinery. This machinery, generally consisting of an electric motor and worm-driven winding gear, is often placed in some obscure part of the building just under the roof. Access to it is generally difficult when in the roof space; a ladder has to be procured, and a trap-door passed through; then in many instances a trip has to be taken across the rafters until the motor is reached. The cramped space in which such machinery is nearly always placed often necessitates climbing over the top of it, either to oil it or make efficient inspection. Under such conditions there is not much temptation to the attendant, who as often as not is a mere lad, to give the machine that care and attention it should have.

In one instance the attendant actually did not know that it required any attention and had never touched it. He had been in charge of the lift for many weeks, and stated that he had never received any instruction with regard to any other part except the actual cage. On making inspection it was found amongst other things that the brake-pin was on the verge of dropping out, having only a bare 1.16in. grip in the connecting link. The two nuts supposed to secure this pin were lying beneath it covered with thick dust. The bearings were all dry, and, of course, at any minute there might have been a nasty accident.

When owners take so little interest in their own machinery, to say nothing about the danger incurred to passengers using their lifts, it is wonderful that there should be complaints about instructions issued by Inspectors, and it is marvellous that there are not more accidents. The number of lifts in Perth is rapidly increasing, and there are at this time several in course of being installed. I should like to call the attention of owners and architects to what, in my opinion, is a matter of vital importance, viz., the provision of suitable permanent means of access to the motor, and of allowing sufficient room to at all events enable the attendant to walk round it. Of course in old buildings where the lift has been an after-thought there is some excuse for it being in a cramped position, but in new buildings there is no such excuse, and I venture to think that it would be found much more economical in the end to be a little more liberal in the matter of room and fixed ladders or stairways.

Some "Suggestions to owners of lifts" have been drawn up this year. These have been printed and at present are being sent-out to all lift owners. It is hoped that in some instances their perusal may lead to a little more care being exercised.

I am pleased to say that no serious accident has occurred during the year in connection with lifts, and that, in some instances, at all events, greater attention is being bestowed on them than has hitherto been the case.

(3.)—SURVEY OF HARBOUR AND RIVER VESSELS MACHINERY.

Harbour and River Steamers.—The survey of boilers and machinery of all steam craft plying in the harbours and rivers is now being carried out by this Department. At the end of the year 31 vessels were registered (all of which have been surveyed) as

against 28 for preceding year, and it is expected that this important work will steadily increase year by year. Return No. VI. hereunder furnishes par-

ticulars of machinery surveyed; also details of repairs which have been considered necessary to insure safety.

RETURN NO. VI.—Return of Surveys of Boilers and Machinery on Steamers, etc.

Name of Vessel.	Description of Machinery.	Means of Propulsion.	Motive Power.	Date of Last Survey.	Nature of Defects, Instructions, and Repairs Effected, etc.
"Florrie" ...	Single Cylinders, Condensing, High Pressure	Screw	Steam	12-6-06	
"Westralian" ...	Two Compound Surface Condensing Engines	Twin Screw Stern Wheel	do.	2-10-06	
"Kentish Lass" ...	Double Cylinder non-Condensing Engines	do.	do.	6-7-06	New brasses to crank pins and main bearings; new cross-head pins and brasses to each engine; both sets of valve gear to be overhauled and new pins fitted; eccentric rods and straps to be overhauled and pulleys adjusted; pistons to be drawn and new rings fitted.
"Keplar" ...	do. do.	Screw	do.	1-6-06	
"Duchess" ...	Compound Surface Condensing Diagonal Engines	Paddle	do.	8-6-06	
"Torrens" ...	Compound Surface Condensing Engines	Screw	do.	3-11-06	Defective rivets in circular seams in shell of boiler and in each flue to be renewed. New thrust and tail shaft; new propeller, straps and stern bush, feed pump and set of springs to H. and L. pressure pistons; new couplings on shaft; main shaft lined; engines overhauled generally.
"Countess" ...	Compound Surface Condensing Diagonal Engines	Paddle	do.	15-5-06	
"Valkyrie" ...	Internal Combustion Engine	Screw	Oil	8-6-06	
"Brownie" ...	Tandem Quadruple Condensing Engines	do.	Steam	14-5-06	
"Olga" ...	Internal Combustion Engine	do.	Oil	8-10-06	
"Swan" ...	do. do. do.	do.	do.	8-6-06	
"Harley" ...	Compound Condensing Engines	Paddle	Steam	9-9-06	
"May Queen" ...	Internal Combustion Engine	Screw	Oil	12-6-06	
"Black Swan" ...	Single Cylinder non-Condensing Engine, one pr. Diagonal Engines, 2 Hoisting Engines	do.	Steam	26-5-06	Patch to be fitted to back end plate of boiler and approved protectors to water gauge glasses.
"Ophir" ...	Internal Combustion Engine	do.	Oil	5-6-06	
"Wilfred" ...	do. do. do.	do.	do.	16-6-06	
"Thistle" ...	Compound Condensing Engines	do.	Steam	6-7-06	Cylinder repaired and new piston and set of rings fitted. Front end plate to shell of boiler to be caulked; joint of feed pipe to be re-made; protectors to be fitted to water gauge glasses. Motion work of engine to be overhauled.
"Valhalla" ...	Internal Combustion Engine	do.	Oil	8-6-06	
"Taniwha" ...	Single Cylinder non-Condensing Engines	do.	Steam	8-6-06	Defective portion of front end plate of boiler to be removed and patch fitted, etc. Cylinder of engines bored out; new piston and rings, new piston rod, new valve spindle and valve, new cod-piece and pins to link motion fitted, etc., and all bearings overhauled.
"Victor" ...	Triple Cylinder, Internal Combustion Engine	do.	Oil	7-12-06	Wall of cylinder to be fitted with wrought steel liners and properly repaired.
"Linnet" ...	Double Cylinder Internal Combustion Engine	do.	do.	9-5-06	
"Eclipse" ...	Vertical Compound Marine Engine	do.	Steam	18-6-06	Additional safety valve and set of glass water gauges, etc., to be fitted.
"Valdemar" ...	Double Cylinder Internal Combustion Engine	do.	Oil	2-10-06	
"Decoy" ...	Direct Acting Paddle Engines, Non-condensing	Paddle	Steam	30-10-06	
"Fram" ...	Single Cylinder, Internal Combustion Engine	Screw	Oil	19-11-06	
"Mary" ...	Double Cylinder, Internal Combustion Engine	do.	do.	21-11-06	
"Dorothy" ...	Single Cylinder Internal Combustion Engine	do.	do.	23-11-06	
"Jessie" ...	Single Cylinder, non-Condensing Engine	do.	Steam	30-11-06	
"Zephyr" ...	Two Triple-Expansion, Surface Condensing Engines	Twin Screw	do.	7-12-06	
"Eagle" ...	Compound, Surface Condensing Engine	do.	do.	25-5-06	Defective rivets in crown of boiler furnace renewed; landing chipped and caulked.
"Silver Star" ...	Triple Expansion, Surface Condensing Engine	do.	do.	6-11-06	Defective rivets in both furnaces of boilers renewed; back end plate space stay nuts renewed and plate caulked; defective tubes renewed.

(4.)—ENGINEERING SURVEYS UNDER "NAVIGATION ACT, 1904."

In June, marine engineering surveys, embracing inspection of lighthouses, survey of machinery, boilers,

iron and steel hulls of deep sea vessels, previously carried out by an officer specially attached to Harbour and Light Department, was, with a view of obviating divided responsibility in the matter of

DIVISION VIII.

Eleventh Annual Report of the Chief Inspector of Explosives and Government Analyst for the Year 1906.

The Under Secretary for Mines, Perth.

Sir,—

I have the honour to submit for the information of the Hon. the Minister my 11th Annual Report dealing with the work done in my Laboratory during the year ending 31st December, 1906, in accordance with Section 45 of "The Explosives Act, 1895."

The year has been one of steady work unmarked by any circumstance of a special character. There have been no serious accidents to record, and the organisation has worked smoothly and effectively.

Owing to the pressure of routine work the proposed amendment of the Explosives Act has not been found feasible, and this work will apparently have to be postponed for some little time. I regret to say also that the further series of experiments on the gases formed by explosions, referred to in my last annual report, has not been carried out, as it has been found that extra assistance in the laboratory is necessary before this can be done. It is a matter of regret that we should, in this State, be unable to supplement the work being done in South Africa and elsewhere in a field of enquiry so full of interest and of such practical importance in connection with the health and safety of miners.

I think a special enquiry is also called for with regard to the burning rates of fuses and the relation of fuse generally to mining accidents. There have been a number of cases during the year where accidents have been attributed to faulty fuse, in spite of the rigid examination to which all fuse entering the State is subjected.

As was pointed out in my last report, an attempt was made to minimise the danger by specifying the burning rates of fuse to be used in mining, but accidents are still rather frequent and very difficult to account for. I understand that the Kalgoorlie Chamber of Mines has the matter under their earnest consideration, and I would suggest that a conjoint enquiry should be made by a representative of the Chamber, a representative of the Miners' Union and myself into the whole matter.

IMPORTATION OF EXPLOSIVES.

The importations for the year 1906 are shown in the following table:—

Kind of Explosive.	Quantity.	Value.
Blasting gelatine	445,650 lbs.	£ 28,502
Dynamite	7,000 lbs.	308
Gelatine dynamite	424,250 lbs.	20,739
Gelignite	2,544,565 lbs.	107,685
Explosives for army	...	11,061
Explosives, N.E.I.	...	12,725
Fuse	507,096 coils	10,893
Blasting powder	112,544 lbs.	2,317
Sporting powder	4,500 lbs.	610
Fireworks	...	586
Detonators	...	3,322
Carbonite	1,000 lbs.	233
Caps (percussion)	...	272
Total value of importations...	...	£199,253

As will be seen from the following comparison of importations during the last five years this represents a record, with the exception of the year 1904 when the value of the total imports was £312 in excess of that for 1906.

Total Value of Importations for the last Five Years.

Year.	1902.	1903.	1904.	1905.	1906.
Nitro-glycerine compounds	£ 157,100	£ 152,071	£ 160,817	£ 158,472	£ 157,467
Blasting powder	5,577	5,113	3,352	5,026	2,317
Sporting powder	224	601	652	97	610
Fuse	13,439	10,433	15,653	14,762	10,893
Rackarock	115	...	...	...	...
Fireworks	341	...	245	...	586
Cartridges	8,593	...	14,781	...	11,061
Detonators	4,358	5,967	4,043	...	3,322
N.E.I.	...	4,651	22	2,641	12,725
Caps	...	...	...	...	272
	189,747	178,836	199,565	180,998	199,253

The principal item is, of course, the nitro-glycerine compounds, and following the usual custom I give herewith figures showing the kinds of the various explosives making up this item. It will be seen that

gelignite still retains the first position, but that gelatine dynamite has largely replaced blasting gelatine when compared with the corresponding figures for last year.

Kinds and Quantities of Nitro-Glycerine Compounds imported in 1905-6.

	1905.	1906.
	lbs.	lbs.
Gelignite	2,384,600	2,554,565
Blasting Gelatine	522,500	445,650
Gelatine Dynamite	240,000	424,250
Dynamite	14,000	7,000

An interesting comparison is afforded by the accompanying table showing the importation of industrial explosives into all the States of the Commonwealth for 1906.

The table is compiled from returns kindly furnished by the various Governments. All military explosives and cartridges have been excluded from the table which deals only with explosives used for blasting, and sporting powder.

It will be seen that the importations into Western Australia amount to one-third of the total for Australia. This is less than the proportion noted in previous years, Western Australia showing a falling off and some of the other States, especially Victoria, showing a considerable increase.

Return showing importation of Industrial Explosives into the various States of the Commonwealth during 1906.

	1 West Aus- tralia.	2 Victoria.	3 Queensland.	4 New South Wales.	5 South Australia.	6 Tasmania.	Proportion of total for Australia, imported into W.A.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	
N.G. Compounds	3,432,465	1,520,000	1,535,100	936,600	774,100	354,180	...
Blasting powder	112,544	183,000	207,500	927,300	129,000	74,785	...
Sporting powder	4,500	48,734	18,723	42,041	17,369	15,100	...
	3,549,509	1,752,434	1,761,323	1,905,941	920,469	444,155	34·3 per cent.
	£	£	£	£	£	£	
Fuse	10,893	2,745	7,723	Not stated	4,095	Not stated	...
Detonators	3,322	3,870	5,070	3,445	1,701	1,500	...
Other Explosives	88	5,761	580	7,631	Nil	5,172	...
	14,253	12,376	13,373	11,076	5,796	6,672	22·4 per cent.
Total value of Explosives enumerated above ...	£174,647	£101,465	£94,618	£61,974	£50,687	£27,854	34·1 per cent.

In connection with the explosives thus imported into the State and stored on the various magazine reserves, the following tests have been carried out in my Laboratory, in addition to a large number of examinations which take place during the ordinary course of inspection:—

Explosives tested during 1906.

Gelignite	No. of samples.
Gelatine Dynamite	184
Blasting Gelatine	220
Dynamite	6
Carbonite	2
Detonators	4
Fuse	249
Sundry analyses and tests of materials	50
	<u>1,811</u>

There were five importation licenses in force at the close of the year.

STORAGE.

There has been no enlargement of the Fremantle Reserve during the year, and the arrangements there installed have worked with the greatest smoothness and efficiency.

With regard to the magazines on other reserves, I have been much exercised over the condition of

the lightning conductors as disclosed by the reports referred to in my last annual summary.

It is now about five years since I drew attention to the necessity for having these conductors inspected and put in order by an expert, but repeated delays of one sort and another for which I have been in no way responsible have prevented the carrying out of this work, and it was not until this year that the magazines at Kalgoorlie were thoroughly overhauled by the Government Electrician, and his report is submitted in an appendix hereto.

His remarks justified the worst fears which I entertained as to the efficiency of these conductors, and which have caused me the greatest anxiety as to the possible effects of a severe lightning storm in the neighbourhood of the Kalgoorlie Reserve.

I have now obtained the approval of the Government to these conductors being made efficient, under the supervision of the Government Electrician, and I hope they will be put in good order by the end of the year. Steps have also been taken to have the magazines on the other reserves on the Goldfields similarly inspected.

I think it is well that the position of this matter should be clearly understood. I do not profess to be an electrical expert and can only rely upon the guidance of the Government officials specially appointed to deal with matters of this kind. I cannot therefore be held responsible for a state of affairs

which I suspected and of which I gave warning five years ago.

When the lightning conductors have been put in good order it will still be necessary that they should be thoroughly inspected at least once a year so that any alteration may be at once detected. It appears that the Government Electrician has so many calls upon his time that it is almost impossible for him to give this matter the attention demanded, and I think therefore it will be necessary, when once he has certified that the conductors are in good order, that a set of the necessary instruments should be purchased and testing should be carried out by an officer of this department who shall have been specially instructed by the Government Electrician as to the principles involved and the course to be pursued.

It would appear that a considerable modification of thought has taken place in recent years with regard to the best style of lightning conductor and the amount of protection afforded. Owing to the information gleaned by modern researches into the character of high frequency currents, many of the elaborate forms of lightning conductors hitherto considered necessary have been discarded as either useless or even dangerous.

It is necessary therefore that the testing of these conductors should be in the hands of an officer who is acquainted with modern requirements, and the arrangement suggested above would, I think, be the best means of ensuring this.

There have been one or two cases of trespass on the Kalgoorlie Reserve again during this year, but at length the offender was caught and prosecuted, and it is hoped that this will prevent any recurrence.

There are at present 72 magazines erected on explosives reserves, including Government buildings but exclusive of detonator magazines; an increase of three for the year. These buildings have a total licensed capacity of 1,248 tons.

Outside of the Government reserves there are 22 licenses in force for magazines with a holding capacity of 31 tons. There are four applications for licenses now under consideration. There are 40 reserves for explosives in various parts of the State with a total area of 3,078 acres.

I am glad to be able to report that the leases for all magazines on Government reserves have now been issued, and this matter is in order for the first time since these reserves were established.

The condition of the magazines generally throughout the State is very good, the system of inspection now in force having been found effective in keeping the management of these buildings up to a high standard; nevertheless, a few prosecutions have been found necessary, but their number cannot be considered excessive considering the large amount of trade carried on in the State.

LICENSED PREMISES (SALE).

There is practically nothing to add under this heading to the remarks in my last report.

The licenses issued and revoked are shown in the following table:—

Store Licenses.

Year.	Applications received.	Licenses issued.	Licenses revoked.	Licenses remaining in force.
1902	31	32	14	125
1903	30	30	28	127
1904	7	7	31	103
1905	82	82	21	164
1906	44	44	52	156

The large number of licenses (52) which have lapsed during the year is due chiefly to the large number of firework licenses which have not been re-issued this year. This number might possibly have been reduced had it been possible to visit all the premises concerned, but this has been impracticable for the reasons set out under the heading of Inspection.

CARRIAGE.

The system of permits introduced a year or so ago for the control of the carriage of explosives in populous centres, such as Kalgoorlie and Boulder, appears to have been sufficient to gain the desired end. Twelve permits of this nature are now in force and only one unsatisfactory incident has been reported during the year. In this case a vehicle, loaded with explosives for one of the mines on the Golden Mile, was approaching a mine magazine, and in doing so had to cross the railway siding serving the mine in question; an engine was working on this line at the time but its approach was obscured from the view of the man in charge of the explosives by a blacksmith's shop standing alongside of the line. The result was a very narrow escape from a serious collision, the engine being brought to a standstill just as it gently touched the corner of the vehicle. A full enquiry into the whole matter showed that no one could be specially blamed for the occurrence, but a system of signalling has been introduced which will prevent a recurrence in the future.

The crowded traffic and the obstructed nature of the ground in the neighbourhood of the big mines on the Boulder Belt are such as to render it very difficult to guard against an occurrence of this sort, but one or two serious accidents occurring in America, under very similar circumstances, during the last year or so, point to the necessity for some safeguard being provided.

INSPECTION.

The record of inspections made during the year shows a considerable falling off from that of 1905. The following figures are taken from the register of inspections:—

Magazines	144
Store Premises	96

—
240
—

The following centres have been visited, in some cases more than once:—Kalgoorlie, Coolgardie, Cue, Day Dawn, Mt. Magnet, Yalgoo, Geraldton, Menzies, Kookynie, Malcolm, Leonora, Morgans, Laverton, Albany, Broomehill, Katanning, Wagin, Narrogin, Cuballing, Bunbury, Cossack, and Roebourne. In addition, a number of inspections were made of magazines and store premises in the Perth and Fremantle districts.

The reason for this diminished number of inspections recorded is that the Travelling Inspector has not been free to perform his proper functions during the entire year. On one occasion during his visit to Roebourne he was absent from headquarters for a month, and on another occasion he was obliged to be retained in the head office for eight weeks, as explained in that section of this report dealing with the staff of the department.

Eight prosecutions have been instituted as the result of Mr. Guest's inspection, particulars of which are included in Appendix No. 2.

The following is a list of the explosives destroyed during the year in the course of inspections:—

Date.	Locality.	Kind and Quantity.	Remarks.
17-5-1906	Laverton ...	Detonators, 800...	Condemned owing to damaged condition
12-6-1906	Woodman's Pt.	Gelignite, 50lbs.	Condemned owing to bad condition through treatment during transit
13-9-1906	Kalgoorlie ...	Gelatine Dynamite 96 cases (4,800lbs.)	Condemned owing to exudation
21-9-1906	Fremantle ...	Detonators, 1,500	Destroyed owing to bad condition

GENERAL ANALYTICAL WORK.

A general statement of the chemical work carried out in my laboratory was last year published in the form of a Bulletin, but as this will not be issued again during the current year, I give here a summary of the analyses conducted for the various departments and a statement of their general character.

General Classification of Analyses.

Explosives	1,811
Barks	44
Butter	2
Cement	14
Clothing, Drugs, etc., in connection with criminal cases	77
Feeding Stuffs	14
Fertilisers and Deposits	209
Fabrics	37
Human Stomachs	13
Honey	9
Milk	14
Oils (lubricating, illuminating, and edible)	478
Paints	21
Soils	113
Sewage	262
Tea	129
Vinegar	31
Water	396
Wheat	25
Wines, Spirits, and Spirituous Preparations	706
Miscellaneous	167
	4,572

Departments for whom work was performed.

	1905.	1906.
Agricultural Department	124	448
Customs Department	1,346	1,326
Crown Law Department... ..	66	90
Inspection of Liquors	173	178
Mines Department ... ..	...	35
Public Health Department	12	45
Public Works and Railways	672	615
Explosives	1,820	1,811
Miscellaneous	133	24
	4,346	4,572

This represents an increase of 226 analyses on the records for the previous year. It will be seen that a large increase of work has taken place in connection with the Agricultural Department. This branch of the work in fact accounts for the total increase for the year.

The following publications have been issued from the Department, either in the form of bulletins or in the form of scientific papers contributed to technical journals:—

1. Examination of some Western Australian Barks (*Society of Chemical Industry, Sydney Section*.)
2. The Gases formed by Explosives and other Impurities in Mine Air (*Government Chemical Laboratory. Bulletin No. 1*).
3. "Gassing" (*Government Chemical Laboratory. Bulletin No. 2*).
4. Chemical Work of Government Laboratory for year 1905. (*Government Chemical Laboratory. Bulletin No. 3*).
5. The Allen-Marquardt Process for the Estimation of Higher Alcohols. (*Society of Chemical Industry, London Section*).
6. A Possible New Commercial Source of Alcohol. (*Society of Chemical Industry, Sydney Section*).
7. The Examination of the Western Australian Poison Plants. First Progress Report. (*Agricultural Journal*).
8. The Examination of the Western Australian Poison Plants. Second and Third Progress Reports. (*Agricultural Journal*).
9. Antidotes for Poisoning by York Road Poison Plant. (*Agricultural Journal, January, 1906*).
10. Analysis of Fodder Plants (*Agricultural Journal, February, 1906*).
11. Soil Analysis. (*Agricultural Journal, August, 1906*).
12. Soil Analysis (Hamel Settlement). (*Agricultural Journal, September, 1906*).
13. The Analysis of Fertilisers and Unit Values for 1906. (*Agricultural Journal, November, 1906*).
14. Contributions to our knowledge of the West Australian Poison Plants. (*Royal Society, London*).

FINANCES AND STAFF.

The revenue and expenditure of this branch for the past three years have been as follows:—

	1904.	1905.	1906.
Revenue	4,866	4,004	3,299
Expenditure	3,178	4,617	3,868

The staff under my control at present consists of the following officers:—

Travelling Inspector	1
Clerks	3
Analysts	7
Magazine Keepers	2
Watchmen	3
	—
	16
	—

In addition to the above are six honorary sub-inspectors of explosives in country districts.

I should like to make some remarks as to the proportion of the staff to the work to be performed. You will notice that the number of analysts is one less than in the previous year. This is due to the resignation, through ill-health, of the special Research Chemist engaged upon the investigation of poison plants. Up to June last this work was carried on with most gratifying success, resulting in the discovery of the poisonous principles of two of our native plants and in the development of a method of treatment which in numerous trials has so far proved entirely satisfactory.

This post, however, is still vacant, as the Government have not seen their way to provide the necessary expenditure, and this very interesting field of enquiry has to be abandoned.

The available staff has been further seriously diminished during the year owing to the absence of officers on leave, either on account of ill-health or for recreation.

The senior analyst was absent for six months on long service leave, and altogether the effect of officer's leave has been that I have been deprived of

the equivalent of one officer's services for 53 weeks, taking the Laboratory staff alone into consideration, and for 69 weeks when the entire staff is taken into account.

In addition to this, the absence of the keeper of the Fremantle magazines necessitated exchanges of duty amongst my staff, which led to the travelling inspector being engaged on office duties for eight weeks and thus depriving me of his services in the field.

The fact that the number of analyses performed nevertheless saw a slight increase indicates that the staff have worked under high pressure during the year, and they have in fact reached the limit of performance.

Much subsidiary work, which would otherwise have been carried out, has had to be abandoned, and I cannot with my present staff expect to cope with any increased demands. In a laboratory of this nature, in addition to analyses actually required, much work has to be done in investigating and developing methods of analysis, and the restriction of this, such as has been necessary during the past year, must seriously interfere with the efficiency of the work. Only by increasing the mechanical aids and equipment of the laboratory has it been possible to keep pace with the work this year, and as the conditions I have referred to are likely to be of annual recurrence, it is obviously necessary that an increase of staff should be taken into the earliest consideration.

The enthusiasm and energy displayed by my officers have been worthy of the highest praise, but it is not in the interests of the work of the department that further demands upon their energy should be made.

I wish to acknowledge the valuable assistance rendered me from time to time by the officers under the Commissioner of Police and the Inspectors of Mines under the State Mining Engineer.

I have, etc.,

E. A. MANN,
Chief Inspector of Explosives and
Government Analyst.

APPENDIX I.

COPY OF REPORT OF THE GOVERNMENT ELECTRICIAN ON THE LIGHTNING CONDUCTORS AT THE KALGOORLIE MAGAZINES.

1. In accordance with your instructions, I have examined the lightning conductors of the magazines at Kalgoorlie, and in Appendix attached, I give details of the present state of each installation.

2. The results of my examination reveal a most unsatisfactory state of affairs.

Finials.

3. The finials are of various types, ranging from an elaborate, golden-tipped, solid copper finial, to plain twisted iron wires, tridents and spear heads.

Conductors.

4. Every variety of conductor has been used, including 1¼in. x ½in. copper strap, ½in. copper rod, ½in. stranded ordinary bell wire. Out of the 16 conductors on the 14 magazines, almost all were defective.

Earth Plates.

5. Of 16 conductors, six had no earth connection, three had small scraps of galvanised iron threaded on the conductors and buried about six inches deep, and one good copper plate was useless owing to bad connection. The remainder were fairly good plates, some copper, some iron.

6. On one magazine, a massive 5-point gilt solid copper finial has been erected, and connected to a ½in. stranded copper cable, which connects to a well sunk copper earth plate.

The efficiency of this installation has been entirely nullified by coiling the conductor once round each of the 4-button insulators. If a lightning discharge were to take place with this conductor, the sparking would take place on to the building at the turn round the first insulator, as the earth plate has been most effectively protected by the turns in the wire.

Recommendations.

7. In my opinion it is essential for a good lightning protector system to enclose the building as nearly an approach to a metallic cage as is practicable.

8. This can be obtained by erecting three poles, such as one at the back and two at the front (for larger magazines four poles, one at each corner, would be better). The poles should be about four feet higher than the building, and to have iron barbed wire stretches from pole to pole across the building. The barbed wire to be connected to iron stray wires from top of pole to earth plate sunk in ground. The metal work of building should be connected to stray wires.

9. Certain modifications would have to be adopted to suit various buildings, and in case of very dry soil.

10. I would advise that a standard type of lightning conductor be erected for all the magazines, and I consider that the type I have suggested would be the most efficient, and moreover not expensive in comparison with the costly and useless massive copper installations such as some of the firms have adopted.

11. In my opinion most of the existing lightning conductors are useless, and should be altered at once to the pole and wire type, as shown above.

12. I am now preparing a standard specification in accordance with the above recommendation.

(Sgd.) WILLIAM J. HANCOCK,
Government Electrical Engineer.

28th November, 1906.

APPENDIX II.

RECORD OF PROSECUTIONS FOR BREACHES OF THE EXPLOSIVES ACT AND REGULATIONS.

Date.	Place.	Offence.	Penalty.
11-5-1906 ...	Kalgoorlie ...	Overstocking Magazine at Kalgoorlie ...	Fine £10, and costs £1 5s. 6d.
1-6-1906 ...	Kanowna ...	Overstocking Detonators on premises ...	Fine 10s., costs £2 2s.
1-6-1906 ...	Do. ...	Overstocking Detonators on premises ...	Fine 10s., costs £2 2s.
2-6-1906 ...	Coolgardie ...	Overstocking on premises ...	Fine £1
25-6-1906 ...	Fremantle ...	Open cases in Detonator Magazine ...	Fine £2 10s., costs £1 6s. 6d.
20-9-1906 ...	Katanning ...	Storing Explosives on unlicensed premises	Fine £1, and costs 4s. 6d.
18-9-1906 ...	Fremantle ...	Storing Detonators on unlicensed premises	Fine 6s., costs £2 4s. 6d.
23-11-1906 ...	Bunbury ...	Storing Explosives on unlicensed premises	Fine £2, and costs £1 4s. 6d.

WESTERN AUSTRALIA.**MINING STATISTICS****TO 31st DECEMBER, 1906.****LETTER OF TRANSMITTAL.***The Under Secretary for Mines.**Department of Mines,
Statist's Office,**Perth, 30th April, 1907.*

Sir,

I have the honour to transmit herewith the Mining Statistics of 1906.

As intimated on page 172 of the Report of the Department of Mines for the year 1905, Table IV. had not been completed in time to be embodied therein.

The work of re-casting the figures for this Table, giving the details of each mine from 1897 to the close of 1903, and substituting "fine gold" content for "gross weight," has extended over a period of two and a-half years, and may claim to be as accurate a

statement of the gold production of the State as is possible from the data available.

It may be mentioned that this compilation has been carried out in addition to the current work of the Branch, by the aid of temporary assistance and a large amount of overtime on the part of the permanent members of the Staff.

I have the honour to be,

Sir,

Your obedient servant,

JAMES WALLACE,

Statist.

MINING STATISTICS TO 31st DECEMBER, 1906.

TABLE OF CONTENTS.

	Page		Page
SIGNS AND ABBREVIATIONS, EXPLANATIONS OF ...	190	TABLE V.—Return of Silver yielded by Gold Mines, as reported to the Mines Department during the years 1904, 1905, and 1906, and total yield to date ...	292
SUMMARY OF MINERAL PRODUCTS ...	191		
AUSTRALASIAN MINERAL PRODUCTION... ..	192	TABLE VI.—Return of Gold Bullion received at the Perth Branch of the Royal Mint from May, 1899, to the 31st December, 1906, showing in gross ounces the Quantity obtained from the respective Goldfields and other Countries, and the Actual Value thereof ...	297
PART I.—GOLD.			
TABLE I.—Monthly Production of Gold, in fine ounces, showing the quantity reported to the Mines Department during 1906 ...	193	TABLE VII.—Total Output of Gold Bullion entered for Export and received at the Perth Branch of the Royal Mint, from 1st January, 1886, to 31st December, 1906, showing in fine ounces the Quantity obtained each year from the respective Goldfields, and the Total Annual Value ...	298
TABLE II.—Total Yearly Production of Gold, in fine ounces, as reported to the Mines Department, to 31st December, 1906 ...	194	TABLE VIII.—Comparative Return of Gold Bullion entered for Export and received at the Perth Branch of the Royal Mint, from 1st January, 1904, to 31st December, 1906, showing in fine ounces the Quantity recorded each Month, and its Value ...	300
TABLE III.—Return showing, for the respective Goldfields and Districts, the area in square miles, leases in force, particulars of plant, men employed, alluvial, doliied, and specimen gold and ore treated with gold and silver yield, in fine ounces, as reported to the Mines Department, for the year 1906 ...	196	TABLE IX.—Monthly Return of Gold Bullion and Gold Ores entered for Export during 1906 ...	301
TABLE IV.—Production of Gold from all sources, showing the amount of ore treated, with gold yield, in fine ounces, as reported to the Mines Department, during 1904, 1905, and 1906, and the total production to date:—		PART II.—MINERALS OTHER THAN GOLD.	
1. Kimberley Goldfield	198	TABLE X.—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 and Mineral Fields, during 1906 and previous years ...	302
2. Pilbara Goldfield	198	TABLE XI.—Quantity and Value of <i>Black Tin</i> reported to the Mines Department during 1906, and the Total Output to date ...	304
3. West Pilbara Goldfield	200	TABLE XII.—Quantity and Value of <i>Tantalite</i> reported to the Mines Department during 1906, and the Total Output to date ...	305
4. Ashburton Goldfield	202	TABLE XIII.—Quantity and Value of <i>Copper Ore</i> reported to the Mines Department during 1906, and the Total Output to date ...	306
5. Gascoyne Goldfield... ..	202	TABLE XIV.—Quantity and Value of <i>Ironstone</i> reported to the Mines Department during 1906, and the Total Output to date ...	308
6. Peak Hill Goldfield	202	TABLE XV.—Quantity and Value of <i>Lead Ore</i> reported to the Mines Department during 1906, and the Total Output to date ...	308
7. East Murchison Goldfield... ..	204		
8. Murchison Goldfield	210		
9. Yalgoo Goldfield	226		
10. Mount Margaret Goldfield	226		
11. North Coolgardie Goldfield	238		
12. Broad Arrow Goldfield	256		
13. North-East Coolgardie Goldfield... ..	258		
14. East Coolgardie Goldfield... ..	268		
15. Coolgardie Goldfield	274		
16. Yilgarn Goldfield	282		
17. Dundas Goldfield	286		
18. Phillips River Goldfield	288		
19. Donnybrook Goldfield	290		
State generally	290		

TABLE OF CONTENTS—*continued.*

	Page		Page
TABLE XVI.—Quantity and Value of <i>Silver-Lead Ore</i> reported to the Mines Department during 1906, and the Total Output to date	308	TABLE XX.—Return of Ore and Minerals other than Gold entered for Export from 1850-1906, inclusive, showing the Quantity obtained from certain Goldfields and Mineral Fields, and the declared Value thereof	310
TABLE XVII.—Quantity and Value of <i>Coal</i> reported to the Mines Department during 1906, and the Total Output to date	309	PART III.—ALL MINES.	
TABLE XVIII.—Quantity and Value of <i>Limestone</i> reported to the Mines Department during 1906, and the Total Output to date	309	TABLE XXI.—Milling and Cyaniding Plants erected in the respective Goldfields, Districts, and Mineral Fields, on the 31st December, 1906, and the Total Value of Mining Machinery	314
TABLE XIX.—Quantity and Value of <i>Diamonds</i> reported to the Mines Department during 1906, and the Total Output to date	309	APPENDIX.	
		Royal Mint (Perth Branch)—Notices	323

EXPLANATIONS OF SIGNS AND ABBREVIATIONS.

Gf. Goldfield.	A.Q.C. Amalgamated Quartz Claim.
Mf. Mineral field.	E.A.C. Extended Alluvial Claim.
D. District.	L.C. Lode Claim.
G.M.L. Gold Mining Lease.	R.C. Reward Claim.
M.L. Mineral Lease.	M.A. Machinery Area.
P.P.C. Private Property Claim.	P.A. Prospecting Area.
P.P.L. Private Property Lease.	T.A. Tailings Area.
R.L. Reward Lease.	W.R. Water Right.
A.T.M. Authority to mine.	cy. Cyanide process.
A.C. Alluvial Claim.	¶ Extras (magnettings, plates, skimmings, slags, etc.).

WESTERN AUSTRALIA.

SUMMARY OF MINERAL PRODUCTS.

GOLD and OTHER MINERALS produced during 1906, and the estimated Value thereof, together with a comparison for previous years, and the Total Production to date.

DESCRIPTION OF MINERAL.	1906.		1905.		1904.		1903.		1902.		PREVIOUS TO 1902.		TOTAL TO DATE.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
ANTIMONY (Exported) statute tons	...	£	...	£	...	£	22	230	...	£	...	£	22	230
GOLD (Exported and †Minted) fine ounces	1,794,547	7,622,749	1,955,316	8,305,654	1,983,230	8,424,226	2,064,801	8,770,719	1,871,037	7,947,662	6,997,303	29,722,650	16,666,234	70,793,660
BLACK TIN (Raised) statute tons	1,495	157,644	1,079	86,840	855	58,817	817	55,890	620	39,783	3,558	192,499	8,424	591,473
TANTALITE (Raised) do	15	2,644	73	10,515	...	...	...	...	...	...	...	...	88	13,159
COPPER ORE (Raised) do	7,430	50,337	2,389	16,266	3,969	25,180	20,527	56,541	2,262	8,090	26,125	204,781	62,702	361,195
IRONSTONE (Raised) do	1,280	512	3,213	1,285	1,441	577	220	88	4,800	2,040	45,772	31,743	56,726	36,245
LEAD { Ore (Exported) do	...	...	...	...	...	...	...	...	...	...	33,644	364,756	33,644	364,756
	Silver-Lead Ore (Raised) do	...	...	...	...	...	...	...	36	277	21	152	57	429
	Pig (Exported) do	2,681	44,460	2,730	34,471	5,352	63,170	...	...	...	684	13,306	11,447	155,407
SILVER... .. (Exported) fine ounces	282,145	37,612	359,744	44,278	399,190	45,912	168,113	19,153	83,293	9,190	89,618	11,203	1,382,103	167,348
ASBESTOS (Exported) statute tons	...	...	...	...	...	...	†	10	...	...	‡	1	...	11
COAL (Raised) do	149,755	57,998	127,364	55,312	138,550	67,174	133,427	69,128	140,884	86,188	294,090	151,108	984,070	486,908
COBALT ORE (Exported) do	...	...	...	...	...	...	...	...	2	41	...	...	2	41
LIMESTONE (Raised) do	9,472	1,691	9,145	1,220	13,397	1,699	1,280	178	5,080	1,340	51,730	10,780	90,104	16,908
MICA (Exported) do	...	...	...	...	...	...	...	...	...	...	‡	294	...	294
PLUMBAGO ORE ... (Exported) do	...	...	...	...	†	2	...	...	1	6	...	...	1	8
PRECIOUS STONES ... (Exported) carats	...	...	...	...	...	...	...	...	...	...	‡	24	...	24
TOTAL VALUES ... ..	...	£7,975,647	...	£8,555,841	...	£8,686,757	...	£8,971,937	...	£8,094,617	...	£30,703,297	...	£72,988,096

† Since May, 1899. ‡ Weight not stated. † 25 Small diamonds raised, weight not stated. † 4cwts. † 1cwt.

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 1906.

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 fine ounces	1,794,547	£ 7,622,749	253,987	£ 1,078,866	544,636	£ 2,313,464	772,290	£ 3,280,478	60,023	£ 254,963	25,592	£ 108,707	563,843	£ 2,270,904
Copper statute tons	...	...	9,755	789,527	10,077	916,546	...	...	...	...	8,933	743,671	...	...
Copper Ore do	7,430	50,337	...	...	...	...	...	...	...	...	...	...	...	...
Lead (Pig, etc.) do	2,681	44,460	59	1,084	2,809	49,884	...	...	...	...	...	...	...	...
Manganese do	...	...	...	...	1,113	4,391	...	...	...	...	...	...	16	40
Platinum fine ounces	...	...	205	623	...	...	...	...	...	...	...	...	...	...
Silver do	282,145	37,612	284,994	36,431	783,087	101,693	35,125	4,980	...	...	92,418	10,410	1,390,536	143,598
Silver Ore, etc. ... statute tons	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Silver-Lead Ore, etc. ... do	...	...	371,939	2,826,542	...	...	...	...	87,118	462,443	234	2,572	...	...
Tin do	...	...	1,671	255,744	4,823	490,283	...	...	...	...	...	...	...	...
Black Tin do	1,495	157,644	...	...	...	...	...	...	...	...	398	36,907	...	...
Tin Ore do	...	...	...	...	...	...	106	11,618	4,473	557,266	...	...	...	...
Tantalite do	15	2,644	...	...	...	...	...	...	...	...	2	140	...	...
Wolfram do	...	...	132	9,057	768	64,136	...	...	20	1,465	102	6,981	...	...
Zinc Spelter do	...	...	103,666	292,806	...	...	...	...	...	...	...	...	...	...
Antimony do	...	...	2,451	52,645	530	6,917	205	3,075	...	...	...	...	...	...
Bismuth do	...	...	25	5,700	6	1,882	...	...	†	24	...	...	...	...
Alunite do	...	...	1,856	4,637	...	...	...	...	...	...	...	...	...	...
Coal do	149,755	57,998	7,626,362	2,337,227	606,772	173,282	160,631	80,283	52,896	44,962	...	...	1,729,536	864,768
Coke do	...	...	186,060	110,607	...	...	...	...	...	...	...	...	...	...
Shale (Oil) do	...	...	32,446	28,470	...	...	...	...	...	...	...	...	...	...
Cobalt Ore do	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gypsum do	...	...	...	...	...	...	1,389	348	...	...	1,124	949	...	...
Iron do	...	...	8,000	112,848	...	...	...	...	...	...	...	...	...	...
Iron Oxide do	...	...	584	336	...	...	...	...	...	...	...	...	...	...
Ironstone do	1,280	512	935	723	31,401	14,114	...	...	2,600	1,100	75,226	33,852	...	...
Lime do	...	...	21,126	15,573	...	...	...	...	...	...	...	...	...	...
Limestone do	9,472	1,691	12,788	7,463	61,856	23,364	...	...	...	...	31,940	4,791	...	...
Molybdenite do	...	...	33	4,798	106	15,275	...	...	...	...	...	...	...	...
Plumbago Ore do	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Precious Stones ... carats	...	...	...	‡ 58,620	...	‡ 21,110	...	...	...	...	...	...	...	...
Unenumerated ... ..	...	...	...	139,297	...	2,306	...	1,503	...	...	...	28,184	...	18,421
Total Values ... ..	...	7,975,647	...	8,169,624	...	4,198,647	...	3,382,285	...	2,257,147	...	977,164	...	3,297,731

* Including Northern Territory.

† 6cwt.

‡ Includes Noble Opal, valued at £56,500.

§ Includes Opal, valued at £3,000.

¶ Includes Blister Copper, 8,708 tons, valued at £862,444.

PART I.—GOLD.

TABLE I.

Monthly Production of Gold, in Fine Ounces, showing the Quantity reported to the Mines Department during 1906.

GOLDFIELD.	DISTRICT.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.
Kimberley ... ..	...	17·42	15·68	10·45	13·07	14·81	10·45	8·71	25·48	8·71	13·07	10·45	17·42	165·72
Pilbara	Marble Bar	...	410·70	423·28	168·98	22·85	...	608·11	37·13	38·02	266·89	165·70	115·31	2,256·97
Do.	Nullagine...	47·50	97·87	935·48	128·52	470·24	195·65	171·12	11·91	148·33	158·77	436·69	652·85	3,454·93
West Pilbara ... ..	...	44·85	...	231·66	...	...	247·57	28·79	44·84	26·22	28·38	82·14	14·71	749·16
Ashburton ... ..	...	29·19	18·08	20·34	23·51	22·88	22·03	38·41	30·51	23·54	20·34	19·59	9·79	278·24
Gascoyne ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Peak Hill ... ..	...	212·33	...	30·59	9·06	190·44	61·94	13·42	163·77	250·82	101·52	321·33	652·98	2,008·20
East Murchison	Lawlers ...	5,024·33	4,521·35	4,331·91	5,109·26	6,624·10	5,702·84	4,442·59	6,086·31	5,412·92	...	10,086·29	3,009·30	60,351·20
Do.	Black Range	1,069·91	1,156·39	2,925·88	2,221·63	2,637·60	3,898·93	2,387·47	3,146·68	3,370·00	4,045·65	4,239·95	4,320·20	35,420·29
Murchison	Cue	2,143·34	1,575·21	2,311·30	1,920·69	1,392·99	1,546·64	1,736·14	700·71	1,169·07	1,335·41	751·74	1,753·87	18,337·11
Do.	Nannine ...	622·46	2,862·84	1,101·07	2,081·96	1,164·28	2,513·99	3,346·42	2,720·99	2,962·04	3,578·98	2,044·57	1,572·48	26,572·08
Do.	Day Dawn	11,963·39	10,812·29	10,765·06	10,633·51	10,674·34	10,761·49	10,555·04	10,707·04	10,269·37	9,273·46	9,022·41	8,610·18	124,047·58
Do.	Mt. Magnet	611·78	1,384·63	1,894·68	1,132·32	688·58	997·95	1,131·30	769·50	1,319·44	1,681·61	993·75	833·51	13,439·05
Yalgoo ... ..	...	57·38	712·53	450·91	260·56	...	354·36	316·91	527·69	893·02	115·64	319·68	441·51	4,450·19
Mt. Margaret	Mt. Morgans	1,364·61	1,875·42	2,652·96	2,459·51	2,622·48	3,186·68	1,859·64	2,610·22	2,139·50	2,243·54	4,778·54	2,413·44	30,206·54
Do.	Mt. Malcolm	8,532·10	9,237·37	9,236·50	8,252·17	8,020·66	7,293·73	7,591·27	6,840·58	7,066·82	7,369·22	7,069·95	7,584·69	94,095·06
Do.	Mt. Margaret	2,460·85	3,173·73	3,592·96	2,843·00	2,587·89	3,791·78	3,120·50	3,774·05	2,936·13	2,901·51	5,764·02	5,010·92	41,957·34
North Coolgardie	Menzies ...	2,011·89	2,209·75	2,157·49	3,420·98	2,375·03	3,222·88	3,676·90	2,943·97	2,341·97	2,584·64	3,093·56	3,198·80	33,237·86
Do.	Ular-ring ...	1,726·82	1,949·60	1,956·98	1,848·62	2,622·78	3,106·36	2,120·92	1,960·24	2,184·56	1,664·12	1,759·43	2,309·70	25,210·13
Do.	Niagara ...	3,182·44	2,845·53	3,627·04	3,209·00	3,343·85	3,194·29	2,876·50	2,901·11	3,673·21	3,462·31	3,016·81	2,086·80	37,418·89
Do.	Yerilla ...	846·80	2,117·37	1,418·36	409·56	1,601·75	1,557·77	567·70	1,708·01	1,519·39	990·44	1,347·28	1,005·73	15,090·16
Broad Arrow ... ..	...	1,531·41	1,651·11	1,418·38	1,669·83	1,640·11	1,633·93	1,794·95	1,516·02	1,971·50	1,715·53	3,042·51	1,925·33	21,510·61
North-East Coolgardie	Kanowna ...	2,244·87	3,015·66	2,858·99	3,213·59	3,272·14	3,692·27	3,648·52	2,799·66	2,303·82	2,994·48	3,445·94	3,772·93	37,267·87
Do.	Bulong ...	349·43	375·04	247·83	657·74	491·58	573·35	503·86	647·07	1,001·03	368·61	695·75	563·34	6,474·63
Do.	Kurnalpi ...	45·23	21·61	12·47	22·67	9·98	23·39	147·11	27·02	20·39	79·67	207·99	213·34	830·87
East Coolgardie ... ..	...	84,712·79	80,258·02	82,997·13	81,636·20	82,994·15	81,817·53	84,291·22	81,744·79	81,844·93	82,591·49	81,627·11	82,841·88	989,357·24
Coolgardie	Coolgardie	2,328·39	5,882·54	5,438·85	4,853·68	5,721·77	5,233·61	4,059·07	5,574·04	4,182·79	4,659·48	4,390·20	3,446·69	55,771·11
Do.	Kunanalling	605·62	840·93	580·42	337·18	578·99	944·19	370·09	552·65	1,471·32	673·17	631·09	673·42	8,259·07
Yilgarn ... ..	...	1,411·42	1,751·37	2,551·30	2,503·73	1,891·14	1,415·40	1,357·33	2,325·85	1,996·31	1,978·11	2,419·44	1,945·35	23,546·75
Dundas ... ..	...	1,233·91	1,734·52	1,890·80	1,722·04	2,290·85	1,765·65	2,033·37	1,514·11	1,492·36	1,602·55	1,207·44	1,947·24	20,434·84
Phillips River ... ..	...	105·49	456·49	318·18	52·53	8·53	2·44	76·02	117·73	270·00	271·19	501·51	599·78	2,779·89
Donnybrook ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
State generally	...	...	...	...	...	...	...	59·16	...	328·32	557·73	204·08	166·42	1,315·71
Total	Total	136,537·95	142,963·63	148,389·25	142,815·13	145,976·79	148,769·09	144,938·56	144,529·63	144,640·85	139,327·51	153,696·94	143,709·91	1,736,295·29

TABLE II.

YEARLY GOLD PRODUCTION.

TOTAL PRODUCTION OF GOLD, IN FINE OUNCES, AS REPORTED TO THE MINES DEPARTMENT, TO 31ST DECEMBER, 1906.

GOLDFIELD.	DISTRICT.	1906.		1905.		1904.		1903.		1902.		1901.	
		District.	Goldfield.	District.	Goldfield.	District.	Goldfield.	District.	Goldfield.	District.	Goldfield.	District.	Goldfield.
Kimberley ...	...	...	165·72	...	496·14	...	205·84	...	644·54	...	301·71	...	262·25
Pilbara ...	Marble Bar ...	2,256·97	5,711·90	4,534·25	11,473·83	3,129·37	8,029·65	4,787·33	9,570·04	4,501·02	10,602·12	3,636·77	9,072·45
Do. ...	Nullagine ...	3,454·93		6,939·58		4,900·28		4,782·71		6,101·10		5,435·68	
West Pilbara ...	...	...	749·16	...	801·14	...	3,427·71	...	5,100·48	...	1,910·42	...	198·73
Ashburton ...	...	...	278·24	...	207·53	...	509·96	...	903·94	...	926·66	...	938·04
Gascoyne ...	...	...	...	...	...	...	...	...	...	...	...	...	85·10
Peak Hill ...	...	...	2,008·20	...	13,586·87	...	14,113·57	...	31,750·17	...	35,297·81	...	18,607·23
East Murchison ...	Lawlers ...	60,351·20	95,771·49	68,232·52	84,926·28	82,404·53	93,590·92	86,565·13	87,278·05	76,134·74	76,326·88	65,533·58	65,547·42
Do. ...	Black Range ...	35,420·29		16,693·76		11,186·39		712·92		192·14		13·84	
Murchison ...	Cue ...	18,337·11	182,395·82	15,125·05	206,734·88	15,286·71	214,403·13	20,688·78	204,181·85	21,016·82	172,914·32	18,755·54	123,865·85
Do. ...	Nannine ...	26,572·08		18,549·17		18,668·31		19,947·48		19,329·49		17,690·99	
Do. ...	Day Dawn ...	124,047·58	182,395·82	161,507·28	206,734·88	161,163·51	214,403·13	136,768·68	204,181·85	102,030·80	172,914·32	57,867·95	123,865·85
Do. ...	Mt. Magnet ...	13,439·05		11,553·38		19,284·60		26,776·91		30,537·21		29,551·37	
Yalgoo ...	...	...	4,450·19	...	4,742·77	...	2,353·41	...	3,138·35	...	5,198·89	...	8,351·30
Mt. Margaret ...	Mt. Morgans ...	30,206·54	166,258·94	25,877·33	188,712·21	45,230·33	183,523·25	59,517·40	182,763·92	51,092·42	186,818·98	41,607·09	165,243·01
Do. ...	Mt. Malcolm ...	94,095·06		105,897·45		94,300·27		83,529·04		73,171·96		84,278·40	
Do. ...	Mt. Margaret ...	41,957·34	110,957·04	56,937·43	148,771·00	43,992·65	145,064·61	39,717·48	162,139·18	57,554·60	154,238·37	39,357·52	121,974·00
North Coolgardie ...	Menzies ...	33,237·86		41,895·33		37,100·73		52,870·58		50,168·26		51,568·02	
Do. ...	Ularring ...	25,210·13	110,957·04	43,387·07	148,771·00	21,769·41	145,064·61	19,142·55	162,139·18	25,766·96	154,238·37	17,821·18	121,974·00
Do. ...	Niagara ...	37,418·89		45,520·17		67,230·33		77,013·02		69,877·50		42,146·08	
Do. ...	Yerilla ...	15,090·16	21,510·61	17,968·43	18,583·66	18,964·14	22,180·19	13,113·03	26,021·17	8,425·65	17,092·95	10,438·72	29,885·18
Broad Arrow	
N.E. Coolgardie ...	Kanowna ...	37,267·87	44,573·37	42,341·66	52,947·26	38,648·56	50,955·01	40,554·03	54,459·08	39,497·86	57,627·45	35,318·30	55,583·21
Do. ...	Bulong ...	6,474·63		9,772·88		11,155·38		13,180·06		16,849·50		17,445·04	
Do. ...	Kurnalpi ...	830·87	989,357·24	832·72	997,193·02	1,151·07	1,050,922·89	724·99	1,062,898·06	1,280·09	941,436·40	2,819·87	856,748·86
East Coolgardie	
Coolgardie ...	Coolgardie ...	55,771·11	64,030·18	54,499·04	63,664·27	53,505·01	63,199·76	58,692·50	71,235·59	65,002·37	74,502·96	59,973·11	73,083·48
Do. ...	Kunanalling ...	8,259·07		9,165·23		9,694·75		12,593·09		9,500·59		13,110·37	
Yilgarn ...	...	...	23,546·75	...	19,291·42	...	25,508·64	...	19,276·71	...	20,066·81	...	21,925·95
Dundas ...	...	...	20,434·84	...	25,960·95	...	31,830·27	...	33,845·76	...	28,579·34	...	29,843·03
Phillips River ...	...	...	2,779·89	...	2,563·26	...	4,016·63	...	7,050·73	...	7,441·30	...	665·83
Donnybrook ...	...	...	...	...	...	...	...	...	53·21	...	61·36	...	3·54
State generally ...	...	...	1,315·71	...	...	...	...	...	...	...	...	...	108·93
TOTAL	Fine Ounces ...	...	1,736,295·29	...	1,840,656·49	...	1,913,835·44	...	1,962,360·83	...	1,791,344·73	...	1,581,993·39
	Sterling Value	...	£47,375,31	...	£7,818,612	...	£8,129,456	...	£8,335,579	...	£7,609,149	...	£6,719,881

TOTAL PRODUCTION OF GOLD, IN FINE OUNCES, ETC.—continued.

GOLDFIELD.	DISTRICT.	1900.		1899.		1898.		PREVIOUS TO 1898.		TOTAL TO 31st DECEMBER, 1905.		TOTAL TO 31st DECEMBER, 1906.	
		District.	Goldfield.	District.	Goldfield.	District.	Goldfield.	District.	Goldfield.	District.	Goldfield.	District.	Goldfield.
		ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.
Kimberley ...	...	...	504 21	...	804 06	...	402 44	...	11 895 98	...	15 517 17	...	15 682 89
Pilbara ...	Marble Bar ...	10,168 33 }	14 507 02	11,856 46 }	17 357 03	9,339 65 }	12 746 05	26,012 42 }	28 093 93	77,965 60 }	121 452 12	80,222 57 }	127 164 02
Do. ...	Nullagine ...	4,338 69 }		5,500 57 }		3,406 40 }		2,081 51 }		43,486 52 }		46,941 45 }	
West Pilbara ...	...	...	779 48	...	1 689 63	...	296 37	...	1 054 57	...	15 258 53	...	16 007 69
Ashburton ...	...	...	1 493 56	...	1 572 00	...	474 35	...	277 03	...	7 303 07	...	7 581 31
Gascoyne ...	...	...	64 86	...	330 63	...	12 29	...	12 39	...	505 27	...	505 27
Peak Hill ...	...	...	25 175 67	...	30 582 24	...	14 319 60	...	20 926 48	...	204 359 64	...	206 367 84
East Murchison ...	Lawlers ...	56,440 60 }	56 532 25	39,558 51 }	39 620 88	31,896 53 }	31 909 95	21,390 60 }	21 390 60	528,156 74 }	557 123 23	588,507 94 }	652 894 72
Do. ...	Black Range ...	91 65 }		62 37 }		13 42 }		...	...	28,966 49 }		64,386 78 }	
Murchison ...	Cue ...	18,383 98 }		21,869 47 }		22,037 29 }		41,354 54 }		194,518 18 }		212,855 29 }	
Do. ...	Nannine ...	25,913 18 }	93 833 87	16,301 86 }	71 209 25	19,344 18 }	70 306 71	27,082 39 }	180 879 36	182,827 05 }	1 338 329 22	209,399 13 }	1 520 725 04
Do. ...	Day Dawn ...	12,413 87 }		11,331 86 }		12,249 64 }		68,311 79 }		723,645 38 }		847,692 96 }	
Do. ...	Mt. Magnet ...	37,122 84 }		21,706 06 }		16,675 60 }		44,130 64 }		237,338 61 }		250,777 66 }	
Yalgoo ...	...	...	8 794 00	...	10 572 38	...	2 938 03	...	9 422 79	...	55 511 92	...	59 962 11
Mt. Margaret ...	Mt. Morgans ...	31,819 52 }		14,652 97 }		8,641 76 }		3,670 40 }		282,109 22 }		312,315 76 }	
Do. ...	Mt. Malcolm ...	77,235 19 }	126 855 11	46,399 13 }	70 254 54	29,638 28 }	42 121 24	18,938 72 }	23 572 32	618,388 44 }	1 169 864 53	712,483 50 }	1 336 123 52
Do. ...	Mt. Margaret ...	17,800 40 }		9,202 44 }		3,841 20 }		963 20 }		269,366 92 }		311,324 26 }	
North Coolgardie ...	Menzies ...	47,103 26 }		58,536 52 }		46,758 96 }		66,937 12 }		452,938 78 }		486,176 64 }	
Do. ...	Ularring ...	11,641 47 }	91 388 29	10,199 16 }	100 631 51	3,709 08 }	62 692 53	665 46 }	74 555 57	154,102 34 }	1 061 455 06	179,312 47 }	1 172 412 10
Do. ...	Niagara ...	25,013 63 }		22,703 15 }		8,112 48 }		693 16 }		358,309 52 }		395,728 41 }	
Do. ...	Yerilla ...	7,629 93 }		9,192 68 }		4,112 01 }		6,259 83 }		96,104 42 }		111,194 58 }	
Broad Arrow ...	...	...	43 438 91	...	40 615 81	...	25 005 93	...	20 875 89	...	243 699 69	...	265 210 30
N.E. Coolgardie ...	Kanowna ...	38,127 32 }		63,881 85 }		136,717 64 }		34,975 00 }		470,062 22 }		507,330 09 }	
Do. ...	Bulong ...	17,129 11 }	58 484 12	27,367 87 }	94 744 72	14,191 28 }	152 690 22	9,202 04 }	44 600 95	136,293 16 }	622 092 02	142,767 79 }	666 665 39
Do. ...	Kurnalpi ...	3,227 69 }		3,495 00 }		1,781 30 }		423 91 }		15,736 64 }		16,567 51 }	
East Coolgardie ...	...	...	657 863 87	...	799 464 46	...	400 457 41	...	422 273 62	...	7 189 258 59	...	8 178 615 83
Coolgardie ...	Coolgardie ...	70,702 09 }	90 009 59	89,081 78 }	110 359 36	68,722 90 }	89 613 88	101,202 49 }	124 335 06	621,381 29 }	760 053 95	677,152 40 }	824 084 13
Do. ...	Kunanalling ...	19,307 50 }		21,277 58 }		20,890 98 }		23,132 57 }		138,672 66 }		146,931 73 }	
Yilgarn ...	...	...	24 353 94	...	14 151 16	...	10 094 40	...	89 846 01	...	244 515 04	...	268 061 79
Dundas ...	...	...	34 036 83	...	37 839 28	...	32 469 59	...	20 778 89	...	275 183 94	...	295 618 78
Philips River ...	...	...	36 72	...	...	...	...	...	...	...	21 774 47	...	24 554 36
Donnybrook ...	...	...	339 95	...	370 27	...	13 43	...	...	...	841 76	...	841 76
State generally ...	...	...	128 46	...	1 151 91	...	...	...	...	...	1 389 30	...	2 705 01
TOTAL	Fine Ounces ...	...	1 328 620 71	...	1 443 321 12	...	948 564 42	...	1 094 791 44	...	13 905 488 57	...	15 641 783 86
	Sterling Value	...	£5,643,622	...	£6,130,838	...	£4,029,246	...	£4,650,378	...	£59,066,761	...	£66,442,075

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 and Silver Yield, in Fine Ounces, as reported to the Mines Department, for the Year 1906.

GOLDFIELD.	DISTRICT.	WARDEN'S 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 and Agitating Vats.	Filter Presses.		
Kimberley ... ..	...	Hall's Creek ...	20-5-86	20-5-86	31-10-02	1-11-02	33,000	...	2	13	50	1	...	...	...	1
Pilbara	{ Marble Bar Nullagine }	Marble Bar ...	1-10-88	1-10-88	20-9-95	1-11-95	34,880	{ 25,205 9,675 }	19 29	204 320	55 40	2	20 11	1	45 13	261 44
West Pilbara ... ..	...	Roebourne ...	20-9-95	1-11-95	...	...	9,480	...	7	102	20	1	...	...	4	...
Ashburton ... ..	...	Onslow ...	11-12-90	11-12-90	18-10-01	14-10-01	14,252	...	1	12	...	...	...	...	...	...
Gascoyne ... ..	...	Carnarvon ...	25-6-97	15-4-97	...	...	5,061	...	...	...	...	...	...	...	...	...
Peak Hill ... ..	...	Peak Hill ...	19-3-97	1-4-97	...	...	12,194	...	42	370	50	2	12	9	31	22
East Murchison	{ Lawlers Black Range Cue ... }	Lawlers ...	28-6-95	28-6-95	6-1-05	6-1-05	25,420	{ 20,000 5,420 }	111 117	1,664 1,581	270 46	3	98 16	5	391 310	427 214
Murchison	{ Nannine Day Dawn Mt. Magnet }	Cue ...	24-9-91	24-9-91	8-2-95	23-1-95	20,513	{ 7,981 7,716 728 }	111 131 87	1,294 1,560 890	100 209 165	1	39 43 44	...	170 130 338	210 153 412
Yalgoo ... ..	...	Yalgoo ...	8-2-95	23-1-95	...	...	18,921	...	37	435	80	1	11	...	46	56
Mt. Margaret	{ Mt. Morgans Mt. Malcolm Mt. Margaret }	Mt. Morgans ...	12-3-97	1-4-97	6-1-05	6-1-05	44,976	{ 1,637 3,544 39,795 }	68 117 118	1,015 2,095 1,953	160 250 185	...	89 109 80	2	174 478 403	214 570 357
North Coolgardie	{ Menzies Ularring Niagara Yerilla }	Menzies ...	28-6-95	28-6-95	12-3-97	1-4-97	30,609	{ 10,342 5,182 779 }	108 63 69	1,403 824 875	173 75 125	...	57 50 63	3	233 147 219	310 263 319
Broad Arrow ... ..	...	Broad Arrow ...	17-11-96	20-11-96	8-6-06	1-7-06	1,040	{ 14,306 ...1,099 }	66 84 97	1,135 1,039 1,240	60 205 194	2	46 81 67	...	145 91 241	189 152 388
North-East Coolgardie	{ Kanowna Bulong Kurnalpi }	Kanowna ...	20-3-96	15-4-96	15-6-06	1-7-06	21,360	{ 809 19,452 }	41 6	518 66	45 5	2	15	...	48 18	90 15
East Coolgardie ... ..	...	Kalgoorlie ...	21-9-94	1-10-94	15-6-06	-7-06	814	...	243	3,570	695	106	408	122	2,619	3,346
Coolgardie	{ Coolgardie Kunanalling }	Coolgardie ...	6-4-94	94	8-6-06	1-7-06	11,524	{ 9,221 2,303 }	148 35	1,949 475	314 95	...	144 49	2	404 99	685 144
Yilgarn ... ..	...	Southern Cross ...	1-10-88	1-10-88	20-3-96	15-4-96	15,593	...	64	1,017	125	2	66	1	214	229
Dundas ... ..	...	Norseman ...	31-8-93	31-8-93	22-8-02	1-9-02	11,500	...	59	732	100	3	65	3	134	193
Phillips River ... ..	...	Ravensthorpe ...	21-9-00	14-9-00	1-6-06	1-6-06	4,760	...	43	480	40	2	5	...	44	62
Donnybrook ... ..	...	Greenbushes ...	17-11-99	27-11-99	...	...	102	...	...	...	...	...	...	...	...	...
State generally ... ..	...	...	...	...	...	...	...	...	4	96	...	4	...	...	157	...
Total ...			...	...	...	...	315,999	...	2,181	29,370	4,016	158	1,722	169	7,444	9,164

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

GOLDFIELD.	DISTRICT.	1906 GOLD PRODUCTION.—DISTRICTS.						1906 GOLD PRODUCTION.—GOLDFIELDS.					
		Alluvial.	Dollied and Specimens.	Ore Treated.	Gold therefrom.	Total Gold.	Fine Silver.	Alluvial.	Dollied and Specimens.	Ore Treated.	Gold therefrom.	Total Gold.	Fine Silver.
		fine ozs.	fine ozs.	tons (2,240lbs.)	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	tons (2,240lbs.)	fine ozs.	fine ozs.	fine ozs.
Kimberley ... ..	...	...	...	...	...	...	...	148·95	...	...	16·77	165·72	...
Pilbara	{ Marble Bar ...	382·93	109·56	857·11	1,764·48	2,256·97	...	} 594·39	132·82	2,390·61	4,984·69	5,711·90	...
	{ Nullagine ...	211·46	23·26	1,533·50	3,220·21	3,454·93	...						
West Pilbara ... ..	...	...	...	...	...	...	...	348·26	...	533·25	400·90	749·16	...
Ashburton ... ..	...	...	...	...	...	...	...	278·24	...	...	...	278·24	...
Gascoyne ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...
Peak Hill ... ..	...	...	...	...	...	...	...	226·38	357·57	7,151·50	1,424·25	2,008·20	15·40
East Murchison	{ Lawlers ...	7·91	23·23	181,504·82	60,320·06	60,351·20	3,768·28	} 485·69	663·04	202,086·40	94,622·76	95,771·49	3,768·28
	{ Black Range ...	477·78	639·81	20,581·58	34,302·70	35,420·29	...						
	{ Cue ...	198·83	206·55	23,077·00	17,981·73	18,337·11	127·81						
Murchison	{ Nannine ...	1,312·34	533·58	28,122·13	24,726·16	26,572·08	25·80	} 1,732·60	1,151·10	296,325·53	179,512·12	182,395·82	20,635·30
	{ Day Dawn ...	184·46	155·43	226,011·00	123,707·69	124,047·58	20,344·60						
	{ Mt. Magnet ...	36·97	255·54	19,115·40	13,146·54	13,439·05	137·09						
Yalgoo ... ..	...	...	...	...	...	...	...	7·06	4·70	9,451·50	4,438·43	4,450·19	3·30
Mt. Margaret	{ Mt. Morgans ...	54·35	401·36	77,327·74	29,750·83	30,206·54	61·29	} 67·30	959·40	356,810·69	165,232·24	166,258·94	5,844·15
	{ Mt. Malcolm ...	4·48	121·04	212,148·25	93,969·54	94,095·06	4,622·95						
	{ Mt. Margaret ...	8·47	437·00	67,334·70	41,511·87	41,957·34	1,159·91						
	{ Menzies ...	23·56	163·31	42,083·40	33,050·99	33,237·86	3,194·00						
North Coolgardie	{ Ularring ...	...	39·85	35,144·25	25,170·28	25,210·13	2,032·30	} 134·79	319·95	218,947·72	110,502·30	110,957·04	6,984·86
	{ Niagara ...	91·36	97·17	123,586·12	37,230·36	37,418·89	1,752·85						
	{ Yerilla ...	19·87	19·62	18,133·95	15,050·67	15,090·16	5·71						
Broad Arrow ... ..	...	...	...	...	...	...	...	4,329·30	191·81	28,665·13	16,989·50	21,510·61	7·09
North-East Coolgardie	{ Kanowna ...	1,959·18	1,777·25	53,296·50	33,531·44	37,267·87	356·48	} 2,562·42	2,407·19	60,890·40	39,603·76	44,573·37	357·75
	{ Bulong ...	264·38	561·99	7,541·10	5,648·26	6,474·63	...						
	{ Kurnalpi ...	338·86	67·95	52·80	424·06	830·87	1·27						
East Coolgardie ... ..	...	...	...	...	...	...	...	2,579·60	2,426·74	1,478,917·54	984,350·90	989,357·24	116,561·95
Coolgardie	{ Coolgardie ...	67·71	574·13	115,794·87	55,129·27	55,771·11	205·40	} 89·03	1,261·37	125,702·12	62,679·78	64,030·18	217·74
	{ Kunanalling ...	21·32	687·24	9,907·25	7,550·51	8,259·07	12·34						
Yilgarn ... ..	...	...	...	...	...	...	...	31·99	50·21	64,763·28	23,464·55	23,546·75	141·36
Dundas ... ..	...	...	...	...	...	...	...	84·63	271·04	23,403·55	20,079·17	20,434·84	2,114·58
Phillips River ... ..	...	...	...	...	...	...	...	...	...	2,201·68	2,779·89	2,779·89	200·51
Donnybrook ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...
State generally ... ..	...	...	...	...	...	...	...	...	...	10·00	1,315·71	1,315·71	361·72
	Total for 1906 ... ..	...	...	...	...	...	...	13,700·63	10,196·94	2,878,250·90	1,712,397·72	1,736,295·29	157,213·99

Production of Gold from all sources, showing the amount of Ore treated, with Gold Yield, in Fine Ounces,

Kimberley

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Hall's Creek	..	Voided leases	..	..	..	..
Do	..	Sundry claims	..	..	..	..
Mt. Dockerell	..	Voided leases	..	..	..	..
Ruby Creek	61	Ruby Queen	a. r. p.	..	..	..
Do	40	St. Lawrence	6 2 0	..	..	300.00
Do	..	Voided leases	Ftd.	..	..	86.51
Do	..	Sundry claims	..	..	..	..
The Brockman	..	Voided leases	..	..	..	..
Do	..	Sundry claims	..	..	..	..
The Mary	..	Voided leases	..	..	..	..
The Panton	..	Voided leases	..	..	..	..
Do	..	Sundry claims	..	..	..	..
<i>From Goldfield generally:—</i>				119.33
Reported by Banks and Gold Dealers				119.33	..	300.00	86.51
Total				119.33	..	300.00	86.51

Pilbara

MARBLE BAR

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Bamboo Creek	161	(Bamboo Consolidated G.M. Co.)	..	..	..	..
Do	161	Bulletin	6	..	..	cy. 251.31
Do	..	Voided leases	..	..	..	..
Do	..	Sundry claims	..	116.75	8.00	102.22	
Boodalyerrie	617	Bateman's and White's Reward	Ftd.	..	2.00	14.41	
Do	601	Golden Granite	Surr.	..	..	..
Do	629	Thistle	Wdn.	32.26	6.00	12.01	
Do	..	Voided leases	..	..	..	..
Breen's Find	..	Voided leases	..	..	..	..
Elsie	625	Elsie Abandoned	6	..	15.00	66.77	
Lallarookh	606	Bergamina	Ftd.	..	..	..
Do	608, R.C. 112, T.A.9	British Exploration of Australasia, Ltd.	Surr.	..	..	cy. 919.94
Do	569	Kitchener	Ftd.	..	..	..
Do	..	Sundry claims	..	..	..	..
Marble Bar	615	British Exploration of Australasia, Ltd.	24	..	..	..
Do	641	Franklin	6	..	..	..
Do	613	Homeward Bound	Ftd.	..	..	..
Do	648	Marvel Loch	6	..	..	..
Do	..	Voided leases	..	..	..	..
Do	..	Sundry claims	..	..	..	..
North Pole	..	Voided leases	..	..	..	..
North Shaw	..	Voided leases	..	..	..	..
Do	..	Sundry claims	..	..	..	..
Sharks	..	Sundry claims	..	15.17	..	..
Shaw River	..	Voided leases	..	..	..	..
Talga Talga	616	Zephyr	6	83.83	3.00	.84	
Do	..	Voided leases	..	..	..	..
Do	..	Sundry claims	..	..	..	..
Tambourah	622	Tambourah United	Wdn.	..	34.00	37.68	
Do	..	Voided leases	..	..	..	..
Do	..	Sundry claims	..	43.71	..	..
Warrawoona	505	(Bowbells: British Exploration of Australasia, Ltd.)	..	..	..	..
Do	483, 505 (630)	British Exploration of Australasia, Ltd	24	..	..	..
Do	483	(Gauntlet)	..	..	..	..
Do	483	(Gauntlet: British Exploration of Australasia, Ltd.)	..	..	..	..
Do	564	Imperialist	Ftd.	..	..	..
Do	473	Klondyke	Surr.	..	9.00	7.32	
Do	604	Klondyke Boulder	12	..	38.00	94.71	
Do	627	Klondyke Queen	12	..	25.00	76.32	
Do	..	Voided leases	..	..	..	..
Do	..	Sundry claims	..	..	119.45	263.83
Western Shaw	..	Voided leases	..	..	..	..
Do	..	Sundry claims	..	..	..	..
Wyman's Well	624	Phoenix	12	..	..	..
Do	..	Sundry claims	..	..	..	..
Yandicoogina	451	Eastern	Ftd.	..	82.50	82.80	
Do	545	Patrick	Ftd.	..	207.50	133.22	
Do	639	Thelma	6	..	..	..
Do	494	Uncle Tom	6	..	102.50	209.13	
Do	..	Voided leases	..	..	..	..
Do	..	Sundry claims	..	15.36	19.00	37.26	
<i>From District generally:—</i>				351.72
Sundry parcels treated at:—			
Hayes' Cyanide Works			
Ironclad Cyanide Works			
Lady Adelaide Battery				66.65	149.98
Salgash Public Battery				cy. 10.82
Stray Shot Battery			
Various Works			
Reported by Banks and Gold Dealers				351.72
Total				351.72	307.08	737.60	2,470.57

IV.

as reported to the Mines Department, during 1904, 1905, and 1906, and the Total Production to date.

Goldfield.

Table with columns for TOTAL FOR 1905 and TOTAL FOR 1906, subdivided into Alluvial, Dotted and Specimens, Ore treated, and Gold therefrom. Includes a separate section for TOTAL GOLD PRODUCTION. Summary row: 114.10, .., 214.00, 382.04, 148.95, .., .., .., 1,771.49, .., 17,067.50, 13,911.40.

Goldfield.
DISTRICT.

Table with columns for TOTAL FOR 1905 and TOTAL FOR 1906, subdivided into Alluvial, Dotted and Specimens, Ore treated, and Gold therefrom. Includes a separate section for TOTAL GOLD PRODUCTION. Summary row: 561.35, 155.67, 2,226.51, 3,817.23, 382.93, 109.56, 857.11, 1,764.48, 6,174.83, 2,224.87, 42,602.13, 71,823.37.

TABLE IV.—Production of Gold

Pilbara

NULLAGINE

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Elsie .. .. .	.. .. .	Voided leases .. .. .	..	..	..	..
Do .. .. .	.. .. .	Sundry claims .. .. .	..	..	..	..
Mosquito Creek	143L	Arđ Patrick	12	..	8.00	34.27	
Do	95L, 109L, 125L, 131L, 135L	Bell Exploration Company, Ltd.	42	..	..	..
Do	169L	Dream	12	..	..	..
Do	109L	(Federal) .. .. .	..	..	..	..
Do	79L	(Galtee Moore) .. .. .	..	..	102.00	439.36
Do	79L, 145L	Galtee Moore leases	18	..	..	..
Do	159L	Land's End	6	..	..	..
Do	162L	Land's End East	Surr.	..	..	..
Do	127L	Latest Surprise .. .. .	..	..	..	..
Do	141L	Monte Carlo United	Surr.	..	12.50	23.16	
Do	144L	Off Chance	6	..	21.00	31.59	
Do	95L	(Parnell) .. .. .	..	..	..	..
Do	95L, 109L, 125L, 131L, 135L	(Parnell leases) .. .. .	..	..	1,159.00	882.62
Do	146L	Parnell North	Ftd.	..	24.50	28.58	
Do	150L	Rattler	Ftd.	..	17.00	29.43	
Do .. .. .	.. .. .	Voided leases .. .. .	..	..	..	..
Do .. .. .	.. .. .	Sundry claims .. .. .	..	..	407.00	523.50
Nullagine	106L	Barton	18	..	..	..
Do	164L	Blue Spec	12	..	..	..
Do	119L, 120L, 121L, 122L	British Exploration of Australasia, Ltd.	96	..	..	..
Do	154L	Castlemaine	Ftd.	..	..	..
Do	122L	(Grant's Hill) .. .. .	..	..	..	..
Do	156L	Mundalla	6	..	..	..
Do	140L	Onion	Surr.	..	..	..
Do .. .. .	.. .. .	Voided leases .. .. .	..	..	..	..
Do .. .. .	.. .. .	Sundry claims .. .. .	..	..	12.26	302.25
20-Mile Sandy	137L	Central	Ftd.	..	..	..
Do	147L	Eureka	Ftd.	..	..	..
Do	161L	Harp	Ftd.	..	..	..
Do	158L	Henry George	Ftd.	..	..	..
Do	151L	Last Hope	Ftd.	..	..	..
Do	136L	Little Wonder	6	..	249.70	351.88	
Do	138L	Little Wonder West	10	..	18.50	21.89	
Do	167L	Mountain Maid	12	..	..	..
Do	148L	Round Hill	Ftd.	..	..	..
Do	160L	Viking	Ftd.	..	..	..
Do .. .. .	.. .. .	Voided leases .. .. .	..	..	..	..
Do .. .. .	.. .. .	Sundry claims .. .. .	..	..	11.49	121.40
<i>From District generally:—</i>							
Sundry parcels treated at:—							
Barton Cyanide Works							
Parnell Battery							
State Battery, 20-Mile Sandy							
Various Works							
Reported by Banks and Gold Dealers							
Total				378.06	23.75	2,986.85	4,498.47

West Pilbara

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Croydon .. .. .	.. .. .	Voided leases .. .. .	..	..	..	..
Hong Kong .. .. .	.. .. .	Voided leases .. .. .	..	..	..	..
Do .. .. .	.. .. .	Sundry claims .. .. .	..	..	..	..
Lower Nicol	106, 109	Ninety-nine leases	12	..	6.00	10.75	
Do .. .. .	.. .. .	Voided leases .. .. .	..	..	..	..
Do .. .. .	.. .. .	Sundry claims .. .. .	..	..	..	..
Mallina .. .. .	.. .. .	Voided leases .. .. .	..	..	..	..
Pilbara .. .. .	.. .. .	Voided leases .. .. .	..	..	..	..
Station Peak	117	Pilgrim's Rest	24	..	..	..
Do	117 (118)	(Pilgrim's Rest leases) .. .. .	..	..	3,546.00	3,127.09
Towranna	129	Yellow Aster	Ftd.	..	..	..
Do .. .. .	.. .. .	Voided leases .. .. .	..	..	..	..
Weeriana .. .. .	.. .. .	Voided leases .. .. .	..	..	..	..
Do .. .. .	.. .. .	Sundry claims .. .. .	..	..	..	..
<i>From Goldfield generally:—</i>							
Reported by Banks and Gold Dealers							
Total				289.87	..	3,552.00	3,137.84

from all sources, etc.—continued.

Goldfield—continued.

DISTRICT.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	408.25	1,323.85
..	..	215.00	658.72	..	..	91.00	405.49	..	..	20.00	16.85
..	1.35	..	..	314.00	1,098.48
..	29.50	50.71	..	..	..	.35
..	29.50	50.71
..	48.00	56.46
..	..	280.00	622.13	..	..	230.00	335.80	..	..	586.00	1,648.33
..	..	10.70	122.70	..	..	10.00	47.47	..	..	510.00	957.93
..	6.00	7.53	..	..	20.70	170.17
..	..	122.00	168.98	..	..	..	cy. 8.72	..	..	6.00	7.53
..	..	38.00	87.66	..	..	162.00	211.77	..	..	310.00	535.46
..	..	656.00	853.47	..	..	..	..	..	..	12.50	23.16
..	3.74	..	..	..	..	..	..	221.00	331.02
..	..	29.50	62.36	..	..	..	..	..	..	357.35	366.08
..	166.47	38.00	128.05	..	..	..	..	..	..	1,815.00	1,736.09
..	..	610.00	323.12	..	..	46.00	65.23	..	166.47	..	..
..	292.00	249.36	..	..	1,625.44	2,400.80
..	22.00	4.44	..	..	3,327.65	4,078.61
..	..	3.00	860.77	..	..	..	..	..	..	22.00	4.44
..	3.00	236.25	..	..	777.00	88.93
..	6.00	1,097.02
..	17.50	231.89	..	..	1,658.00	701.61
..	17.50	231.89
..	7.70	256.50	410.33	..	23.26	99.50	320.03	104.70	13.96	4,669.75	7,880.29
..	..	145.00	104.66	..	..	..	..	..	91.23	3,612.75	7,662.75
..	..	34.00	40.51	..	..	..	..	..	..	165.75	155.42
..	21.00	35.29	..	..	34.00	40.51
..	22.00	40.74	..	..	21.00	35.29
..	..	3.00	5.11	..	..	..	..	..	..	22.00	40.74
..	..	113.30	335.71	..	..	25.00	33.55	..	..	3.00	5.11
..	..	78.00	120.65	..	..	75.00	176.07	..	..	732.00	3,170.84
..	81.00	168.99	..	..	171.50	318.61
..	40.00	38.42	..	..	81.00	168.99
..	..	6.00	4.88	..	..	..	..	..	..	40.00	38.42
..	6.00	4.88
..	2.87	463.85	772.39	..	..	261.00	427.46	..	14.36	118.20	200.91
..	1,413.15	2,543.39
..	cy. 573.16	..	..	..	..	..	..	..	651.02
..	cy. 138.88	..	..	..	..	..	..	..	138.88
..	cy. 124.65	..	..	..	124.65
354.42	10.14	..	..	211.46	..	..	..	3,902.02	22.50	38.50	1,603.32
354.42	187.18	3,101.85	6,397.98	211.46	23.26	1,533.50	3,220.21	4,006.72	308.52	23,725.24	42,636.21

Goldfield.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	8.00	5.44
..	331.00	442.45
..	..	21.00	52.01	..	..	19.25	32.09	21.40	.02	9.00	3.15
..39	525.25	292.50
..	30.50	31.64
..	10.44	2.71	10.00	11.51
..	103.60	102.83
..	150.00	74.15	..	..	148.00	293.42
..	..	235.00	257.41	..	..	364.00	294.66	..	..	150.00	74.15
..	9,598.00	9,151.73
..	231.98
..	1,934.80	1,856.28
..	..	4.00	25.30	..	..	..	..	..	..	25.25	220.30
..	4.00	25.30
466.42	348.26	..	..	..	3,223.67	..	..	6.38
466.42	..	260.00	334.72	348.26	..	533.25	400.90	3,255.51	3.12	12,977.41	12,719.06

TABLE IV.—Production of Gold

Ashburton

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Mt Mortimer	..	Sundry claims .. .. .	..	..	..	..
		<i>From Goldfield generally:—</i>					
		Reported by Banks and Gold Dealers	509.96	..	..	..
		Total	509.96	..	..	..

Gascoyne

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Bangemall	6	Elderado Voided leases Sundry claims	Ftd.	..	..	..
		<i>From Goldfield generally:—</i>					
		Reported by Banks and Gold Dealers .. .. .	..	..	..	..
		Total .. .. .	..	..	..	..

Peak Hill

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Horseshoe	44P	(Brilliant) .. .. .	..	..	..	..
Do.	44P	Brilliant	12	..	18.00	39.40	
Do.	45P	(Brilliant Central)	Ftd.	..	..	..
Do.	49P	(Brilliant Central Extended)	Ftd.	..	..	..
Do.	302P	Heather Bell	Ftd.	..	10.75	12.47	
Do.	44P, (45P, 47P, 49P, 62P, 117P, 131P, 167P)	(Horseshoe (Peak Hill) Goldfield, Ltd.) .. .. .	..	..	1.00	45.70
Do.	..	Voided leases .. .. .	..	..	..	..
Do.	..	Sundry claims .. .. .	..	..	..	..
Mt. Fraser	279P	Starlight	Ftd.	..	130.00	59.23	
Do.	..	Voided leases .. .. .	..	..	..	..
Do.	..	Sundry claims .. .. .	..	..	..	..
Peak Hill	3P	(Atlantic No. 1 North: Peak Hill Goldfield, Ltd.) .. .. .	..	..	..	..
Do.	150P	Mt. Pleasant	Ftd.	..	24.00	48.96	
Do.	285P	Mt. Pleasant	Ftd.	..	..	..
Do.	151P	Mt. Pleasant Extended	Ftd.	..	..	..
Do.	1P	(North Star) .. .. .	..	..	..	..
Do.	310P	Oversight	6	..	..	..
Do.	1P, 2P, 3P, 4P, 5P, 6P, 8P, 9P, 13P, 15P, 16P, (19P) 26P, 27P, 28P, 29P, 35P, 36P, 43P, 53P, 54P, 63P, 146P, 152P, 190P, 222P, 239P, 248P, 252P, 262P, 274P, (283P), 306P, 313P, R.C. 1P, Q.Cs. 13P, 14P, T.A. 1P	Peak Hill Goldfield, Ltd.	a. r. p. 258 2 35	..	46,199.00	13,705.83	
Do.	315P	Undersight	6	..	..	..
Do.	..	Voided leases .. .. .	..	..	..	..
Do.	..	Sundry claims .. .. .	..	..	..	..
Ravelstone	307P	Amy	Ftd.	..	..	..
Do.	273P	Britannia	Ftd.	..	12.50	27.02	
Do.	311P	Eldorado	6	..	..	..
Do.	259P	Golden Treasure Consols	Ftd.	..	112.00	85.26	
Do.	59P	Jubilee	Ftd.	..	55.00	45.95	
Do.	301P	New Departure	Ftd.	..	80.00	6.80	
Do.	309P	Queen Mary	Ftd.	..	..	..
Do.	277P	Ravelstone	Ftd.	..	106.00	15.02	
Do.	..	Voided leases .. .. .	..	..	..	..
Do.	..	Sundry claims .. .. .	..	..	..	..
Wilgena	250P	Hit or Miss	Ftd.	..	..	..
Do.	292P	Hit or Miss	12	..	..	..
Do.	..	Voided leases .. .. .	..	..	..	..
Wilthorpe	300P	Wilthorpe	24	..	47.00	20.93	
		<i>From Goldfield generally:—</i>					
		Sundry parcels treated at—					
		Peak Hill Sands Syndicate .. .. .	..	..	..	..
		State Battery, Ravelstone .. .. .	..	..	..	..
		Various Works .. .. .	..	..	..	..
		Reported by Banks and Gold Dealers .. .. .	..	..	..	..
		Total .. .. .	..	..	46,795.25	14,113.57

from all sources, etc.—continued.

Goldfield.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	354.37	315.64	..	..
207.53	278.24	..	..	..	6,911.30	..	..	..
207.53	278.24	..	..	..	7,265.67	315.64	..	..

Goldfield.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	6.22	41.00	41.56
..	12.29	195.70	176.93
..	268.27	..	..	..
..	268.27	18.51	236.70	218.49

Goldfield.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,40lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	62.48	112.00	75.27	..	..	166.00	102.59	..	277.19	254.58	965.96
..	62.48	296.00	217.26
..	323.68	..	19.49
..	82.98	..	31.17
..	10.75	13.47
..	137.00	605.30
..	317.82	11.00	11.69	..	5.11	..	11.69
..	317.82	11.00	59.23
..	130.00	113.04
..	80.00	55.41	..	..	117.00	55.41
..	..	54.00	137.87	..	..	153.50	265.87	..	..	80.00	417.10
..	..	26.00	24.48	..	..	..	..	..	..	243.25	1,427.47
..	1,973.50	24.48
..	..	393.00	114.16	..	3.11	240.50	145.99	..	162.32	66.00	39.31
..	3.11	633.50	260.15
..	..	51,294.00	12,785.16	..	..	6,426.00	675.38	..	191.46	280,931.35	196,289.37
..	28.24	20.00	54.84	..	28.24	20.00	54.84
..	37.09	141.50	536.14
..	..	622.00	113.11	..	..	..	..	..	100.11	643.00	130.56
..	..	56.00	7.67	..	..	..	..	..	..	56.00	7.67
..	47.50	55.87
..	..	42.00	34.75	..	..	23.00	11.76	..	..	65.00	46.51
..	..	210.00	126.18	..	..	..	..	..	..	703.50	598.19
..	1,479.35	1,162.35
..	80.00	6.80
..	..	14.00	9.80	..	..	..	..	..	..	14.00	9.80
..	157.00	65.73
..	935.50	762.62
..	..	124.00	31.18	..	..	21.00	12.08	..	..	145.00	43.26
..	40.00	43.36
..	..	27.00	9.80	..	..	10.50	9.45	..	..	37.50	19.25
..	23.54	51.00	84.18
..	47.00	20.93
..	cy. 5.95	..	..	..	cy. 79.19	..	..	..	5.95
..	cy. 45.78	..	..	..	..	..	..	..	128.20
..	13.23	..	..	..	..	..	..	30.00	185.82
..	226.38	8.40	..	..	226.38	8.40	..	..
..	62.48	52,974.00	13,524.39	226.38	357.57	7,151.50	1,424.25	226.38	1,623.53	289,602.79	214,517.93

TABLE IV.—Production of Gold

East Murchison

LAWLERS

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.				
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	
Cork Tree	557	Enterprise	Ftd.			558.00	303.23	
Do.	535	Kingston	Ftd.			51.00	56.06	
Do.	660	Missing Link	Ftd.					
Do.	738	Revenue	Ftd.					
Do.		Voided leases						
Do.		Sundry claims						
Kathleen Valley	695	Hidalgo	Ftd.			136.00	174.50	
Do.	705	Kathleen Consols	Ftd.	120.82		25.00	36.19	
Do.	113	(Nil Desperandum)				6,276.00	2,295.98	
Do.	113, 635	(Nil Desperandum) leases						
Do.	360	Pascoe Pride	36					
Do.	382	(Yellow Aster)	Ftd.					
Do.	382, (455/6, 468)	Yellow Aster G.M. Co., N.L.	18			7,711.00	2,889.44	
Do.		Voided leases						
Do.		Sundry claims						
Lake Durlot	182	Amazon	12	222.13		161.50	137.29	
Do.	718	Al	Ftd.			229.00	682.55	
Do.	93	Ballangarry	18			2.00	6.39	
Do.	919	Blue Spec	12			363.10	261.30	
Do.	872	Boomerang	Ftd.					
Do.	619	East End	Ftd.					
Do.	626	Filbandint	10			293.00	286.02	
Do.	754	King of the East	Ftd.			298.00	141.09	
Do.	375	King of the Hills	12			57.50	61.55	
Do.	648	Monte Cristo	12			957.60	527.89	
Do.	544	Morning Light	Surr.					
Do.	885	Mystery	Ftd.			7.00	6.16	
Do.	899	Pride of Durlot	Ftd.					
Do.	329	Rise and Shine	Ftd.			8.00	17.84	
Do.	689	Rose	Ftd.			17.50	7.85	
Do.	865	Rose and Thistle	Surr.					
Do.	897	Royal Welshman	6					
Do.	273	St. George	12			43.00	388.19	
Do.	363	Waikato	6			1,184.50	1,900.34	
Do.	673	Wee Jim	Ftd.					
Do.	633	(Zangbar)						
Do.	633, 823	Zangbar leases	24			206.50	117.03	
Do.		Voided leases						
Do.		Sundry claims				76.00	37.22	
Lawlers	19, 414	Bounty leases	12			592.00	552.15	
Do.	532	(Brilliant)						
Do.	532, 533	Brilliant leases	48			1,583.00	1,172.17	
Do.	714	British-American Alliance	Ftd.					
Do.	627	Caroline	Ftd.			81.00	40.84	
Do.	645	Cinderella	Surr.			1,462.00	687.63	
Do.	493	Connaught	Ftd.					
Do.	900	Dobra Serica	6					
Do.	376	(Donegal: London and Western Australian Exploration Co., Ltd.)						
Do.	377	(Eastern United Extended)						
Do.	37, 58, 62, 70, 155/8, 376/7, 381, 385, 399, 426/7, 459, 474, 500, 508/12, 552, 562/3, 573, 811, 840, T.L. 8	(East Murchison United, Ltd.)				85,036.00	21,604.89	
Do.	599	Esmeralda	Ftd.					
Do.	762	Excelsior	Ftd.					
Do.	115	Glasgow Lass	12			514.00	283.57	
Do.	22	(Gorries May Be)						
Do.	887	Hidden Secret	6					
Do.	641	King Edward	Surr.			51.00	39.59	
Do.	922	King Edward	3					
Do.	721	Kiora	Ftd.			23.00	13.86	
Do.	15	Leinster	Surr.			3,422.00	4,811.23	
Do.	467	Leinster North	Surr.					
Do.	846	Leviathan	Ftd.					
Do.	888	Lillian	24					
Do.	58	(London and Western Australian Exploration Co., Ltd.)						
Do.	37, 58, 62, 70, 155/8, 376/7, 381, 385, 399, 426/7, 459, 474, 500, 508/12, 552, 562/3, 573, 811, 840, 916, T.Ls. 6, 7, 8, 10	London and Western Australian Exploration Co., Ltd.	a. r. p. 566 1 3					
Do.	397	Lone Star (late Right Bower)	Ftd.			52.00	15.68	
Do.	733	Mark Twain	Ftd.					
Do.	606	Melbourne	Surr.			20.00	4.86	
Do.	381	(Never Can Tell)						
Do.	373	New Holland	12			246.00	131.08	
Do.	665	New Holland South	Ftd.					
Do.	858	New Woman	18			26.00	29.16	
Do.	78, 320	New Woman leases	Ftd.					
Do.	912	Plum	Surr.					
Do.	459	(Quartzite King)						
Do.	385	(Queen)						
Do.	889	(Rajah)						
Do.	889, 895	Rajah leases	12					
Carried forward						342.5	111,783.2	39,719.87

from all sources, etc.—continued.

Goldfield.**DISTRICT.**

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	2,880.00	2,709.07
..	29.90	731.00	408.23
..	83.00	146.75
..	28.00	15.78
..	45.00	13.04
..	13.00	9.32
..	242.50	422.14
..	123.36	25.00	36.19
..	..	2,331.00	917.45	..	..	..	..	..	..	17,960.00	7,618.73
..	..	1,765.50	626.88	..	..	957.00	556.07	..	..	2,722.50	1,182.95
..	13.68	32.00	61.76
..	..	104.00	115.75	..	..	603.00	797.85	..	..	37,605.00	27,051.42
..	4.53	603.00	797.85
..	478.40	989.00	772.25
..	3.00	..	..	..	..	119.00	325.56	..	7.92	1,122.25	678.47
..	..	281.00	342.21	..	..	..	..	..	..	2,499.00	5,001.59
..	2.00	6.39
..	..	528.00	292.00	..	..	577.50	252.58	..	..	3,708.60	2,069.07
..	77.00	37.88	..	..	77.00	37.88
..	..	65.00	93.91	..	..	..	..	..	..	65.00	93.91
..	113.00	173.06
..	..	381.50	173.28	..	..	76.00	33.42	..	..	999.00	918.19
..	..	54.00	21.58	..	..	..	..	..	..	824.50	496.15
..	..	57.00	293.17	..	..	65.00	166.59	..	79.35	355.00	739.85
..	..	1,416.50	822.50	..	..	305.00	243.55	..	..	2,894.60	1,737.05
..	168.00	199.01
..	15.00	24.61
..	..	24.00	11.09	..	..	..	..	..	..	24.00	11.09
..	..	84.00	38.53	..	23.23	..	..	..	627.70	134.00	109.43
..	61.50	41.95
..	39.30	..	..	..	..	..	..	..	39.30	..	..
..	..	13.50	6.62	..	..	..	..	..	..	13.50	6.62
..	..	56.50	927.25	..	..	13.00	7.52	..	2,927.22	558.50	7,799.28
..	..	1,596.50	1,386.98	..	..	23.00	25.78	..	9.24	4,370.00	5,241.49
..	120.50	69.26
..	..	699.50	353.99	..	..	..	..	..	..	997.00	505.75
..	2,565.00	935.89	..	..	2,565.00	935.89
..	151.41	14,111.20	9,000.26
..	..	116.00	76.69	..	..	263.00	213.88	1.16	232.96	1,329.44	952.18
..	..	255.00	250.92	..	..	..	..	..	..	1,630.35	1,788.67
..	3,648.00	2,600.94
..	..	3,776.00	1,658.22	..	..	2,162.00	1,850.63	..	..	7,521.00	4,681.02
..	90.00	24.60
..	..	15.00	3.89	..	..	..	..	..	..	277.00	123.33
..	..	13.00	5.78	..	..	..	..	..	..	1,817.00	854.39
..	..	13.00	11.88	..	..	..	..	..	..	13.00	11.88
..	..	162.00	125.62	..	..	330.00	234.19	..	..	492.00	359.81
..	38.00	69.73
..	106.00	69.72
..	..	10,895.00	2,238.33	..	..	..	..	..	..	291,797.00	155,594.26
..	303.00	119.38
..	30.00	53.85	..	..	30.00	53.85
..	..	469.00	216.45	..	..	252.00	146.24	..	..	3,086.00	2,377.20
..	282.00	268.09
..	..	73.00	175.49	..	..	101.00	147.78	..	..	174.00	323.27
..	..	237.00	123.49	..	..	..	..	..	..	323.00	193.76
..	74.50	65.98	..	..	74.50	65.98
..	90.00	45.91
..	..	222.00	1,736.46	..	..	757.00	446.78	..	..	13,022.50	26,673.46
..	14.00	30.52
..	..	31.00	7.95	..	..	20.00	7.33	..	..	51.00	15.28
..	100.00	40.19	..	..	100.00	46.19
..	2,438.50	2,755.45
..	..	65,878.00	16,090.58	..	..	83,012.00	18,318.70	..	..	148,890.00	34,409.28
..
..	..	14.00	3.85	..	..	..	..	..	2.21	350.25	208.05
..	52.00	11.96
..	6.79	90.00	59.02
..	610.00	847.81
..	..	287.00	118.71	..	..	105.00	99.29	..	..	4,085.25	2,110.21
..	..	106.50	52.96	..	..	216.00	233.18	..	..	64.00	22.01
..	..	23.00	19.02	..	..	80.00	62.86	..	..	342.50	315.30
..	896.30	944.05
..	103.00	81.88
..	119.50	92.47
..	..	867.00	229.59	..	..	..	..	..	..	1,252.00	623.25
..	867.00	229.59
..	916.00	527.15	..	..	916.00	527.15
..	42.30	92,910.00	29,568.12	..	23.23	93,799.00	25,836.72	1.16	4,783.97	587,232.24	317,722.64

TABLE IV.—Production of Gold

East Murchison

LAWLERS

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward		342.95	111,763.20	39,719.87	
Lawlers	415	Right Bower Extended	Ftd.				
Do.	910	Sunrise	5		396.00	104.65	
Do.	882	Victor	Ftd.				
Do.	521	(Vivien)					
Do.	908	Vivien Gem	18				
Do.	408, 521, 574, 624/5, 719	Vivien G.M. Co., Ltd.	100		14,855.00	10,305.24	
Do.	822	Vivien View	Ftd.		17.00	16.77	
Do.	603	Waroonga North	Ftd.		246.00	95.21	
Do.	92, 562/3	(Woronga South leases)					
Do.	907	Yongala	Ftd.				
Do.		Voided leases					
Do.		Sundry claims			301.00	115.22	
New England	797	Auckland	Ftd.				
Do.	864	Golden Way	Ftd.				
Do.		Voided leases					
Do.		Sundry claims					
Sir Samuel	21, 24, 35, 38, 308, 310, 368/9, 439, 582/6, 615, (766) 890/1	Bellevue Proprietary, Ltd.	a. r. p. 221 1 9		41,110.00	15,540.75	
Do.	489	Isidore	Surr.		419.00	262.69	
Do.	339	Vanguard	12		1,084.00	372.32	
Do.		Voided leases					
Do.		Sundry claims					
Wiluna (Lake Way)	170	(Black Swan)					
Do.	170	Black Swan; Gwalia Consolidated, Ltd.	24				
Do.	332	(Black Swan North)					
Do.	143	Brothers	18		762.00	838.50	
Do.	704	Brothers South	Ftd.		54.00	15.03	
Do.	161	(Caledonia)					
Do.	751	Clear View	Ftd.		86.00	7.17	
Do.	169	(Dark Horse)					
Do.	875	Darlington	Ftd.				
Do.	149	(Derwent)					
Do.	316	(Essex)	Ftd.				
Do.	312	(Ethelstone)	Surr.				
Do.	631	Federal	Ftd.		166.00	65.68	
Do.	140	Golden Age	18				
Do.	140 (144), 162/3, 164, 241/3, 318, 380, 422, 441, 477, 494/9, 501, 523, 717)	(Golden Age Consolidated, Ltd.)			8,846.00	3,118.42	
Do.	140	(Golden Age, Lake Way, Ltd.)					
Do.	380	(Golden Age South)	Ftd.				
Do.	913	Golden Age South	Ftd.				
Do.	740	Great Wonder	Ftd.		215.00	89.86	
Do.	149, 161, 169, 170, (316), 332, 379, (516/7, 524, 540/1), 542, 545/7, 548, (549), 550 (551, 569), 906	Gwalia Consolidated, Ltd.	150			cy. 3,624.64	
Do.	674	Highland Mary	Ftd.		44.00	11.53	
Do.	920	Kingfisher	12				
Do.	837	Lady Wiluna	Ftd.			cy. 59.68	
Do.	905	Lake View	Ftd.				
Do.	162, 163	Lake Way leases	48				
Do.	149, 161, 169, 170, (184, 312), 332, (333, 358, 378), 379, (472/3, 513/4)	(Lake Way Goldfield, 1899, Ltd.)			213.00	537.26	
Do.	314	Lawless	Ftd.		42.00	7.69	
Do.	708	Margaret Ewen	Ftd.	21	140.00	68.10	
Do.	871	Margaret Ewen	Ftd.				
Do.	333	(Monarch and Derwent United)	Surr.				
Do.	137 (442)	(Monarch of the East G. M. Co., N.L.)	a. r. p. 22 3 23		632.00	272.47	
Do.	870	Moonlight	12				
Do.	798	Moonlight North	Ftd.		321.00	117.87	
Do.	644	Republic	Ftd.		402.00	142.88	
Do.	917	Squib	12				
Do.	677	Try Again	12		310.00	145.70	
Do.	326	Weelona	Ftd.		364.00	122.22	
Do.	162	(West Australian Goldfields, Ltd.)					
Do.	730	Wiluna Star	Ftd.		360.00	172.98	
Do.	911	Woodcutter	6				
Do.		Voided leases					
Do.		Sundry claims			166.50	108.69	
From District generally:—							
Sundry parcels treated at:—							
British King Cyanide Works							
Cinderella Works							
Condor Cyanide Works							
Fremantle Smelter, Ltd.							
Lawlers Public Battery							
Mt. Clifford Battery							
Nil Desperandum Battery							
State Battery, Lake Darlot							
State Battery, Leonora (Mt. Malcolm)							
State Battery, Wiluna							
Urquhart and Hayes' Cyanide Works							
Various Works							
Reported by Banks and Gold Dealers							
				186.47	40.40		
Total				186.47	383.56	183,386.70	77,973.88

TABLE IV.—Production of Gold

East Murchison

BLACK RANGE

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Burrigin	163B	Belfast	12	..	..	..	..
Do.	160B	Collendina	Ftd.	..	..	..	..
Do.	129B	Golden Spur	10	..	..	..	..
Do.	(844), 104B	Grace Darling	Ftd.	..	..	18.50	39.39
Do.	319B	Great Aurora	12	..	..	..	..
Do.	R.L. 109B	Hawthorne (late George Reward)	24	..	..	..	..
Do.	296B	Independence	18	..	..	..	..
Do.	130B	Ione	a r. p.	..	..	..	..
Do.	128B	Pelerin	7 3 13	..	..	..	..
Do.	192a	Possible	12	..	..	..	..
Do.	159B	Red Castle	Surr.	..	..	..	..
Do.	133B	Reply	5	..	..	..	..
Do.	113B	Stranger	12	..	..	..	..
Do.	168B	Wheel Ellen	6	..	..	..	..
Do.	279B	Woodleys	18	..	..	..	..
Do.		Sundry claims	5	..	..	..	..
Maninga Marley	(790), 69B	Another Shot (late Try Again)	Ftd.	..	..	6.25	7.02
Do.	210B	Crown	Wdn.	..	..	..	..
Do.	203B	Havilah	24	..	..	..	..
Do.	R.L. (770), 53B	(Maninga Marley)	..	..	..	0.25	115.98
Do.	53B, 77B, 100B	Maninga Marley leases	72	..	..	..	..
Do.	67B	Maninga Marley North	15	..	..	..	..
Do.	148B	May King	Ftd.	..	..	..	..
Do.		Sundry claims	..	..	..	..	..
Montagu	185B	Caledonian	15	..	..	..	..
Do.	181B	Mayflower	Ftd.	..	..	..	..
Do.	136B	Montagu	Ftd.	..	..	..	..
Do.	135B	Montagu Boulder	20	..	..	..	..
Do.	143B	Montagu Main Reef	Ftd.	..	..	..	..
Do.	175B	Montagu Monarch	12	..	..	..	..
Do.	167B	New Year's Gift	Ftd.	..	..	..	..
Do.	180B	Rossie Castle	Ftd.	..	..	..	..
Do.	201B	Yale Lock	Ftd.	..	..	..	..
Do.		Sundry claims	..	..	..	..	..
Nunggarra	49B	Abundance	5	..	..	..	..
Do.	(664), 3B	Black Range Main Reef	Ftd.	..	..	107.25	105.86
Do.	(744), 38B	Bright Beauty	Surr.	..	..	13.75	10.27
Do.	(767), 50B	Catherine L.	Ftd.	..	..	17.00	1.83
Do.	(690), 13B	Chicago	Ftd.	..	..	22.50	8.96
Do.	(773), 56B	Dream (late Mystery)	Ftd.	..	..	44.25	252.29
Do.	(778), 58B	Eclipse	Ftd.	..	..	96.75	57.18
Do.	211B	Eclipse	12	..	..	..	..
Do.	(742), 36B	Eureka	Surr.	..	..	32.00	37.29
Do.	157B	Evangeline	Surr.	..	..	..	..
Do.	(711), 19B	Fingall	Ftd.	..	..	12.00	14.02
Do.	(711), (19B), (765), 49B	(Fingall and Abundance leases)	Ftd.	..	..	40.75	29.64
Do.	(640), 2B	Geraldtonia	Ftd.	..	..	..	..
Do.	(772), 55B	Golden Acre	Ftd.	25.94	..	337.50	129.11
Do.	263B	Golden Acre	a r. p.	..	..	..	..
Do.	149B	(Golden Gate)	0 3 13	..	..	..	..
Do.	(842), 102B	Good Hope	Ftd.	..	..	21.75	15.87
Do.	(659), 1B	Groper	Ftd.	..	..	116.00	140.69
Do.	179B, (1B)	Groper	Ftd.	..	..	..	..
Do.	186B	Hatter	Ftd.	..	..	..	..
Do.	142B	Hill End	Ftd.	..	..	..	..
Do.	(843), 103B	Jewel	Ftd.	..	..	3.50	.85
Do.	(716), 22B	Kolnoor	5	..	..	18.50	23.47
Do.	139B	Lady Ellen	6	..	..	..	..
Do.	(768), 51B	Lady Jackson	Ftd.	..	..	21.00	10.14
Do.	286B	Late Seddon	9	..	..	..	..
Do.	126B	Little Nell	Ftd.	..	..	..	..
Do.	(807), 80B	Lord William	Surr.	..	..	27.00	11.19
Do.	29B	Mulgarrie	Ftd.	..	..	..	..
Do.	(756), 46B	Muriel Chapman	Surr.	..	..	104.00	51.47
Do.	218B	Phoenix	Ftd.	..	..	..	..
Do.	(741), 35B	Queen of the Range	Ftd.	..	..	173.00	56.02
Do.	300B	Sceptic	10	..	..	..	..
Do.	121B	Squib	5	..	..	..	..
Do.	166B	Tekoa	Ftd.	..	..	..	..
Do.	(784), 64B	Wanganui	Surr.	10.95	..	78.25	102.97
Do.	(760), 47B	Welcome	6	..	..	50.00	18.94
Do.	(737), 33B	Wirraminna	Surr.	..	..	..	..
Do.	182B	(Wirraminna Central)	12	..	..	..	..
Do.	183B	(Wirraminna South)	12	..	..	..	..
Do.	174B	(Wonoka)	24	..	..	..	..
Do.	(706), 13B	Worker	10	..	..	24.25	30.42
Do.		Sundry claims	..	..	..	296.50	164.72
Sandstone	(669), 4B	(Adelaide)	..	30.64	49.65	2,580.00	5,142.90
Do.	4B, 5B, 11B, 17B, 26B, 70B, 140B, 150B	Adelaide leases	136	..	..	..	..
Do.	298B	Arncourt	18	..	..	..	..
Do.	(752), 44B	Ballarat	Ftd.	..	..	7.75	9.14
Do.	(687)	Bilbie	Surr.	..	..	22.75	27.85
Do.	(671), 5B	(Black Range)	..	..	..	637.00	1,283.66
Do.	(829), 95B	Cardigan	Ftd.	..	..	101.16	122.98
Do.	(724), 24B	Dulgitte	Ftd.	..	..	135.25	198.94
Do.	215B	Erinjerry	Ftd.	..	..	..	..
Do.	(812), 83B	Floater	Surr.	..	..	48.75	116.20
Do.	233B	Floater	12	..	..	..	..
Do.	151B	(Golden Key)	..	..	..	..	..
Carried forward				56.58	61.61	5,295.16	8,402.24

TABLE IV.—Production of Gold

East Murchison

BLACK RANGE

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward ..	..	56.58	61.61	5,295.16	8,402.24
Sandstone	(755), 45B ..	Horseshoe ..	Ftd.	..	..	159.50	170.06
Do.	(692), 14B ..	Jumble ..	Ftd.	..	..	17.00	20.57
Do.	(686), 12B ..	Just in Time ..	Ftd.	..	..	42.50	34.59
Do.	194B ..	Karridale ..	Surr.	..	..	..	..
Do.	(701), 16B ..	(Kingoonya) ..	..	..	..	121.50	299.33
Do.	293B ..	Lady Maude ..	5	..	..	..	..
Do.	6B, 10B, 16B, 74B, 81B, 114B, 149B, 151B, 189B, 193B, 206B, 216B, 238B	Oroya Black Range, Ltd. ..	152	..	..	..	..
Do.	217B ..	Redmond ..	Surr.	..	..	..	..
Do.	(841), 101B ..	Reindeer ..	Ftd.	..	..	28.50	28.60
Do.	195B ..	Reindeer ..	Ftd.	..	..	..	..
Do.	(675), 6B ..	(Sand Stone) ..	..	..	..	424.75	678.92
Do.	(681), 10B ..	(Undaunted) ..	..	..	..	80.00	46.04
Do.	(795), 74B ..	(Undaunted East) ..	..	..	..	198.75	213.50
Do.	114B ..	(Undaunted East Extended) ..	..	..	..	..	..
Do.	(679), 8B ..	Wanderie ..	10	..	..	648.25	1,000.06
Do.	(733), 72B ..	Wanderie, No. 2 East ..	Ftd.	..	..	7.50	.48
Do.	161B ..	Wanderie, No. 1 North ..	6	..	..	..	..
Do.	(722), 23B ..	Wanderie, No. 1 West ..	12	..	..	159.75	94.69
Do.	111B ..	Wild Dog ..	Ftd.	..	..	..	..
Do.	..	Sundry claims ..	..	..	..	..	..
		<i>From District generally:—</i>					
		Sundry parcels treated at:—					
		Earlsville Mill ..	..	..	..	..	..
		Nunngarra Metallurgical Works ..	..	..	..	..	..
		Repty Public Battery ..	..	..	..	..	..
		State Battery, Nunngarra ..	..	..	..	..	..
		Reported by Banks and Gold Dealers ..	..	79.12	..	..	..
		Total ..	..	135.70	61.61	7,183.16	10,989.08

Murchison

CUE

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Barrambie	1467 ..	Dawn of Hope ..	24	..	..	..	..
Do.	1458 ..	Golden Treasure ..	12	..	..	..	..
Do.	1460 ..	Magnum Bonum ..	Ftd.	..	..	..	..
Cuddingwarra	1525 ..	Blue Bell ..	18	..	..	..	..
Do.	1618 ..	Coodardy Reef ..	24	..	..	..	..
Do.	1510 ..	Smily ..	24	..	..	..	..
Do.	634, 736, 1042	Fingall Proprietary, Ltd. ..	Ftd.	..	..	..	..
Do.	1392 ..	Paton's Coodardy Reward ..	Surr.	..	..	330.00	307.59
Do.	1420 ..	Rhinegold ..	Ftd.	..	..	55.00	48.65
Do.	1376 ..	Royal Mint ..	Ftd.	..	..	..	..
Do.	1422 ..	Royal Mint ..	Ftd.	..	16.00	60.00	85.13
Do.	1440 ..	(Scotia) ..	Ftd.	..	..	80.00	47.90
Do.	1440, 1441 ..	Scotia leases ..	Ftd.	..	..	..	..
Do.	595, 1122 (1503)	Victory United G.M. Co., N.L. ..	27	..	..	1,334.00	1,996.46
Do.	1491 ..	Whisper Low ..	Ftd.	..	..	..	..
Do.	..	Voided leases ..	..	..	..	..	..
Do.	..	Sundry claims ..	..	..	..	..	..
Cue	1047 ..	(Agamemnon) ..	..	..	..	..	..
Do.	1047, 1310 ..	Agamemnon leases ..	26	..	..	659.00	438.88
Do.	1047 ..	(Agamemnon, Ltd.) ..	..	..	..	..	..
Do.	1328 ..	Argus ..	Surr.	..	..	326.00	180.68
Do.	1366 ..	Bedford ..	Ftd.	..	..	..	..
Do.	1115, 1213, 1302	(Brilliant G.Ms. (Cue), N.L.) ..	Ftd.	..	..	..	..
Do.	1271 ..	Catalpa ..	Ftd.	..	..	..	..
Do.	1234 ..	Comforter ..	a. r. p. 3 1 16	..	..	..	..
Do.	1336 ..	Countess Extended ..	20	..	..	550.00	186.79
Do.	203, 1148 ..	(Cue Consolidated G.Ms., Ltd.) ..	..	..	..	..	..
Do.	203 ..	Cue No 1 ..	12	..	..	542.00	2,201.19
		Carried forward ..	..	..	16.00	3,936.00	5,193.27

from all sources, etc.—continued.

Goldfield—continued.

DISTRICT—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	689.65	8,511.40	12,039.35	..	639.81	15,586.33	26,488.65	72.61	1,668.61	29,780.26	47,773.01
..	..	43.25	68.79	..	..	..	..	..	..	202.75	238.85
..	..	15.50	13.10	..	..	62.00	52.78	..	..	94.50	86.45
..	42.50	34.59
..	..	27.25	10.95	..	..	..	..	..	..	27.25	10.95
..	..	408.00	739.22	..	..	876.50	811.85	..	..	1,408.00	1,850.40
..	23.00	15.67	..	..	23.00	15.67
..	1,646.00	1,917.00	..	..	1,646.00	1,917.00
..
..	..	34.75	18.61	..	..	..	..	..	..	34.75	18.61
..	..	29.50	40.08	..	..	..	..	..	..	58.00	68.68
..	26.25	12.92	..	..	26.25	12.92
..	..	737.25	915.78	..	..	277.50	343.84	..	..	1,439.50	1,938.54
..	80.00	46.04
..	..	294.50	217.79	..	..	155.00	188.53	..	..	648.25	619.82
..	..	166.25	72.76	..	..	109.75	108.58	..	..	276.00	181.34
..	..	382.00	379.97	..	..	..	367.76	..	..	1,398.00	1,728.61
..	7.50	..
..	..	149.00	163.55	..	..	424.00	342.98	..	..	579.00	508.51
..	..	169.25	116.97	..	..	936.50	694.17	..	..	1,265.50	905.83
..	..	8.00	5.34	..	..	..	..	..	..	8.00	5.34
..	91.00	55.69	..	..	91.00	55.69
..	sd. 54.71	..	..	..	..	..	..	..	54.71
..	sd. 717.53	..	..	..	717.53
..	sd. 208.41	..	..	..	208.41
..	sd. 858.34	..	..	..	sd. 1,995.54	..	..	..	2,853.88
238.80	477.78	..	..	..	795.70	..	..	..
238.80	689.65	10,959.9	15,765.31	477.78	639.81	20,581.58	34,802.70	868.31	1,668.61	39,148.01	61,849.86

Goldfield.

DISTRICT.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	9.99	5.09	29.70	..	..	..	..	..	9.99	5.09	29.70
..	6.54	..	..	..	..	..	..	..	6.54	..	..
..	5.96	..	..	..	..	..	..	..	5.96	..	..
..	..	5.00	21.04	..	..	27.50	65.60	..	..	32.50	86.64
..	67.00	28.31	..	..	67.00	28.31
..	..	6.00	7.77	..	..	70.50	82.72	..	..	76.50	90.49
..	4,690.50	4,263.39
..	361.00	364.96
..	..	42.00	20.89	..	..	..	..	..	..	97.00	69.54
..	141.00	106.32
..	..	265.00	160.25	..	..	22.00	19.29	..	16.00	347.00	264.67
..	..	62.00	46.79	..	..	..	..	..	..	142.00	94.69
..	..	790.00	178.98	..	..	..	..	..	..	790.00	178.98
..	..	2,558.00	2,533.16	..	..	2,777.00	3,578.77	..	..	14,697.00	25,359.87
..	..	21.00	19.77	..	..	..	..	..	..	21.00	19.77
..	21.00	19.77
..	..	22.50	23.75	..	..	15.00	12.66	..	20.52	5,312.75	5,029.36
..	268.50	217.27
..	..	923.00	424.29	..	..	1,859.00	1,077.57	..	..	2,276.33	1,564.83
..	3,441.00	1,940.74
..	..	258.30	153.55	..	..	56.00	18.13	..	..	7,053.50	4,649.42
..	1,134.30	679.52
..	10.00	303.63
..	46.00	14.54
..	519.50	189.03
..	93.00	41.19
..	..	1,148.00	685.79	..	..	728.00	421.95	..	..	2,426.00	1,294.53
..	23,427.50	13,382.10
..	..	703.00	1,092.46	..	..	47.00	67.37	..	..	7,590.50	11,924.08
..	22.49	6,808.89	5,398.19	..	..	5,669.00	5,372.37	..	59.01	75,066.47	77,187.57

TABLE IV.—Production of Gold

Murchison

CUE

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward		16.00	3,936.00	5,193.27	
Cue	1174	Cue Victory	18		244.00	505.17	
Do.	1174	(Cue Victory G.Ms., Ltd)					
Do.	1115	(Deceiver)	Ftd.				
Do.	1115	Deceiver	Ftd.		198.50	208.20	
Do.	1213	Deceiver North	Ftd.				
Do.	1275	Duke of York	5		225.00	63.90	
Do.	1421	Duke of York Deepes	Ftd.		20.00	8.89	
Do.	1287	Duke of York Extended	Surr.		1,316.00	828.77	
Do.	1020	Gem of Cue Extended	5			cy. 267.62	
Do.	1020, 1044, 1127	(Gem of Cue, Ltd.)					
	1152		a. r. p.				
Do.	1359	Golden Stream Extended	5 3 30		96.00	89.31	
Do.	1416	Golden Stream Extended North	Surr.		85.00	26.78	
Do.	1509	Happy Jack	18				
Do.	1439	Hard Nail	Ftd.		13.50	11.05	
Do.	1427	Heart of Oak	Ftd.		129.00	73.11	
Do.	1511	Jubilee	24				
Do.	1806	Kangaroo	Ftd.				
Do.	1581	Lady Maud Reward	24				
Do.	1148	Light of Asia	12		1,707.00	1,391.46	
Do.	1494	Lily	Ftd.				
Do.	1542	Little Gem	6				
Do.	1499	Little Sparkler	Ftd.				
Do.	1405	Mafeking	Surr.		50.00	3.85	
Do.	1418	Maori	Ftd.		11.00	9.22	
Do.	1530	Monte Carlo	6				
Do.	1277	Murchison Associated G.Ms., Ltd.	Surr.		25.00	6.73	
Do.	1811	New Arcadia	Ftd.		204.50	91.62	
Do.	1453	New Arcadia Extended North	Ftd.				
Do.	1355	New Arcadia North	Ftd.				
Do.	1390	New Leviathan	Ftd.		47.00	79.95	
Do.	1135	(New Volunteer)					
Do.	1259	(New Volunteer Extended)					
Do.	1127, 1135, 1259	New Volunteer leases	21		512.00	255.12	
Do.	1436	Nil Desperandum	Surr.				
Do.	1442	North Bismark	Ftd.		48.00	51.86	
Do.	1429	Old Francis	Ftd.		28.00	8.00	
			a. r. p.				
Do.	1481	Old Princess Ada	7 1 11				
Do.	1399	Olive	Ftd.		11.00	5.46	
Do.	1395	Pension	Ftd.		72.00	59.51	
Do.	1589	Pioneer	12				
Do.	1277	Polar Star	Surr.				
Do.	1433	Princess Ada	6				
Do.	1575	Princess Alice	Wdn.				
Do.	1150, 1178	Princess leases	Ftd.		51.00	10.16	
Do.	222, 653, 1016, 1048	(Princess (Murchison) Consolidated, Ltd.)			530.00	263.29	
	1114		a. r. p.				
Do.	222, 653, 1016, 1048, 1114	Princess Royal leases	35 3 7				
Do.	1151, 1252, 1362, 1391, 1498	Queen of the May leases	32		517.50	622.67	
Do.	1248	Rising Sun	12				
Do.	1800	Rising Sun North	Surr.				
Do.	1676	Rose	12				
Do.	1379	Royal North	Ftd.		20.00	5.65	
Do.	1411	Royal Secret	Ftd.		62.00	19.66	
Do.	1374	(Salisbury)			475.00	269.34	
Do.	1374, 1407, 1408, 1413	Salisbury leases	36				
Do.	1044	South Volunteer	6		1,181.00	462.73	
			a. r. p.				
Do.	1325	Starlight	10 1 28		358.00	390.80	
Do.	1551	Star of Hope	6				
Do.	1504	Success	18				
Do.	774	Twilight	Ftd.	18.83	116.50	74.26	
Do.	1090	Twilight South	Ftd.		252.00	180.56	
Do.	1354	Victory	Ftd.		242.00	101.80	
Do.	1350	Volunteer North	Ftd.		65.00	13.70	
			a. r. p.				
Do.	1145, 1152, 1214, 1231	Volunteer South Extended leases	21 3 3		3,062.00	1,111.58	
Do.	1172	West Australian	Ftd.				
Do.		Voided leases					
Do.		Sundry claims			75.00	20.02	
Ealya	1496	Ealya Reward	18				
Do.		Sundry claims					
Erroll's	1528	Inheritance	24				
Do.	1490	Three Star	18				
Reedy's Find	1430	Derwent	Ftd.				
Do.	1507	Lady Kathleen	12				
Do.	1394	Perseverance	Surr.		69.50	32.98	
Do.	1464	Rand	Ftd.				
Do.	1409	Scottish King	Ftd.		14.79		
Do.	1489	Tough Go	Surr.				
Do.	1563	Wanderer	12				
Do.		Voided leases					
Do.		Sundry claims			12.49		
Tuckanarra	1182, 1190, 1197, 1203/5	Anchor Consolidated G.Ms. (W.A.), Ltd.	Ftd.		72.00	122.66	
		Carried forward		31.32	30.79	16,127.00	12,940.71

TABLE IV.—Production of Gold

Murchison

CUE

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward	..	31'32	30'79	16,127'00	12,940'71
Tuckanarra	1190	(Blue Anchor)	Ftd.	..	..	..	..
Do.	1396	Bright Smile	Ftd.	..	..	16.00	4.23
Do.	1199	Cable	Surr.	..	..	182.50	385.93
Do.	1505	Caledonian	6	..	..	..	..
Do.	1242	Dyke	Surr.	..	..	..	..
Do.	1349	Federal	Ftd.	..	..	30.00	14.11
Do.	1412	Gift	Ref.	..	16.19	29.00	88.28
Do.	1435	(Havelock)	..	..	..	55.00	42.99
Do.	1435	Havelock G.M. Co., N.L.	12	..	..	..	..
Do.	1532	Judy's Gift	12	..	..	..	..
Do.	1378	Just in Time	Surr.	..	..	110.00	42.42
Do.	1521	Lone Hand	8	..	..	..	..
Do.	1383	May Bell	Ftd.	..	..	..	..
Do.	1451	May Bell	Ftd.	..	..	..	..
Do.	1404	Miner's Dream	Ftd.	..	..	91.00	20.65
Do.	1337	Nemesis	5	..	..	260.00	677.50
Do.	1335	Open Cut	Surr.	..	..	188.00	52.91
Do.	1516	Perseverance	Surr.	..	..	..	..
Do.	1182	(Trilby)	Ftd.	..	..	..	..
Do.	1535	Trilby	12	..	..	..	..
Do.	1432	Union Jack	6	..	..	..	..
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	602.00	376.70
Weld Range	1518	Mindeloo	18	..	..	..	..
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	..	..
<i>From District generally:—</i>							
Sundry parcels treated at:—							
Cue No. 1 Public Battery				..	..	419.00	122.65
Cue Public Battery				..	..	291.50	127.31
Cue Victory Works				..	..	454.50	216.71
State Battery, Tuckanarra				..	..	57.00	95.31
Victory United Battery				..	..	..	..
Various Works				..	..	..	..
Reported by Banks and Gold Dealers				..	..	..	..
Total			..	31'32	46'98	18,912'50	15,208'41

NANNINE

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Abbotts	171N	Mt. Vranizan	12	..	..	110.00	75.70
Do.	172N, 247N, 248N	New Murchison King G.Ms.	42	..	..	706.00	1,093.40
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	..	..
Burnakura	238N	Alliance	12	..	..	794.00	472.98
Do.	581N	Dunbeacon	Ftd.	..	..	..	..
Do.	509N, 527N	Federal City leases	12	..	..	..	..
Do.	408N, 451N, 517N	New Alliance leases	42	..	..	1,173.00	2,767.90
Do.	693N	Perseverance	12	..	..	..	..
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	..	..
Chesterfield	649N	Adelaide Ethel	12	..	..	..	..
Do.	474N	Admiral	Ftd.	..	..	42.00	11.06
Do.	650N	Cheternunga	12	..	..	..	..
Do.	357N	Dorothy	Ftd.	..	..	14.00	47.66
Do.	634N	Dorothy	12	..	..	..	..
Do.	365N	Dorothy North	Ftd.	..	..	132.00	48.19
Do.	472N	Loss of Gowrie	Ftd.	..	..	..	..
Do.	352N	Maranoo	Surr.	..	..	..	..
Do.	361N	Margueritta	12	..	..	90.00	611.77
Do.	369N	New Murchison King G.M. Co.	Ftd.	..	..	..	..
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	..	..
Gabanintha	461N	(Golden Hope)	Ftd.	..	..	105.50	107.64
Do.	503N	(Golden Hope Extended)	..	..	..	60.00	121.78
Do.	503N	Golden Hope Extended	5	..	..	..	..
Do.	(461N), 503N, (569N)	(Golden Hope leases)	..	..	..	..	..
Do.	379N	(Mountain View)	..	..	..	1,523.50	1,359.07
Do.	577N	Mountain View East	6	..	..	..	..
Do.	379N, 504N, 505N	Mountain View leases	15	..	..	..	..
Carried forward			..	..	..	4,750.00	6,717.15

from all sources, etc.—continued.

Goldfield—continued.

DISTRICT—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,40lbs).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	85.26	17,178.14	13,488.89	..	..	21,512.00	14,832.49	171.79	631.45	212,059.12	175,895.08
..	43.00	19.21
..	39.00	14.10
..	..	75.00	44.31	..	..	476.00	329.67	..	..	2,627.10	1,971.03
..	5.00	2.68	..	..	5.00	2.68
..	83.50	17.68
..	149.00	27.84
6.68	..	59.50	31.02	..	..	9.00	10.80	6.68	16.19	29.00	88.28
..	50.00	14.15	..	..	123.50	84.81
..	206.55	71.00	227.33	..	..	50.00	14.15
..	71.00	227.33
..	126.00	57.61	..	..	125.00	45.85
..	126.00	57.61
..	181.00	38.75
..	..	17.50	2.59	..	..	..	..	..	..	17.50	2.59
..	..	220.00	47.04	..	..	..	..	..	..	311.00	67.69
..	..	153.00	241.80	..	..	169.00	421.46	..	..	858.00	2,127.28
..	..	219.50	86.36	..	..	30.00	14.26	..	..	437.50	153.53
..	..	23.50	18.73	..	..	43.00	15.90	..	..	66.50	29.63
..	240.50	270.40
..	16.00	61.32	..	..	16.00	61.32
..	..	151.00	248.42	..	..	273.00	1,103.99	..	..	424.00	1,352.41
..	..	146.75	70.62	..	..	36.00	16.53	3.76	656.17	854.50	657.51
..	..	6.00	31.82	..	..	19.00	57.68	..	31.62	1,922.75	4,808.59
..	25.00	89.50
..	142.50	532.31	..	..	5,191.50	2,893.80
..	160.50	547.85
..	..	43.50	23.00	..	..	60.50	22.80	..	..	1,803.50	640.49
..	..	506.50	290.92	..	..	..	..	..	..	798.00	418.23
..	..	221.50	77.23	..	..	..	..	..	..	1,588.02	3,725.92
..	..	10.00	278.73	..	..	39.00	210.75	..	..	507.50	1,569.40
..	..	43.50	56.63	..	..	..	..	..	..	43.50	56.63
..	198.83	..	..	..	392.82	7.54	2,625.50	12,753.55
6.68	85.26	19,074.89	15,033.11	198.83	206.55	23,077.00	17,931.73	575.05	1,549.52	233,602.49	210,730.72

DISTRICT.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	..	1,012.00	922.00	..	..	2,496.00	2,093.64	..	..	13,416.00	12,205.69
..	20,115.50	23,444.02
..	187.00	227.91
..	..	127.00	129.03	..	..	304.00	166.98	..	..	7.50	8.46
..	..	20.00	35.81	..	..	27.00	14.84	..	..	2,983.00	2,889.57
..	..	380.00	551.34	..	..	3,383.00	1,637.02	..	..	47.00	50.65
..	..	2,934.00	2,741.41	..	..	854.00	984.51	..	..	3,763.00	2,188.86
..	7.50	..	..	..	..	6,237.00	10,763.99
11.35	3.40	..	..	..	19.53	..	..	11.35	3,000.54	588.50	1,240.21
..	31.00	16.63	..	22.93	25.00	18.90
..	64.50	62.67	..	..	31.00	16.63
..	42.00	11.06
..	64.50	62.67
..	29.02	..	69.00	35.10	29.02	21.00	1,325.75	1,719.39
..	69.00	35.10
..	404.50	438.00
..	27.50	31.02
..	..	68.00	107.35	..	..	144.00	223.89	..	105.59	29.00	32.29
..	2,616.50	3,069.01
..	50.00	59.54
..	18.57	215.50	128.33
..	65.50	41.00
..	191.50	212.77
..	..	44.50	66.31	..	..	..	..	..	..	104.50	188.09
..	..	101.00	61.21	..	..	20.00	21.38	..	..	20.00	21.38
..	..	640.00	431.49	..	..	..	..	..	..	101.00	61.21
..	..	60.00	15.12	..	..	..	..	..	..	2,626.50	2,141.93
..	..	303.00	188.65	..	..	753.00	271.01	..	..	60.00	15.12
11.35	24.40	4,789.50	5,249.72	29.02	27.03	8,145.50	5,527.67	40.37	3,176.13	1,056.00	459.66

TABLE IV.—Production of Gold

Murchison

NANNINE

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward				4,750.00	6,717.15
Gabarrintha	575N	Mountain View South	Ftd.				
Do.	449N	Mt. Bungar	Ftd.			31.00	16.22
Do.	32N, 46N, 460N	Nannine Goldfields, Ltd.	24			2,971.00	1,415.32
Do.	431N	Sovereign	Ftd.			104.00	44.35
Do.	32N	(Tumbulgum)					
Do.	46N	(Tumbulgum Extended)					
Do.		Voided leases					
Do.		Sundry claims				11.00	14.82
Garden Gully	27N	Crown	Ftd.				
Do.		Sundry claims					
Gum Creek	501N	Cardigan	18				
Do.	536N	Cardigan North	Ftd.			12.50	12.92
Do.	590N	Gladstone					
Do.	672N	Hilda No. 1	8				
Do.	671N	Hilda No. 2	12				
Do.	587N	Pick-me-up	6				
Do.	576N	Pretty Polly	6				
Do.		Sundry claims					
Jillawarra	651N	Aurelia	Wdn.				
Do.	640N	Emily Ellen	12				
Do.	456N	Jillawarra	12			60.00	117.41
Do.	688N	Jillawarra Dolly Pot	13				
Do.	528N	Jillawarra Extended	Ftd.				
Do.	581N	Jillawarra Proprietary	12				
Do.	506N	Merrinua	Ftd.			51.50	23.07
Do.	524N	Wardable	Ftd.				
Do.		Voided leases					
Do.		Sundry claims					
Meekatharra	578N	Batavia	12				
Do.	535N	Beverley	12			44.25	6.94
Do.	532N	Brown Hill	Ftd.			15.00	4.06
Do.	597N	Commodore	18				
Do.	555N	Commodore Block	12				
Do.	641N	Commodore Brown Hill	12				
Do.	283N, 284N	Commodore leases	Ftd.			519.75	315.71
Do.	425N	Democrat	Ftd.				
Do.	596N	Easter Eve Gift	12				
Do.	545N	Eastern Revenue	Ftd.			15.50	17.85
Do.	477N	Fenian	17			132.00	396.74
Do.	313N	Halcyon	12			254.75	247.72
Do.	635N	Halcyon Extended	12				
Do.	279N	Havelock South	Ftd.			152.00	40.68
Do.	236N	Havelock	12			158.00	126.70
Do.	553N	Havelock Consols	Ftd.			94.00	29.07
Do.	486N	Havelock North, No. 1	Ftd.			133.75	37.94
Do.	592N	Havelock Proprietary	12				
Do.	677N	Havelock South					
Do.	363N	Ingliston	Ftd.				
Do.	475N	Ingliston Consols Extended	12			480.00	2,112.51
Do.	398N	(Ingliston Extended)				159.00	156.37
Do.	398N, 437N, 462N	Ingliston Extended G.M.s. Ltd.	36				
Do.	514N	Ingliston No. 2	12				
Do.	507N	Ingliston United	12			70.25	72.40
Do.	666N	Karangahaki	18				
Do.	579N	Kelby South	Surr.				
Do.	488N	Lost Cop	Ftd.			24.00	14.02
Do.	533N	Marmont	17				
Do.	610N	Multum-in-Parvo	6				
Do.	93N	N 93	12			37.00	40.68
Do.	624N	New Orleans	12				
Do.	416N	Phantom	Ftd.				
Do.	402N	Phoenix No. 1	Ftd.			43.75	51.33
Do.	372N	Pioneer	12			967.00	746.33
Do.	426N	Pioneer South	Ftd.			111.00	82.83
Do.	560N	Rajah	Ftd.			41.00	7.20
Do.	581N	Revenue	18				
Do.	568N	Revenue East	Surr.			18.15	1,076.44
Do.	541N	Revenue North	6			20.75	10.30
Do.	556N	Revenue North Extended	Ftd.				
Do.	551N	Revenue South	Ftd.			38.25	30.09
Do.	534N	Revenue West	Ftd.			36.50	12.54
Do.	246N	Sirdar	Ftd.			43.25	21.04
Do.	323N	St. George	Ftd.			220.00	72.72
Do.	675N	Two Bells	12				
Do.		Voided leases					
Do.		Sundry claims				14.75	6.86
Munara Gully	496N	Donegal	Ftd.			80.00	12.36
Do.	495N	Donegal Extended	Ftd.			110.00	25.45
Do.	445N	Victorian	Ftd.			40.00	16.48
Do.		Voided leases					
Do.		Sundry claims					
Nannine	273N	(Caledonian)					
Do.	8N	Caledonian Extended	6			20.00	30.04
Do.	273N, 543N	Caledonian leases	12				
Do.	10N, 11N, 13N, 17N	Champion Reef (Nannine, W.A.), G.M. Co., Ltd.	Ftd.			720.00	485.95
Do.	457N	Daisy	Ftd.			18.00	55.84
Do.	421N	Granite King	Ftd.				
Do.	16N, 25N, 166N	Mt Hall, Royalist Consolidated and Nannine leases	33			2,079.00	2,440.44
		Carried forward				14,871.65	17,164.89

TABLE IV.—Production of Gold

Murchison

NANNINE

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward ..	..	..	14,871.65	17,164.89
Nannine	7N, 312N, 374N, 378N, 446N, 447N, 448N, (473N), 483N	Mt Yagahong Exploration Co., Ltd.	Ftd.	..	..	..
Do	249N	Mt Yagahong G.M. and Exploration Co., Ltd.	24	..	..	..
Do	264N	New Caledonian	Ftd.	..	..	..
Do	438N	Old New Year	Surr.	..	..	..
Do	25N	(Royalist Consolidated)	..	..	..	..
Do	415N	(Wanganui)	Ftd.	..	..	..
Do	415N	Wanganui	Ftd.	..	193.00	193.32	
Do	415N	(Wanganui G.M. Co. Ltd.)	Ftd.	..	..	..
Do	..	Voided leases	..	..	..	..
Do	..	Sundry claims	..	7.63	..	..
Quins	465N	Cornstalk	Ftd.	..	70.00	40.52	
Do	513N	Easter Gift	Ftd.	..	99.25	53.30	
Do	470N	Enterprise	Surr.	..	65.00	14.33	
Do	558N	Farmstone	Ftd.	..	..	48.63
Do	800N	Favourite One	Surr.	..	..	..
Do	846N	Favourite One	Surr.	..	..	..
Do	594N	Friend	12	..	..	..
Do	703N	Lily	Ftd.	..	..	..
Do	616N	Lucknow	6	..	..	..
Do	622N	Phoenix	6	..	..	..
Do	478N	Princess Dagmar	12	..	..	..
Do	613N	Scotchman	Ftd.	..	50.00	22.51	
Do	453N	Two Jacks	Ftd.	..	1.07	..	
Do	479N	Yorkshire Lass	Ftd.	..	230.00	76.20	
Do	..	Voided leases	..	..	..	..
Do	..	Sundry claims	..	..	..	..
Stake Well	062N	Bushman's	12	..	..	..
Do	067N	Castlemaine United	12	..	..	..
Do	342N	Commonwealth	Ftd.	..	..	..
Do	599N	Gladstone	6	..	..	..
Do	566N	Kohinoor	12	..	10.00	8.88	
Do	593N	Koh-i-Noor South	12	..	..	..
Do	..	Voided leases	..	..	..	..
Do	..	Sundry claims	..	..	..	..
Star of the East	572N	Eastern Star	Ftd.	..	..	..
Do	174N	Star of the East, Ltd.	25	..	..	..
Do	..	Voided leases	..	..	..	..
		<i>From District generally:—</i>					
		Sundry parcels treated at:—					
		Mountain View Battery	..	..	..	..
		Scotchman Battery	..	..	..	..
		State Battery, Meekatharra	..	..	14.00	457.70
		State Battery, Tuckanarra (Cue)	..	..	..	..
		Two Jacks Battery	..	..	..	..
		Various Works	..	..	..	..
		Reported by Banks and Gold Dealers	..	576.33	..	..
		Total		583.96	1.07	15,599.90	
						18,983.28	

DAY DAWN

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Day Dawn	350D	Caledonian	Ftd.	..	12.51	..	
Do	330D	Crete d'Or	Surr.	..	..	5.05
Do	389D	Crete D'Or	12	..	21.00	..	
Do	14D	(Cressus)	..	..	..	..
Do	179D, (232/3D), 237/8D, 240D, 242/4D, 251/2D, 269D, 270/2D, 290/1D, 300D, 311D (342D)	(Cue Gold Mining and Exploration Co., Ltd.)	..	..	..	..
Do	398D	Day Dawn	12	..	..	..
Do	26D, 264/5D, 319D, 323D, 344D, 352D, 411D	East Fingall G.M.s, Ltd.	90	..	..	..
Do	15D, 176D	Emperor G.M.s, Ltd.	Ftd.	..	..	..
Do	26D	(Eureka No. 5)	..	..	..	..
Do	332D	Great Fingall Associated No. 2	12	..	..	..
		Carried forward	..	..	12.51	5.05
					21.00	..	

from all sources, etc.—continued.

Goldfield—continued.

DISTRICT—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
205.64	46.08	12,441.37	15,115.04	206.70	354.51	24,304.63	23,274.25	412.34	3,582.22	157,353.58	150,886.58
..	14,000.00	9,495.87
..	..	208.00	93.72	..	..	..	..	..	..	2,805.50	1,334.92
..	136.00	190.45
..	111.00	68.29
..	19.18	762.53	3,500.70
..	265.00	85.40
..	190.00	196.32
..	1,657.00	488.60
..	34.02	116.76	9,787.50	5,896.54
..	7.63	..	808.50	1,036.35
..	..	13.00	5.58	..	..	..	..	..	..	193.25	111.70
..	65.00	14.33
..	..	10.00	2.47	..	..	..	..	..	..	..	48.63
..	12.55	..	..	..	..	10.00	2.47
..	62.48	..	..	..	12.55	..	..
..	105.70	4.50	27.72	..	..	..	..	..	62.48	..	..
..	3.00	14.43	..	105.70	4.50	27.72
..	38.30	3.50	10.06	..	..	3.00	14.43
..	649.00	268.72	..	38.30	3.50	10.06
..	2.11	122.00	59.95	..	..	649.00	268.72
..	..	55.00	14.57	..	..	..	..	..	2.11	230.50	118.24
7.30	..	528.00	127.64	..	..	..	..	..	..	55.00	14.57
..	7.30	19.99	973.00	367.73
..	17.50	2.68
..	..	6.00	4.18	..	..	..	..	..	29.19	587.00	432.31
..	27.00	21.30	..	228.04	18.00	7.54
..	56.93	40.00	23.69	..	..	27.00	21.30
..	56.93	40.00	23.69
..	..	166.00	78.82	..	..	37.00	5.04	..	..	838.00	629.67
..	..	248.00	116.29	..	..	595.00	269.96	..	..	203.00	83.86
..	..	389.50	229.48	..	..	2,325.00	762.15	..	..	853.00	395.13
..	2,714.50	991.63
..	..	20.00	16.74	..	6.70	16.00	16.61	..	..	92.00	30.04
..	cy. 9.10	..	..	..	..	..	6.70	36.00	33.35
..	27,019.00	20,122.53
..	..	75.00	17.92	..	..	..	..	..	..	225.00	173.77
..	..	10.00	3.26	..	..	..	..	..	..	75.00	17.92
..	cy. 748.59	..	..	..	..	..	..	10.00	3.26
..	cy. 18.64	..	..	..	..	..	..	14.00	1,271.47
..	..	6.50	2.75	..	..	..	..	..	..	..	18.64
..	6.50	2.75
1,551.94	1,105.64	..	..	..	5,991.45	..	48.25	216.98
1,764.88	151.78	14,180.87	16,632.51	1,312.34	533.58	23,122.13	24,726.16	6,452.74	4,280.15	222,887.11	196,666.24

DISTRICT.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	12.51	..	11.03
..	..	35.00	42.00	..	..	44.00	30.86	..	..	41.00	72.86
..	79.00	1,640.41
..	1,138.00	594.33
..	1,773.00	..
..	5.41	10.00	28.05	..	..	80.00	225.13	..	5.41	90.00	253.18
..	1,208.00	709.19	..	..	1,208.00	709.19
..	..	11.00	23.50	..	..	..	..	..	..	1,849.70	2,874.76
..	1,280.25	1,292.49
..	30.00	4.00	..	..	30.00	4.00
..	5.41	56.00	93.55	..	..	1,362.00	969.18	..	17.92	7,488.95	7,452.25

TABLE IV.—Production of Gold

Murchison

DAY DAWN

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,24 lbs.)	Fine ozs.
		Brought forward		12.51	21.00	5.05	
Day Dawn	1D, 2D, (7D), 86/7D, 99D, 119D, 129D, 158/9D, 170D, 185/7D, 189D, 190/1D, 209/213D, 222D, 224/5D, 249D, (260D)	Great Fingall Consolidated, Ltd.	a. r. p. 303 0 21		141,976.00	156,702.30	
Do	327D	Ivy May	Ftd.				
Do	322D	King Edward VII.	Surr.				
Do	179D	(Kinsella)					
Do	179D	(Kinsella)	6				
Do	179D (342D)	(Kinsella leases)			1,655.00	505.69	
Do	413D	Ironclad	6				
Do	412D	Ironclad North	6				
Do	369D	Last Chance	Ftd.				
Do	404D	Mikado	12				
Do	320D	Mt. Fingall	12		485.00	248.07	
Do	14D, 138D, 166/7D, 180D, 254/6D, 260D, 337/9D, 340/1D	Murchison Associated G.Ms., Ltd.	84		1,091.00	807.97	
Do	394D	New Ballarat	10				
Do	331D	New Fingall	Ftd.				
Do	358D	New Fingall	Ftd.		9.00	4.45	
Do	321D	Richmond	5	4.12			
Do	181D	Royal Charter	12		29.00	14.83	
Do	227D	Trenton	Surr.	114.15	155.00	88.51	
Do	119D	(West Fingall No. 6) (late St. Albans)					
Do		Voided leases					
Do		Sundry claims			28.00	20.46	
Island	9D	(Eureka)					
Do	9D	(Eureka)					
Do	35D	(Evening Star)	Surr.				
Do	407D	First Chip	12				
Do	35D, 42D, 68/9D, 70D, 74D, 79D, 143D, 234D	Goleconda Mines, Ltd.	Surr.		50.00	407.02	
Do	353D	Goleconda Mines, Ltd.	Surr.				
Do	5D, 9D, 142D, (230D)	Island Eureka G.M. Co., N.L.	Ftd.	395.04	50.51	816.00	
Do	251D, 304D	Island Eureka South G.M. Co., N.L.	Ftd.			502.54	
Do	5D, 9D, 142D (230D)	Island Queen leases (New Orient)	a. r. p. 16 2 25				
Do	155D	New Orient G.M. Co., Ltd.	Ftd.				
Do	155D	Von Moltke	Ftd.				
Do	11D	Voided leases	4	2.60	1.73		
Do		Sundry claims					
Mainland	377D	Day Dawn View	Ftd.		23.82		
Do	355D, 356D, 361D	Mainland Consols leases	24		92.36	cy. 485.89	
Do	6D, 52D, 60/1D	(Mainland Consols, Ltd.)	Surr.				
Do	6D, 52D, 60/1D	Mainland, Ltd.	Surr.			cy. 142.04	
Do	6D, 52D, 60/1D	(New Standard Exploration Co., Ltd.)	Surr.				
Do		Voided leases					
Do		Sundry claims					
Webb's Patch	318D	Hill End	Surr.		87.00	148.58	
Do	370D	(Hill End)			36.00	110.12	
Do	370D, 391D	Hill End leases	18				
Do	346D	Little Fingall	5		39.00	57.05	
Do		Sundry claims					
From District generally:—							
Sundry parcels treated at:—							
Cue Victory Battery							
State Battery, Lennoxville							
Various Works							
Reported by Banks and Gold Dealers				154.15	1.24	.77	
Total				665.94	186.29	146,477.00	
						160,811.28	

from all sources, etc.—continued.

Goldfield—continued.

DISTRICT—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,40lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	5.41	56.00	93.55	..	..	1,362.00	989.18	..	17.92	7,488.95	7,452.25
..	..	181,534.00	159,774.97	..	..	222,892.00	121,163.20	..	..	804,854.00	749,445.92
..	23.00	1.34
..	54.00	42.16
..	2.97	106.50	153.39
..	92.00	51.15	..	..	92.00	51.15
..	..	1,710.00	356.31	..	..	..	..	..	..	3,365.00	862.00
..	47.00	4.33
..	47.00	4.33	..	..	50.00	36.22
..	111.00	41.93
..	..	111.00	41.93	..	..	..	..	..	..	111.00	41.93
..	..	28.50	19.54	..	..	..	..	..	..	28.50	19.54
..	..	936.00	514.46	..	..	300.00	228.39	..	..	1,735.00	999.49
..	283.00	151.20	..	..	3,503.50	2,216.61
..	..	20.00	16.42	..	..	104.00	100.48	..	..	124.00	116.90
..	21.00	6.14
..	..	8.00	5.11	..	..	..	..	..	..	17.00	9.56
..	4.12	..
..	16.50	72.00	33.00	..	..	69.00	15.40	..	52.42	317.00	269.67
..	114.15	..	615.00	269.85
..	43.00	15.32
..	..	64.75	49.02	..	22.51	54.00	31.49	9.66	236.77	18,323.25	12,470.13
..	47.96	588.25	677.02
..	143.20	482.56
..	..	60.00	62.32	..	..	..	..	..	..	60.00	62.32
..	1,253.00	393.30
..	124.68	5.00	19.50	..	124.68	5.00	19.50
..	5.93	93.91	10,139.00	19,595.93
..	27.00	..	..	..	..	..	..	..	27.00	..	..
16.62	{ pl. 4.51 } { 113.24 }	..	..	..	..	411.66	50.51	13,911.20	17,629.61
..	31.00	25.55
..	490.00	455.73	..	..	490.00	455.73
..	731.50	3,151.03
..	32.00	7.25
7.83	6.64	..	..	..	..	..	..	38.84	57.76	..	..
9.89	17.74	59.12	1,960.10	1,336.93
..41	14.98	..	..	..	..	..	..	..41	38.80	..	..
..	32.50	..	cy. 295.83	..	..	..	..	..	124.86	..	781.72
..	5,848.15	19,639.77
..	741.00	142.04
..	1,626.13	418.25	866.96
..82	2.47	..	..	..82	2.47	22.00	59.35
..	..69	..	..	..	..	..	..	..	50.28	132.00	308.32
..69	36.00	110.12
..	27.02	5.00	13.73	..	5.77	246.00	470.81	..	..	246.00	470.81
..	11.00	6.77	..	32.79	61.00	87.32
..	6.00	3.84	..	67.77	19.00	234.43
..	..	5.00	13.12	..	..	..	..	..	..	5.00	13.12
..	..	17.00	20.44	..	..	..	..	..	..	17.00	20.44
14.29	16.61	918.75	1,503.74
..	183.64	..	..	..	376.15	3.48	..	..77
49.04	130.74	184,627.25	161,327.50	184.46	155.43	226,011.00	123,707.69	975.36	2,739.02	878,727.10	843,978.58

TABLE IV.—Production of Gold

Murchison

MOUNT MAGNET

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward			105.40	14,451.90	12,676.68
Mt. Magnet	457M	Iguana	Ftd.				
Do.	783M	Invercauld	10				
Do.	739M	Jupiter	Ftd.				
Do.	771M	Jupiter	7			45.00	12.19
Do.	701M	Jupiter No. 1	Ftd.			85.00	61.04
Do.	792M	Last Call	Ftd.				
Do.	685M	Magnet Mine	Surr.			392.00	115.16
Do.	789M	Magnet Mine					
Do.	685M	Mayflower	12				6.00
Do.	697M	Mercury	Surr.		8.42	35.00	32.24
Do.	717M	Monarch	Ftd.			149.00	169.52
Do.	314M, 317M, 320M	(Morning Star leases)					
Do.	314M, 317M, 320M	Morning Star Quartz Co., N.L.	a. r. p. 23 3 37			7,910.00	3,466.57
Do.	779M	Murchison	Wdn.				
Do.	445M	Neptune	12		109.76	55.75	130.18
Do.	784M	New Chum	6				
Do.	673M	Nulli Secundus	Ftd.			33.00	37.43
Do.	786M	Nulli Secundus	Ftd.				
Do.	776M	Paris	Ftd.				
Do.	791M	Pearl	10				
Do.	671M	Pride of the Hill	Ftd.				
Do.	677M	Puzzle	Ftd.				
Do.	720M	Rambler's Home	Wdn.			6.00	3.60
Do.	667M	Result	Ftd.			70.00	21.93
Do.	804M	Royal	5				
Do.	752M	St. George	10			54.00	22.82
Do.	538M	Saturn	Surr.			465.50	196.15
Do.	788M	Saturn	12				
Do.	746M	Sea Foam	Ftd.		4.78	152.00	49.78
Do.	696M	Sirdar	12			548.00	185.71
Do.	751M	Try Again No. 2	Surr.			26.00	8.63
Do.	806M	Tucker Bag	10				
Do.	479M	Venus	Surr.				
Do.	120M, 339M	Western Syndicate, Ltd.	Ftd.			32.50	59.01
Do.	797M	You and Me	Surr.				
Do.		Voided leases					
Do.		Sundry claims			5.90	435.50	161.04
Do.		Voided leases					
Do.		Sundry claims					
Moyagee	690M	Little Boulder	Ftd.			5.00	4.71
Do.	748M	Little Boulder	Surr.			17.50	17.12
Do.	686M, 688M	Louise G.M. Co., N.L.	Ftd.			202.00	151.44
Do.	766M	Ophir	Ftd.				
Do.		Voided leases					
Do.		Sundry claims				25.25	85.10
<i>From District generally:—</i>							
Sundry parcels treated at:—							
Fremantle Smelter, Ltd.							
New Chum Cyanide Works							cy. 152.71
State Battery, Boogardie							cy. 240.70
State Battery, Lennoxville							cy. 762.72
Various Works							
Reported by Banks and Gold Dealers						206.66	
Total						206.66	234.26
						25,201.90	18,843.68

from all sources, etc.—continued.

Goldfield—continued.

DISTRICT—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	127.73	5,017.36	5,664.64	..	79.13	5,494.15	3,963.01	11.41	8,044.49	131,064.16	118,928.16
..	..	58.00	11.96	..	..	444.00	113.27	..	..	422.40	467.75
..	..	90.00	7.49	..	..	..	..	..	..	502.00	125.23
..	..	124.00	63.27	..	..	276.00	228.79	..	..	135.00	19.68
..	400.00	292.06
..	12.00	8.57	..	..	166.00	82.76
..	12.00	8.57
..	417.00	100.93	..	..	718.50	277.73
..	417.00	100.93
..	8.42	102.75	335.99
..	35.00	32.24
..	149.00	169.52
..	63,933.00	35,059.35
..	..	8,396.00	3,217.59	..	..	7,695.00	3,845.66	..	..	37,569.00	21,233.92
..	..	13.00	10.55	..	..	..	..	..	..	13.00	10.55
..	7.16	272.00	95.74	..	90.94	137.75	411.44	..	797.14	1,143.66	2,034.61
..	240.50	113.46	..	..	240.50	113.46
..	182.00	100.56
..	10.00	16.12	..	..	10.00	16.12
..	..	15.00	3.86	..	..	30.00	3.95	..	..	45.00	7.81
..	13.00	7.96	..	..	13.00	7.96
..	2.45	67.50	113.91
..	23.00	11.01
..	6.00	3.60
..	249.00	161.57
..	22.00	31.77	..	..	22.00	31.77
..	..	1,292.00	495.57	..	..	1,775.00	785.99	..	..	3,121.00	1,304.38
..	..	735.00	303.49	..	..	230.00	145.30	..	..	1,815.50	767.02
..	102.00	32.16	..	..	102.00	32.16
..	1.27	..	..	..	..	..	..	..	6.05	152.00	49.78
..	..	1,404.00	661.84	..	..	1,508.00	503.99	..	..	3,496.00	1,362.82
..	..	22.00	17.47	..	..	..	..	..	..	48.00	26.10
..	2.21	45.00	76.88	..	2.21	45.00	76.88
..	39.00	8.15
..	..	16.00	32.90	..	..	..	..	..	5.33	924.50	1,442.10
..	6.00	39.92	..	..	6.00	39.92
..	16.42	268.31	26,456.00	38,233.90
..	..	298.00	122.03	..	82.91	585.00	323.52	..	115.65	7,449.60	4,610.05
..	63.29	753.94	5,506.25	2,798.49
..	37.22	209.50	140.25
..	24.00	16.78
..	17.50	17.12
..	..	800.00	304.82	..	..	25.00	52.26	..	..	1,042.00	572.83
..	..	39.00	22.91	..	..	..	..	..	..	39.00	22.91
..	387.50	343.98
..	38.00	25.68	..	..	68.25	111.24
..	139.27	..	..	..	39.27
..	cy. 203.86	..	..	..	cy. 663.04	..	..	..	1,024.61
..	cy. 52.78	..	..	..	cy. 1,611.87	..	..	..	1,905.30
..	10.00	1.13	..	..	10.00	4,037.00
..	25.00	5,845.46
119.50	36.97	..35	..	..	1,059.06	..35	..	..
119.50	136.16	18,592.36	11,277.72	36.97	256.64	19,115.49	13,146.54	1,159.78	5,041.56	288,629.07	244,585.32

TABLE IV.—Production of Gold

Yalgoo

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Adavale	.. ..	Sundry claims	.. ..	.. ..	.. ..	.. ..	.. ..
Bilberatha	.. ..	Voided leases	.. ..	.. ..	.. ..	.. ..	.. ..
Carlaminda	478, 479	Murchison Reliance G.M., Ltd.	18	.. ..	.. ..	.. ..	.. ..
Do.	478, 479	(Murchison Reliance leases)	.. ..	.. ..	.. ..	.. ..	.. ..
Do.	.. ..	Voided leases	.. ..	.. ..	.. ..	.. ..	.. ..
Field's Find	512	Sundry claims	Ftd.	.. ..	.. ..	.. ..	.. ..
Do.	441/3	Fairy Dell	.. ..	.. ..	11.50	5.23	.. ..
Do.	414, 441/3	(Field's Find G.Ms., Ltd.)	.. ..	.. ..	243.00	24.58	.. ..
Do.	.. ..	Field's Reward G.Ms., Ltd.	72	.. ..	.. ..	.. ..	.. ..
Gullewa	520	Sundry claims	Ftd.	.. ..	.. ..	.. ..	.. ..
Do.	170, 171, 174	Daisy	.. ..	.. ..	.. ..	.. ..	.. ..
Do.	170, 171, 174	(Monarch G.M. Syndicate)	18	.. ..	2,393.00	448.51	.. ..
Do.	526	Monarch leases	12	.. ..	.. ..	.. ..	.. ..
Do.	34, 53, 54, 445	Mugga Queen	48	.. ..	180.00	82.13	.. ..
Do.	.. ..	Phoenix G.Ms., Ltd.	.. ..	.. ..	.. ..	.. ..	.. ..
Do.	.. ..	Voided leases	.. ..	.. ..	.. ..	.. ..	.. ..
Kirkalucka	.. ..	Sundry claims	.. ..	.. ..	5.50	2.51	.. ..
Melville	.. ..	Sundry claims	.. ..	.. ..	.. ..	.. ..	.. ..
Do.	.. ..	Voided leases	.. ..	.. ..	.. ..	.. ..	.. ..
Nyounda	196	Sundry claims	Ftd.	.. ..	.. ..	.. ..	.. ..
Do.	.. ..	Vera Gold Mine	.. ..	.. ..	.. ..	.. ..	.. ..
Do.	.. ..	Voided leases	.. ..	.. ..	.. ..	.. ..	.. ..
Pinyalling	502	Sundry claims	Ftd.	.. ..	126.50	71.02	.. ..
Do.	501	Aillean	a. r. p.	.. ..	.. ..	.. ..	.. ..
Do.	392	(Beryl)	6 2 25	.. ..	432.00	249.01	.. ..
Do.	.. ..	Golden Eagle	12	.. ..	200.00	33.15	.. ..
Do.	.. ..	Voided leases	.. ..	.. ..	.. ..	.. ..	.. ..
Do.	.. ..	Sundry claims	.. ..	.. ..	42.50	22.14	.. ..
Rothesay	538	Lady Mary	24	.. ..	.. ..	.. ..	.. ..
Do.	.. ..	Voided leases	.. ..	.. ..	.. ..	.. ..	.. ..
Wadgingarra	499	Consuelo	Ftd.	.. ..	19.00	3.02	.. ..
Do.	515	Wadgingarra Main Reef	12	.. ..	.. ..	.. ..	.. ..
Do.	.. ..	Voided leases	.. ..	.. ..	.. ..	.. ..	.. ..
Do.	.. ..	Sundry claims	.. ..	.. ..	.. ..	.. ..	.. ..
Yalgoo	129	Emerald Reward Consolidated	Ftd.	.. ..	.. ..	.. ..	.. ..
Do.	495	(Ivanhoe)	.. ..	.. ..	.. ..	.. ..	.. ..
Do.	495	Ivanhoe G.M. Co., N.L., Yalgoo	12	.. ..	.. ..	.. ..	.. ..
Do.	518	Ivanhoe Extended: Ivanhoe G.M. Co., N.L. Yalgoo	6	.. ..	.. ..	.. ..	.. ..
Do.	.. ..	Voided leases	.. ..	.. ..	.. ..	.. ..	.. ..
Do.	.. ..	Sundry claims	.. ..	.. ..	70.70	24.45	.. ..
Yutn	409, 469, 470	Royal Standard leases	15	.. ..	1,739.00	1,387.66	.. ..
Do.	.. ..	Sundry claims	.. ..	.. ..	.. ..	.. ..	.. ..
From Goldfield generally:—							
Sundry parcels treated at:—							
Carlaminda Works							
Monarch Battery							
Various Works							
Reported by Banks and Gold Dealers							
Total						5,462.70	2,353.41

Mount Margaret

MOUNT MORGANS

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Australia United	244F	Bow Bells	5	.. ..	.. ..	.. ..	.. ..
Do.	234F	Brilliant	4	.. ..	.. ..	.. ..	.. ..
Do.	187F	Central	10	.. ..	.. ..	.. ..	.. ..
Do.	105F	Fardy's Australia United	Surr.	.. ..	.. ..	.. ..	.. ..
Do.	102F	Golden Ball	Ftd.	.. ..	.. ..	.. ..	.. ..
Do.	183F	Imperial	9	.. ..	.. ..	.. ..	.. ..
Do.	112F	Kennedy's Reward	Ftd.	.. ..	7.00	3.74	.. ..
Do.	127F	Kingston	Ftd.	.. ..	19.00	15.14	.. ..
Do.	167F	Lady Florence	6	.. ..	10.00	23.62	.. ..
Do.	231F	Lady Mary	6	.. ..	.. ..	.. ..	.. ..
Do.	95F	Lurline	12	.. ..	73.00	210.38	.. ..
Do.	188F	May B.	Surr.	.. ..	.. ..	.. ..	.. ..
Do.	1F	(Princess Iris)	.. ..	.. ..	164.00	433.43	.. ..
Do.	1F, 178F, 180F	Princess Iris leases	34	.. ..	.. ..	.. ..	.. ..
Do.	135F	Ruby	Ftd.	.. ..	32.00	49.03	.. ..
Do.	226F	Triumph West	Ftd.	.. ..	.. ..	.. ..	.. ..
Do.	.. ..	Voided leases	.. ..	.. ..	.. ..	.. ..	.. ..
Do.	.. ..	Sundry claims	.. ..	.. ..	.. ..	.. ..	.. ..
Federation Well	124F	Homeward Bound	12	.. ..	41.00	250.82	.. ..
Do.	.. ..	Sundry claims	.. ..	.. ..	57.00	187.55	.. ..
Carried forward						403.00	1,173.72

from all sources, etc.—continued.

Goldfield.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	..	10.00	12.56	..	..	..	..	..	..	10.00	12.57
..	148.00	71.42	..	..	554.00	200.06
..	148.00	71.42
..	38.50	30.30
..	625.32	356.73
..	114.00	71.96
..	11.50	5.23
..	30,579.00	20,437.49
..	5.47	..	..	..	..	10.00	4.63	..	..	10.00	4.63
..	..	74.00	52.26	..	..	287.00	152.55	..	42.13	118.25	90.69
..	361.00	204.81
..	cy. 299.58	..	..	2,077.00	557.00	..	..	12.00	9.04
..	..	3,147.00	2,036.80	..	..	88.00	30.48	..	..	5,371.00	1,485.65
..	910.00	595.63	..	..	88.00	30.48
..	..	26.00	11.63	..	..	..	..	..	..	10,863.50	10,259.73
..	474.00	310.07
..	61.50	21.71
..	8.80	4.01
..	11.55	14.37	2,716.50	1,420.76
..	238.00	158.11
..	217.63	71.00	8.40
..	..	159.00	78.32	..	..	20.00	6.47	..	..	345.00	175.51
..	18.00	21.67
..	305.50	155.81
..	..	409.00	86.58	..	..	235.50	83.84	..	1.36	432.00	249.01
..	1,186.00	389.96
..	52.00	31.70
..	5.00	2.05	..	..	42.50	22.14
..	5.00	2.05
..	15.00	9.70	..	..	8,966.00	3,298.02
..	58.00	19.14
..	15.00	9.70
..	427.11	557.80
..	71.50	38.21
..	..	6.00	5.98	..	..	..	..	..	..	677.50	372.21
..	329.00	73.72	..	..	6.00	5.98
..	115.00	37.94	..	..	329.00	73.72
..	115.00	37.94
..	30.00	20.29	..	..	3,939.50	8,976.89
..	..	2,513.00	2,121.81	..	..	5,122.00	2,496.25	..	..	216.70	101.56
..	4.70	60.00	17.89	..	4.70	14,484.00	8,945.55
..	cy 31.78	..	..	..	..	..	..	60.00	17.89
..	cy. 278.57	..	..	..	31.78
..	7.06	..	..	..	..	..	664.00	278.57
..	17.98	..	..	644.47
..	5.47	6,344.00	4,737.30	7.06	4.70	9,451.50	4,438.43	29.53	280.55	84,889.18	59,652.03

Goldfield.

DISTRICT.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	143.14	30.66	74.58	..	..	30.66	74.58
..	11.00	38.59	..	..	11.00	38.59
..	122.50	83.04	..	..	122.50	83.04
..	6.00	7.46
..	..	12.00	65.57	..	..	52.50	97.99	..	..	49.00	140.09
..	64.50	163.56
..	7.00	8.74
..	8.83	218.50	125.67	..	..	142.00	29.40	..	..	379.50	170.21
..	..	13.00	58.42	..	..	14.00	7.65	..	8.83	37.00	89.69
..	26.00	10.77	..	..	26.00	10.77
..	..	44.00	81.80	..	..	52.53	37.43	..	..	197.53	598.19
..	12.50	29.97	..	..	12.50	29.97
..	516.00	1,246.92
..	3,730.00	2,970.49	..	3.33	3,730.00	2,970.49
..	32.00	49.03
..	38.00	48.08	..	..	38.00	48.08
..	80.65	114.00	148.37	..	1,669.79	10,166.50	16,523.86
..	..	48.00	207.43	..	..	487.00	768.58	..	151.57	579.50	1,599.28
..	..	71.00	179.46	..	..	46.50	18.79	..	..	615.00	1,135.59
..	46.50	18.79
..	8.83	406.50	718.35	..	223.79	4,879.19	4,363.73	..	1,976.66	16,666.69	25,001.93

TABLE IV.—Production of Gold

Mount Margaret

MOUNT MALCOLM

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.				
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	
Cardinia	993C	Cardinia	Ref.					
Do.	227C	East Lynne	Ftd.		74.29	145.00	228.07	
Diorite King	1150C	Voided leases						
Do.	1153C	Barbarossa	Ftd.					
Do.	1202C	Blue Bell	6					
Do.	1199C	Derby	10					
Do.	1192C	Diorite King	12					
Do.	1054C	Easter Gift	12					
Do.	1172C	Goldsmith's Hall	Ftd.			3.00	19.54	
Do.	1060C	Homeward Bound	24					
Do.	1186C	Hurleys Reward	Wdn.			18.00	37.42	
Do.	1017C	Kenelworth	18					
Do.	1179C	King of the Hills	Ftd.			85.00	128.96	
Do.	1114C	King of the Hills	24					
Do.	1113C	Lady Mac	Ftd.					
Do.	1075C	Meteor	Ftd.					
Do.	1152C	Needful	Ftd.			42.00	174.40	
Do.	1008C	Precaution	Ftd.					
Do.		Warragamba	Ftd.					
Do.		Voided leases						
Do.		Sundry claims				172.50	428.28	
Dodgers Well	973C	Myrtle	Ftd.			89.75	109.00	
Do.	989C	Myrtle South	Ftd.					
Do.	1080C	Seldom Fed	3			7.00	39.50	
Do.	1137C	Seldom Fed No. 1	6					
Do.		Voided leases						
Do.		Sundry claims						
Leonora	679C	Ashley's United	Ftd.			17.50	11.39	
Do.	997C	Clarence	Ftd.			73.00	64.40	
Do.	198C	(Eastern)						
Do.	210C, 253C	(Forest leases)						
Do.	1055C	Great Gwalia	Ftd.			392.00	113.12	
Do.	1104C	Great Gwalia North	24					
Do.	218C, 219C, 776C, 902C, 903C, 904C, 1106C, 1109C, 1110C, 1111C, 1142C, 1157C, 1167C	Great Tower Hill G.M.s., Ltd.	24 24 296					
Do.	1056C	Harbour Lights	24			1,021.00	275.11	
Do.	1174C	Ironstone	12					
Do.	1083C	Katie	12					
Do.	1013C	Kruger	Ftd.			38.50	17.83	
Do.	984C	Lady Muriel	Ftd.			10.00	5.63	
Do.	195C, 196C	Leonora Gold Blocks leases	36			1,164.00	732.24	
Do.	210C, 253C (907C), 1187C	Leonora Main Reefs, Ltd.	66			2,322.00	743.91	
Do.	1018C	Lights of London	Ftd.			228.00	154.34	
Do.	1028C	Lights of London South	Ftd.			18.00	16.02	
Do.	992C	Little Dorothy	Ftd.			240.25	168.03	
Do.	1046C	Little Wonder	Ftd.			25.00	10.51	
Do.	1065C	Meg's Gem	Ftd.					
Do.	1134C	New Moon	24					
Do.	218C, 219C	(Octagon Explorers, Ltd.)				1,403.00	530.82	
Do.	618C	(Pride of Leonora)	Ftd.					
Do.	618C, 649C	Pride of Leonora leases	Ftd.			220.00	131.61	
Do.	649C	(Pride of Leonora North)	Ftd.					
Do.	1088C	Rajah	Ftd.			6.00	2.65	
Do.	190C, 207C, 352C, 353C, 380C, 446C, 447C, 450C, 476C, 489C, 490C, 491C, 493C, 494C, 504C, 523C, 741C, 742C, 806/14C, 980C, 981C	Sons of Gwalia, Ltd.	a. r. p. 682 1 0			97,149.50	62,049.91	
Do.	198C, 1082C	Sons of Gwalia South G.M. Co., N.L.	39			631.00	903.61	
Do.	1077C	Star of the West	Ftd.			60.00	23.61	
Do.	1022C	Sweet Nell	Ftd.			19.57	9.47	
Do.	263C	Trump	18			2,208.50	995.11	
Do.	1086C	Viceroy	Ftd.					
Do.	1006C	Westralia Broken Hill	Ftd.					
Do.	1043C	Yackandandah	Surr.			13.00	14.10	
Do.		Voided leases						
Do.		Sundry claims				771.25	840.38	
Malcolm	1019C	Alice	Surr.			54.00	124.80	
Do.	1058C	Alice	12					
Do.	1012C	Drumard	6			142.00	142.77	
Do.	1011C	F.E.B.E.G.	Ftd.					
Do.	1159C	First and Last	10					
Do.	756C	(Golden Crown)	Ftd.					
Do.	(756C), 781C, 970C	Golden Crown and Midas United G.M. Co., N.L.	Ftd.			232.00	272.14	
Do.	1175C	Malcolm Prospecting Co., N.L.	24					
Do.	970C	Midas	Ftd.					
Do.	1042C	Nine of Hearts	Ftd.			80.00	22.18	
Do.	995C	Orphan	Ftd.					
Do.	991C	Richmond Gem	24			1,873.00	1,736.60	
Do.	1133C	Sunday	12					
Do.	1044C	Tit Bits	Ftd.			99.00	82.65	
Do.		Voided leases						
Do.		Sundry claims				36.00	32.11	
Mertondale	1066C	Bell Buoy	Wdn.			13.50	10.51	
		Carried forward				93.86	111,119.25	71,402.73

TABLE IV.—Production of Gold

Mt. Margaret

MOUNT MALCOLM

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward		93.86	111,119.25	71,402.73	
Mertondale ..	648C	(Merton's Boulder, Ltd.)					
Do.	645C	(Merton's Consols)			100.00	82.15	
Do.	638C, 644C, 645C, 648C, 653C, 1146C, 1178C	Merton's Reward G.M. Co., Ltd.	120		5,468.00	4,772.78	
Do.	638C	(Merton's Reward North)					
Do.	648C	(Merton's Reward No. 1 North)					
Do.	1136C	Merton's Reward No. 1 South	24				
Do.	1039C	Wild Cat	Ftd.		132.00	52.36	
Do.		Voided leases					
Do.		Sundry claims			64.00	65.05	
Mt. Clifford	1185C	Blue Spec	18				
Do.	463EM	Emancipator	Ftd.				
Do.	(804EM), 1125C	Emancipator	12		8.50	126.85	
Do.	670EM	Emancipator Consols	Ftd.				
Do.	1171C	Iron King	24				
Do.	(857EM), 1129C	Liberator	Ftd.		17.00	74.56	
Do.	1168C	Liberator West	19				
Do.	1132C	Mallman	Ftd.				
Do.	1200C	Paddy's Folly	12				
Do.	1135C	Royal Arthur	6				
Do.	(668EM), 1118C	Victory Number One	24		59.00	768.03	
Do.	(749EM), 1124C	Victory No. 2	Ftd.		7.00	16.00	
Do.		Voided leases					
Do.		Sundry claims			23.00	28.43	
Pig Well	1021C	Ada Crossley	Ftd.		94.00	39.30	
Do.	1081C	Artful Dodger	Ftd.		32.00	29.80	
Do.	1037C	Australian Peer	Ftd.		40.00	4.79	
Do.	1091C	Blarney Stone	Ftd.		10.00	9.71	
Do.	1138C	Bungarra	Ftd.				
Do.	1050C	Chance	Ftd.		100.00	27.85	
Do.	1067C	Evening Star	Ftd.		27.00	20.98	
Do.	994C	Flying Pig	Ftd.				
Do.	1089C	Gambler Lass	12		49.00	33.00	
Do.	969C	Harriston	Surr.		1,278.00	901.65	
Do.	975C	Harriston South	Ftd.		30.00	41.93	
Do.	1003C	Joe Chamberlain	Ftd.		22.00	17.65	
Do.	1032C	Leonatus	Ftd.		48.00	41.26	
Do.	988C	Oliver Twist	Ftd.		144.00	113.88	
Do.	1072C	Penny's Great Northern	Ftd.		22.00	10.60	
Do.		Voided leases					
Do.		Sundry claims			184.25	174.41	
Randwick	987C	Anglo-Saxon	Ftd.		703.00	558.51	
Do.	1170C	Bally Moon	12				
Do.	1195C	Black Chief	12				
Do.	978C	Randwick	12		234.23	2,756.75	
Do.	1184C	Rangoon	18				
Do.	1084C	Toorakville	5		41.00	510.25	
Do.		Voided leases					
Do.		Sundry claims			120.00	60.28	
Webster's Find	996C	Golna	Ftd.		28.50	14.92	
Do.	65C, 66C, 115C, 515C	Perseverance G.Ms., Ltd.	68		4,575.00	2,941.24	
Do.	1145C	Sunbeam	Ftd.				
Do.	65C, 66C, 115C	(Webster's G.M. Co., Ltd.)					
Do.	1000C	Webster's New Find	Ftd.				
Do.		Voided leases					
Do.		Sundry claims			12.00	5.08	
Wilson's Creek	820EM	St. Patrick	Wdn.		9.50	20.53	
Do.	(682EM), 1119C	White Flag Consols	Ftd.		298.00	124.46	
Do.		Sundry claims					
Wilson's Patch	1128C	Dorothy	Ftd.				
Do.	(696EM), 1120C	(Great Western)			3,820.00	2,023.99	
Do.	1120C, 1130C	Great Western leases	30				
Do.	(598EM), 1116C (642EM), 1117C (697EM), (1121C), (698EM), (1122C)	Lorna's Luck, Ltd.	Ftd.		15.00	13.70	
Do.	710EM (—)	Norseman	Ftd.		9.50	11.53	
Do.	(598EM), 1116C	(Teutonic)	Ftd.				
Do.		Voided leases					
Do.		Sundry claims			61.50	51.94	
		From District generally :—					
		Sundry parcels treated at :—					
		Davies Cyanide Works					
		Diorite King Battery					
		Lang's Cyanide Works					
		Middleton's Cyanide Works					
		Randwick Battery			88.50	51.66	
		State Battery, Leonora				cy. 661.73	
		State Battery, Pig Well					
		Various Works					
		Reported by Banks and Gold Dealers					
		Total			323.09	131,616.25	
						87,599.17	

TABLE IV.—Production of Gold

Mount Margaret

MOUNT MARGARET

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1934.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Burtville	1041T	(Away from Home)	22			386.00	966.20
Do.	1041T, 1087T	Away from Home leases	Ftd.			91.50	86.72
Do.	1397T	Banker	48				
Do.	1637T, 1639T	Belvidere G.M. Co., N.L.	Ftd.				
Do.	940T	(Black Swan)	Ftd.			273.50	509.56
Do.	940T	Black Swan	Ftd.				
Do.	940T, 1315T	(Black Swan Proprietary G.M. Co., N.L.)	Ftd.				
Do.	1666T	Blue Moon	Ftd.				
Do.	1019T	Bond's Find	18			252.00	257.97
Do.	1054T	Brothers	Ftd.			13.00	6.66
Do.	1597T	Brothers	18				
Do.	1638T	Bush Lawyer	Ftd.				
Do.	944T	(Carib)					
Do.	1598T	Castlere	Ftd.				
Do.	1494T	Cremorne	Ftd.			16.50	13.17
Do.	1592T	Cremorne	Ftd.			36.00	21.41
Do.	1350T	Double Handed	Ftd.			29.00	68.20
Do.	1551T	Enterprise	Ftd.			96.00	36.78
Do.	1493T	Fortunatus	Surr.			4.50	2.84
Do.	1553T	Golden Bell	24			48.00	223.52
Do.	1566T	Golden Bell North	a. r.				
Do.	1676T	Golden Bird	11 2			92.50	341.83
Do.	1398T	Golden Orbit	18				
Do.	1411T	Hard Lump	Ftd.			59.00	46.96
Do.	1457T	Jabberwock	Ftd.			25.00	28.03
Do.	1657T	Just in Time	Ftd.			13.00	38.47
Do.	1010T	Karridale	2				
Do.	1655T	Karridale South	12			282.25	1,000.25
Do.	1579T	Lady Myrtle	12				
Do.	944T, 1375T	Leviathan G.M., Ltd.	Ftd.			18.00	15.89
Do.	1048T	Maori Chief	24			134.75	124.40
Do.	1384T	Maxim	12			88.00	257.30
Do.	1647T	Maxim	Ftd.			34.00	37.72
Do.	1633T	Meantime	Surr.				
Do.	943T	(Mikado)	Wdn.				
Do.	943T, 1124T	Mikado G.M. Co., Ltd.					
Do.	1434T	Mon Ami	36			60.00	42.00
Do.	1105T	Mt. Weld Consols	Ftd.				
Do.	1563T	Mystery	Ftd.			126.00	193.83
Do.	1664T	Mystery	Surr.				
Do.	1740T	Nemo	2				
Do.	1044T	Nil Desperandum	24			160.00	377.07
Do.	1487T	Nil Desperandum North	Ftd.		6.00	30.00	29.16
Do.	1681T	Nil Desperandum North	12				
Do.	1490T	Old Pioneer	6				
Do.	1629T	Pocahontas	Ftd.				
Do.	1536T	Prior Right	Ftd.			14.00	5.09
Do.	1057T	Riddle	Ftd.			77.00	72.54
Do.	1675T	Riddle	Ftd.				
Do.	1338T	Rock of Ages	Ftd.			224.50	299.94
Do.	1695T	Rock of Ages	24				
Do.	1417T	Roscommon	12			139.00	72.03
Do.	781T	Sailor Prince	12		1.27	520.00	319.59
Do.	1089T	Savage Captain	16			494.50	1,340.82
Do.	1631T	Silistria	Ftd.				
Do.	934T	Sons of Westralia	24			151.00	168.27
Do.	1461T	Surprise	Ftd.		13.65	30.50	101.72
Do.	1716T	Surprise	12				
Do.	1668T	(Tattersalls)	Ftd.				
Do.	1668T, 1669T	Tattersalls leases	Ftd.				
Do.	1068T	Tempus	12			270.00	364.75
Do.	1634T	Treble Handed	Ftd.				
Do.	1464T	True Blue	Ftd.			70.00	139.76
Do.	1699T	Try Again	10				
Do.	1466T	Turnover	Ftd.			36.50	17.83
Do.	1011T	Wanderer	Ftd.			242.00	93.38
Do.	1700T	Wanderer	12				
Do.	1413T	Wanderer South	Ftd.			65.00	69.91
Do.	1635T	Wee MacGregor	Ftd.				
Do.		Voided leases					
Do.		Sundry claims				60.50	30.44
Duketon	1521T	Al	Ftd.			25.00	29.94
Do.	1599T	Ballintraye	Ftd.				
Do.	1627T	Commonwealth	Ftd.				
Do.	1552T	Connamara	Ftd.				
Do.	1594T	Eureka Reward	24				
Do.	1508T	Famous	12			20.00	54.95
Do.	1509T	Famous Blue	24			55.00	66.10
Do.	1660T	Germaala	Ref.				
Do.	1046T	Golden Spinnifex	24			1,405.00	785.67
Do.	1460T	Lady Bella	Wdn.			20.00	11.63
Do.	1049T	(Lauriston)				272.00	327.10
Do.	1049T	Lauriston	12				
Do.	1049T (1445T)	(Lauriston leases)					
Do.	1491	Marmont	Ftd.			60.50	17.62
Do.	1236T	Morialta	Ftd.			163.00	228.00
Do.	1432T	Mount Maiden Reward	Ftd.				
Do.	1517T	(Mulga Queen)					
Do.	1517T (1550T, 1573T, 1589T)	Mulga Queen leases	24			2,910.00	2,560.48
Do.	1522T	Mulga Queen South No. 1	Ftd.				
Do.	1510T	O'Connor Reward	Ftd.			29.50	45.28
		Carried forward				1.27	19.65
						9,723.00	11,948.78

TABLE IV.—Production of Gold

Mount Margaret

MOUNT MARGARET

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward		1.27	19.65	9,723.00	11,948.78
Duketon	1684T	Parramatta	24				
Do.	1593T	Perseverance	Ftd.				
Do.	1643T	Riccaboni	24				
Do.	1447T	Rose of Persia	Ftd.			197.00	263.62
Do.	1516T	Rose of Persia No. 1 South	Ftd.			18.00	15.50
Do.	1611T	Ruby	Ftd.				
Do.	1537T	Sweet Nell	Ftd.		56.92	21.50	56.52
Do.	1455T	Wallaroo	13			77.00	155.98
Do.	1451T	Watermelon	Ftd.			74.00	63.91
Do.		Voided leases					
Eagle's Nest		Voided leases					
Do.		Sundry claims					
Eristoun	(720T), 725T (1313T)	(Baneygo leases)	Ftd.				
Do.	(720T), 725T (1313T)	(Baneygo leases)	Ftd.			200.00	120.41
Do.	725T	Banego North	Ftd.				
Do.	1409T	Battlers	Ftd.				
Do.	1591T	Battler	Ftd.			35.00	35.92
Do.	1707T	Beckwith	12				
Do.	1735T	Beckwith South	10				
Do.	1480T	Bungarra	12				
Do.	1300T	(Caledonia)	Ftd.				
Do.	1300T, 1322T	Caledonia leases	Ftd.			388.00	892.30
Do.	1322T	(Caledonia North)	Ftd.				
Do.	1450T	City of Auckland	Ftd.			43.00	139.95
Do.	1583T	Eristoun Queen	Ftd.			4.50	11.55
Do.	1568T	Ethel	Ftd.			23.00	31.87
Do.	1621T	Ethel	Ftd.				
Do.	1539T	Gladys	Ftd.			15.00	17.78
Do.	1533T	Golden Star	Surr.			10.00	6.32
Do.	1656T	Great Derwent	5				
Do.	1679T	Hootanui	24				
Do.	1382T	King of Creation	24				
Do.	1355T	Lady Ethel	Surr.		10.74	84.00	87.70
Do.	771T	Little Doris	24			235.00	252.75
Do.	1685T	Minnie B.	24			361.00	162.47
Do.	1414T	Mistake	24				
Do.	1693T	Mourillian	24				
Do.	1718T	Ozone	Wdn.				
Do.	1712T	Rutherglen	24				
Do.	1485T	Salt Bush	Ftd.				
Do.	1391T	Spes Unica	Ftd.				
Do.	1708T	Stockwhip and Blanket	5				
Do.	1686T	Sweet Nell	24				
Do.	1444T	Sydney Mint	Ftd.				
Do.	1665T	Westralia Tasmania	24				
Do.		Voided leases					
Do.		Sundry claims					
Euro	761T	(Childe Harold)	Ftd.	326.89		50.00	70.31
Do.	761T, 1069T, 1070T, 1075/80T, 1150T, 1203T, 1204T	(Childe Harold G.M. Co., Ltd.)	Ftd.				
Do.	1546T	(Euro)				352.00	289.24
Do.	779T, 785T, 807T, 822T, 827T, 834/5T, 858T, 860/2T, 865T/7, 904T, 1065/6T, 1296T	Euro G.M.s. Ltd.	Ftd.				cy. 230.37
Do.	1546T, 1625T	Euro leases	22				
Do.	1540T	Little Maggie	Ftd.			76.00	94.04
Do.	1506T	Little Queen	Ftd.			30.00	11.71
Do.	1527T	Treasure Trove	Ftd.			23.50	21.53
Do.		Voided leases					
Do.		Sundry claims				53.00	37.03
Laverton	1616T	Acacia	Ftd.			6.00	5.94
Do.	1180T	Alma Mater	12			130.00	87.13
Do.	1717T	Arno	Ref.				
Do.	371T	Augusta	24				
Do.	1513T	Broken Pledge	Ftd.			20.00	4.17
Do.	1711T	Brothers United	12				
Do.	1663T	Cock of the Walk	24				
Do.	1601T	Cornucopia	5				
Do.	592T, 693T, 830T, 840T, 1094T	Craiggiemore Proprietary, Ltd.	100			15,569.00	3,958.59
Do.	1486T	Emerald	Ftd.			23.00	2.67
Do.	1453T	Enniskillen	Ftd.				
Do.	838T	(General Wabash)					
Do.	371T (764T, 777T), (1249T)	(Golden Rhine G.Ms. (W.A.), Ltd.)					
Do.	1602T, 1603T	Great Bedford leases	48				
Do.	829T	(Ida H.)					
Do.	1632T	Ida H. Consols	12				
Do.	829T, 838T, 846T, 1219T, 1310T, 1671T	Ida H. G.M. Co., Ltd.	120			14,610.00	12,369.97
Do.	1289T	Ida H. North Extended	Ftd.			52.00	14.90
Do.	1440T	Ida H. West	Surr.			105.00	31.08
Do.	1615T	Lady Beatrice	Ftd.			34.00	15.12
Do.	1605T	Lady Julie	Ftd.				
Do.	1706T	Lady Mary	Wdn.				
Do.	715T, 806T, 1206/7T, 1483T, 1523/5T, 1542T, 1544T, 1548T	(Lancefield G.M. Co., Ltd.)				25,154.78	10,734.01
		Carried forward		328.16	87.31	67,747.28	42,191.09

TABLE IV.—Production of Gold

Mount Margaret

MOUNT MARGARET

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward .. .. .	..	328.16	87.31	67,747.28	42,191.09
Laverton	715T, 806T, 1206/7T, 1483T, 1523/5T, 1542T, 1544T, 1548T	Lancefield G.M. Co., Ltd.	188	..	..	..	..
Do.	1498T	Laverton	Ftd. 12	..	..	..	..
Do.	1606T	Mary Alice	Surr. ..	..	..	184.00	43.42
Do.	1459T	Pinnacle	Ftd. ..	..	..	..	..
Do.	1468T	Rat's Find	Ftd. ..	..	..	..	..
Do.	1518T	Rescue	Ftd. ..	..	..	..	..
Do.	1373T	Rose	Ftd. ..	..	..	177.00	72.87
Do.	1479T	St. Albans	Ftd. 12	..	..	17.00	15.97
Do.	1752T	Sunshine	Wdn. ..	..	..	..	..
Do.	1476T	Westella	Ftd. ..	..	..	..	..
Do.	854T	White Horse	Ftd. ..	..	..	29.00	22.04
Do. .. ..	.. ..	Voided leases .. ..	..	..	..	..	..
Do. .. ..	.. ..	Sundry claims .. ..	..	43.56	56.21	396.50	181.94
Mt. Barnicoat ..	.. ..	Voided leases .. ..	..	..	..	..	..
Do. .. ..	.. ..	Sundry claims .. ..	..	..	..	..	..
Quartz Hill .. ..	.. ..	Voided leases .. ..	..	..	..	..	..
		<i>From District generally:—</i>					
		Sundry parcels treated at:—					
		Burtville Cyanide Works .. ..	..	..	..	..	cy. 892.14
		Euro Tailings Plant .. ..	..	..	..	..	..
		Golden Spinnifex Battery .. ..	..	..	..	40.00	36.92
		State Battery, Burtville .. ..	..	..	..	40.00	21.02
		State Battery, Duketon .. ..	..	..	..	..	..
		State Battery, Laverton .. ..	..	..	..	..	..
		Various Works .. ..	..	..	..	..	..
		Reported by Banks and Gold Dealers .. ..	..	..	..	..	..
		Total		371.72	143.52	68,630.78	43,477.41

North Coolgardie

MENZIES

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Comet Vale	5123Z	Air Motor	Ftd. ..	..	..	33.00	33.32
Do.	5091Z	Block 5091	12 ..	..	115.67	22.00	19.23
Do.	5208Z	Comet Tunnel	a. r. p. 13 3 24	..	..	..	..
Do.	5148Z	Coonoga G.M. Co., Ltd.	10 ..	..	..	..	..
Do.	5217Z	Gladstone	12 ..	..	..	..	..
Do.	5264Z	Goodenough for Me	6 ..	..	..	..	..
Do.	5205Z	Happy Jack	Ftd. ..	..	..	15.00	34.90
Do.	5162Z	Irene	Ftd. ..	..	..	18.00	5.91
Do.	5227Z	Lady Mack	12 ..	..	..	..	..
Do.	5235Z	Meteor	12 ..	..	..	..	..
Do.	5148Z	(Milparinka) .. ..	..	..	..	545.00	73.22
Do.	5211Z	Sand Queen	12 ..	..	..	35.00	37.84
Do. .. ..	.. ..	Voided leases .. ..	..	..	..	..	..
Do. .. ..	.. ..	Sundry claims .. ..	..	..	..	18.00	6.31
Goongarrie	5199Z	Block 5	Ftd. ..	..	..	54.00	25.68
Do.	2728Z, 3480Z	Boddington leases	24 ..	..	1,151.00	..	735.78
Do.	5274Z	Duffer	2 ..	..	..	..	..
Do.	5115Z	Garry	Ftd. ..	..	..	155.00	91.83
Do.	5242Z	Goongarrie Central	Ftd. ..	..	..	..	..
Do.	2728Z, 3480Z	(Goongarrie Goldfields, Ltd.) .. ..	..	..	..	..	..
Do.	5195Z	Goongarrie Main Reef	Ftd. ..	..	45.27	99.00	52.48
Do.	2736Z, 3185Z, 3382/3Z, 3951Z, 4869Z	(Lady Montefiore United G.Ms., Ltd.)	Ftd. ..	..	..	..	..
Do.	5125Z	Last Chance	Ftd. ..	..	..	66.00	39.35
Do.	5197Z	Main Reef North	Ftd. ..	..	..	..	cy. 23.16
Do.	5218Z	Midas	10 ..	..	..	..	..
Do.	5231Z	New Moon	Ftd. ..	..	..	..	..
Do. .. ..	.. ..	Voided leases .. ..	..	..	..	..	..
Do. .. ..	.. ..	Sundry claims .. ..	..	..	..	68.50	61.37
Menzies	5185Z	Ada Ella	Wdn. ..	..	..	10.00	5.53
Do.	5128Z	Adelaide	Ftd. ..	..	..	109.50	52.02
		Carried forward .. ..	..	..	160.94	2,399.00	1,297.93

from all sources,-etc.—continued.

Goldfield—continued.**DISTRICT—continued.**

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	..	50,118.25	40,408.86	..	52.05	60,656.20	37,411.44	1,166.42	516.07	444,815.11	208,334.59
..	..	47,693.00	15,383.22	..	..	5,946.00	3,005.82	..	..	53,639.00	18,389.04
..	39.00	11.69
..	315.47	59.00	161.06	..	315.47	59.00	161.06
..	184.00	43.42
..	10.00	21.97
..	10.00	3.40
..	..	45.00	12.53	..	..	..	..	..	..	643.50	505.91
..	171.00	95.02
..	14.50	34.75	..	..	14.50	34.75
..	5.14	30.00	40.38
..	157.50	94.28
..	533.28	3,031.00	2,900.86
..	8.51	54.00	30.67	..	69.48	810.00	463.71	43.56	134.20	1,557.00	1,137.74
..	652.00	359.12
..	23.00	23.37
..	10.00	3.86
..	892.14
..	cy. 172.67	..	..	..	..	..	..	..	172.67
..	40.00	36.92
..	15.00	355.50	..	..	55.00	1,265.25
..	cy. 888.73	..	..	31.00	29.65	..	..	31.00	54.25
..	..	8.50	cy. 24.60	..	..	3.00	49.94	..	..	11.50	57.58
..	7.64	..	..	..	..	..	..	44.00	1,947.23
..	8.47	..	..	..	23.62	..	..	..
..	8.51	97,918.75	56,923.92	8.47	437.00	67,334.70	41,511.87	1,233.60	1,504.16	505,227.11	308,586.50

Goldfield.**DISTRICT.**

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	..	97.00	49.57	..	20.39	..	..	..	355.38	51.50	44.60
..	187.00	166.08
..	..	80.00	38.50	..	..	195.50	104.83	..	..	275.50	143.33
..	..	320.00	74.31	..	..	279.00	567.03	..	..	599.00	641.34
..	..	227.00	367.52	..	..	415.00	458.01	..	..	642.00	825.53
..	8.00	1.53	..	..	8.00	1.53
..	..	75.00	33.77	..	..	236.15	120.48	..	..	326.15	189.15
..	18.00	5.91
..	..	37.50	25.64	..	..	331.50	142.58	..	..	369.00	168.22
..	..	10.00	3.92	..	..	16.50	2.90	..	..	26.50	6.82
..	545.00	73.22
..	..	667.00	801.22	..	..	709.00	452.51	..	..	1,411.00	1,291.57
..	6,993.45	3,578.74
..	..	123.75	134.93	..	..	104.50	62.93	..	..	251.25	204.17
..	..	22.50	17.76	..	..	..	..	..	..	76.50	43.44
..	..	586.00	459.47	..	..	125.00	200.68	..	..	3,834.00	2,538.83
..	7.00	5.49	..	..	7.00	5.49
..	288.00	160.38
..	1.20	20.00	15.10	..	..	..	..	..	1.20	20.00	15.10
..	3,595.00	1,763.34
..	45.27	99.00	52.48
..	254.00	621.45
..	66.00	39.35
..	cy. 12.25	..	..	..	..	..	..	..	35.41
..	..	118.00	33.81	..	..	306.00	104.57	..	..	424.00	138.38
..94	2.67	24.00	15.68	..	..	..	..	..94	2.67	24.00	15.68
25.10	..	67.75	85.98	..	20.65	171.50	105.16	27.93	22.03	5,959.64	3,856.60
..	334.75	264.47
..	10.00	5.53
..	109.50	52.02
26.04	3.87	2,480.50	2,169.43	..	41.04	2,904.65	2,328.70	28.87	706.80	26,804.74	16,948.16

TABLE IV.—Production of Gold

North Coolgardie

MENZIES

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine oss.	Fine oss.	Tons (2,24 lbs.)	Fine oss.
		Brought forward	..	160.94	2,399.00	1,297.93	
Menzies	5253z	(Africaner)	..	..	..	..
Do.	5253z, 5267z	Africaner leases	18	..	..	..
Do.	5098z	Baden Powell	Ftd.	..	127.00	204.00	
Do.	5241z	Baden Powell	Wdn.	..	..	..
Do.	5113z	Ballarat Menzies	Ftd.	..	39.00	5.84	
Do.	5143z	Battlers' Rest	Wdn.	..	11.00	5.06	
Do.	5114z	Bellenger	Ftd.	..	29.00	8.74	
Do.	5106z	Black Horse	Ftd.	..	140.00	181.81	
Do.	4879z, 4900z	Black Jack G.M. Co., N.L.	Ftd.	..	150.00	35.60	
Do.	4879z, 4900z	(Black Jack leases)	Ftd.	..	..	..
Do.	5184z	Brilliant	Ftd.	..	12.00	3.41	
Do.	5116z	Bristol	Ftd.	..	14.00	3.06	
Do.	5105z	Busy Bee	Ftd.	..	161.00	57.90	
Do.	4992z	Butterfly	Ftd.	..	23.50	10.93	
Do.	5059z	Cook Robin	Surr.	..	..	..
Do.	5104z	Columba	Ftd.	..	18.00	9.86	
Do.	5220z	Craig-y-Nos	Ftd.	..	..	..
Do.	5271z	Crown Cross	12	..	..	..
Do.	4912z, 4967z	Crown Cross leases	Ftd.	..	66.50	104.53	
Do.	2823z, 3009z, 5017z, 5018z	Crusoe Gold Claims, Ltd.	92	..	6,044.00	2,836.55	
Do.	5135z	Double Event	Ftd.	..	36.00	44.15	
Do.	5294z	Dreadnought	12	..	..	..
Do.	4952z	Dublin Castle	Ftd.	..	18.00	26.16	
Do.	5215z	Dublin Castle	12	..	..	..
Do.	5144z	Emu	Wdn.	..	..	..
Do.	5164z	Emu	Surr.	..	118.00	277.29	
Do.	5263z	Emu	18	..	..	..
Do.	(3042z, 3046z, 3054z), 4965z, 4966z	(Etrenna and Aurelia)	..	..	..	..
Do.	5210z	European	Wdn.	..	8.00	5.25	
Do.	2821z	Florence	a. r. p.	..	..	..
Do.	(2826z, 2 8 2 8 z), 2829z, (3 0 5 0 z, 3051z), 3 0 5 5 z (3056z), 5203	Florence G.M., Ltd.	48 1 9	..	591.00	547.78	
Do.	5089z	Flying Fish	16 1 27	..	215.00	447.58	
Do.	5072z	Four o'clock	Ftd.	..	20.00	4.00	
Do.	5202z	Fulcrum	Ftd.	..	..	..
Do.	5092z	Golden Age	Ftd.	..	10.00	1.96	
Do.	4855z	(Goodenough)	..	..	361.00	276.09
Do.	4855z, 4901z, 4977z	(Goodenough leases)	..	..	..	..
Do.	5090z	Great Hope	Ftd.	..	..	..
Do.	5257z	Hill's View	18	..	..	..
Do.	5173z	Homeward Bound	Ftd.	..	33.00	4.82	
Do.	5206z	Hopeful	Surr.	..	12.00	22.51	
Do.	5141z	Just in Time	Surr.	..	25.00	4.08	
Do.	3277z	Kensington	Surr.	..	10.00	5.19	
Do.	5103z	Kensington Easter Gift	Ftd.	..	4.00	3.45	
Do.	5156z	Klondyke	Wdn.	..	15.00	2.04	
Do.	5226z	Klondyke	Wdn.	..	..	..
Do.	5179z	Lady Fanny	Ftd.	..	1.35	8.74	
Do.	4972z, 5003z	Lady Harriet leases	15	..	19.03	455.06	
Do.	5284z	Lady Harriet North	20	..	..	..
Do.	2820z, 3006z	(Lady Shenton G.M., Ltd.)	..	..	1,119.00	675.87
Do.	5297z	Lady Sherritz	9	..	..	..
Do.	2835z	Lady Sherry	24	..	..	..
Do.	2835z (3914z)	(Lady Sherry leases)	..	..	392.25	259.86
Do.	5134z	Lincoln	Surr.	..	31.00	71.75	
Do.	5181z	Lincoln	9	..	37.00	59.17	
Do.	5069z	Lion	Ftd.	..	8.00	7.21	
Do.	5244z	Lion	9	..	..	..
Do.	5201z	Little Peter	Surr.	..	10.00	3.41	
Do.	5083z	Little Tom	Ftd.	..	..	..
Do.	5229z	Little Vic	Surr.	..	..	..
Do.	5139z	Little Wonder	Surr.	..	..	..
Do.	5163z	Little Wonder	Surr.	..	94.00	329.98	
Do.	5189z	Little Wonder	Ftd.	..	113.00	129.29	
Do.	5171z	Little Wonder North	Ftd.	..	..	..
Do.	5013z	London and Coolgardie Explorers, Ltd.	Ftd.	..	12.00	6.78	
Do.	5230z	Lone Hand	12	..	..	..
Do.	5168z	Lord Roberts	Ftd.	..	26.00	7.06	
Do.	5137z	Lucky Hit	Ftd.	..	35.00	5.49	
Do.	5127z	Lucky Prop	Ftd.	..	..	..
Do.	5194z	Lucky Strike	Ftd.	..	36.00	5.10	
Do.	5151z	Lucky Venture	Ftd.	..	45.00	9.49	
Do.	5196z	Maori	Ftd.	..	12.00	2.63	
Do.	5279z	Maori	Wdn.	..	..	..
Do.	4987z	Maori Chief	12	..	96.00	74.28	
Do.	4895z, 4944z, 5251z, 5252z	Maranoa leases	40	..	286.00	236.25	
Do.	3011z, 3031z	Menzies Alpha leases, Ltd.	a. r. p.	..	343.50	476.27	
Do.	4 9 3 1 z, 4934/6z, 5074/5z, (5085z) 5260/1z, 5280z	Menzies Consolidated, Ltd.	43 1 21	..	14,657.00	8,972.58	
Do.	5136z	Menzies Fortuna	Surr.	..	118.00	118.81	
Do.	2820z, 3006z	Menzies Gold Mine leases	a. r. p.	..	..	..
Do.	5017z, 5018z	(Menzies Gold Reefs Proprietary, Ltd.)	36 0 12	..	..	..
Do.	5145z	Menzies Horseshoe	Ftd.	..	62.50	19.02	
		Carried forward	..	181.32	28,890.25	18,370.67	

from all sources, etc.—continued.

Goldfield—continued.

DISTRICT—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
26.04	3.87	2,480.50	2,169.43	..	41.04	2,904.65	2,329.70	28.87	706.80	26,804.74	16,948.16
..	..	34.50	38.09	..	..	202.00	519.45	..	..	236.50	557.54
..	81.00	132.60	..	..	81.00	132.60
..	..	19.00	8.63	..	..	..	..	..	..	144.00	222.20
..	19.00	8.63
..	64.75	18.06
..	21.00	18.03
6.00	3.00	70.00	42.71	..	..	11.00	4.47	21.72	10.07	31.00	9.02
..	..	12.00	9.23	..	..	20.00	6.59	..	..	221.00	228.99
..	182.00	51.42
..	..	14.00	2.20	..	..	..	..	..	..	789.00	1,051.65
..	26.00	5.61
..	26.00	7.70
..	207.00	78.77
..	97.50	167.20
..	38.00	184.82
..	18.00	9.85
..	..	220.00	88.15	..	..	..	..	..	..	220.00	88.15
..	77.00	29.38	..	..	77.00	29.38
..	..	18.00	10.82	..	..	..	..	..	3.37	594.50	1,481.66
..	..	3,533.00	1,517.93	..	..	1,455.50	1,624.33	..	..	31,748.50	31,731.66
..
..	..	38.00	17.05	..	..	..	..	..	..	74.00	61.20
..	58.00	50.86	..	..	58.00	50.86
..	274.00	503.18
..	22.74	141.00	206.64	..	46.42	59.50	112.62	..	69.16	200.50	319.26
..	35.00	118.70
..	..	177.00	417.95	..	..	..	..	..	..	295.00	695.24
..	6.55	141.00	444.13	..	6.55	141.00	444.13
..	655.25	371.14
..	8.00	5.25
..	..	616.00	664.01	..	..	772.00	378.48	..	..	7,436.00	6,733.39
..
..	..	304.00	260.58	..	..	220.50	224.56	..	..	919.50	1,480.88
..	73.00	69.94
..	..	12.00	11.02	..	..	..	..	..	..	12.00	11.02
..	37.00	48.65
..	3,430.95	5,177.86
..	..	1,017.00	1,042.80	..	..	..	..	..	..	1,017.00	1,042.80
..	12.50	21.85
..	29.00	44.11	..	..	29.00	44.11
..	33.00	4.82
..	..	6.00	5.37	..	..	..	..	..	..	18.00	27.88
..	25.00	4.08
..	145.00	110.38
..	17.00	23.42
..	15.00	2.04
..	..	52.00	11.72	..	..	..	..	..	..	52.00	11.72
..	1.35	16.00	8.74
..	27.18	819.00	461.53	..	19.53	842.00	420.03	..	101.41	3,019.00	2,421.53
..	175.00	97.89	..	..	175.00	97.89
..	..	4,091.00	3,872.82	..	..	331.00	554.93	..	..	96,611.00	132,658.24
..	45.00	67.20	..	..	45.00	67.20
..	4.74	254.00	200.92	..	4.74	254.00	200.92
..	16.55	291.00	181.98	..	..	..	..	..	60.77	904.25	683.88
..	9.72	55.00	112.92	..	9.72	31.00	71.75
..	..	24.00	65.06	..	..	..	..	..	..	116.00	237.15
..	2.35	41.00	88.11	..	2.35	92.00	123.12
..	..	43.00	56.70	..	..	..	..	..	..	84.00	144.81
..	10.00	3.41
..	25.00	40.49
..	..	17.50	29.73	..	..	..	..	..	..	17.50	29.73
..	14.00	15.06
..	94.00	329.98
..	15.13	163.00	436.67	..	..	48.00	62.41	..	15.13	324.00	628.37
..	22.00	18.58	..	..	22.00	18.58
..	384.00	454.98
..	..	59.00	50.40	..	..	120.00	204.47	..	..	179.00	254.87
..	26.00	7.06
..	40.00	15.24
..	72.00	17.96
..	36.00	5.10
..	45.00	9.49
..	17.00	13.86	..	..	12.00	2.63
..	..	283.00	266.99	..	..	139.25	150.32	..	5.44	17.00	13.86
..	..	454.00	529.52	..	..	387.00	356.54	..	..	682.25	619.56
..	2,422.30	2,541.43
..	..	313.00	483.59	..	..	525.00	538.83	..	..	11,600.00	16,076.57
..	..	17,634.00	10,134.44	..	..	17,321.00	9,478.39	..	..	116,692.00	75,353.41
..
..	..	19.00	20.93	..	..	..	..	..	..	137.00	139.74
..
..	6,718.25	3,722.65	..	..	6,718.25	3,722.65
..	6,024.00	11,181.37
..	62.50	19.02
32.04	88.47	32,974.50	23,114.69	..	130.35	33,071.65	21,988.43	50.59	996.86	323,662.24	318,629.67

TABLE IV.—Production of Gold

North Coolgardie

MENZIES

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward	..	181.32	28,890.25	18,370.67	
Menzies	2835z, (3806z, 3914z, 4064z)	(Menzies Lady Sherry G.M. Co., N.L.)	..	..	..	..
Do.	(2826z, 2828z), 2829z (3050z, 3051z), 3055z, (3056z)	(Menzies, Ltd.)	..	..	..	..
Do.	5149z	Menzies Main Reef	Ftd.	..	37.00	10.00	
Do.	2832z, 2843/4z, (3089z, 3098z), 3100z, (3106z), 3138z, 3148z, 3151z, (3203z, 3269z, 4930z, 4948z, 4965z), 4966z, (4976z, 5011z, 5097z)	Menzies Mining and Exploration Corporation, Ltd.	a. r. p. 96 2 24	..	1,966.00	4,184.20	
Do.	5140z	Menzies Proprietary	Ftd.	..	183.00	120.11	
Do.	5236z	Menzies Proprietary	6	..	..	..
Do.	5118z	Menzies Star	Ftd.	..	94.00	55.68	
Do.	(3149z, 3150z), 3151z	(Menzies United Mines, Ltd.)	..	..	..	..
Do.	4960z	Meriyulah	12	..	107.00	91.12	
Do.	5183z	Moonlight	Ftd.	..	35.00	25.71	
Do.	5082z	Myrtle	Ftd.	..	..	..
Do.	5225z	Never Despair	5	..	..	..
Do.	5209z	Nugget (Oceanic)	Surr.	..	36.00	98.03	
Do.	4969z	Olive Branch	Ftd.	..	40.00	8.29	
Do.	5112z	Olive Branch	Ftd.	..	..	..
Do.	5266z	Opal	10	..	30.00	4.71	
Do.	5100z	Ophir	Ftd.	..	17.00	5.92	
Do.	5186z	Perseverance	Ftd.	..	98.00	29.52	
Do.	5102z	Perseverance	12	..	..	..
Do.	5272z	Picton	12	..	177.50	51.61	
Do.	4985z	Pride of the Hills	9	..	..	..
Do.	5278z	Queen's Birthday	12	..	..	..
Do.	5273z	Queenslander	Surr.	..	8.00	4.25	
Do.	2836z, 4855z, 4901z, (4989z), 4977z, 5275z	Queensland Menzies G.M. Co., N.L.	a. r. p. 60 2 22	..	9,973.00	6,874.46	
Do.	5065z	Rescue	Surr.	..	..	..
Do.	5117z	Resurgam	Surr.	..	5.00	4.74	
Do.	5109z	Sailor	Surr.	..	..	..
Do.	5232z	Secret	6	..	..	..
Do.	5259z	Secret Extended	3	..	..	..
Do.	5204z	Sentinel	Ftd.	..	50.00	31.86	
Do.	5233z	Sophie	12	..	..	..
Do.	4950z	Springfield	24	..	279.00	176.77	
Do.	5081z	St. Albans	6	..	31.00	60.78	
Do.	5289z	Sun	12	..	..	..
Do.	5010z	Sunday Gift	6	..	68.00	65.59	
Do.	5130z	True Blue	Ftd.	..	57.00	128.40	
Do.	5262z	True Blue	10	..	..	..
Do.	5207z	Two Walters	Surr.	..	30.00	10.78	
Do.	5131z	Victoria Cross	Surr.	..	32.00	7.48	
Do.	5066z	Victory	12	..	93.10	162.21	
Do.	5068z	Victory North	12	..	70.50	91.87	
Do.	5094z	Victory South	Surr.	..	243.00	166.50	
Do.	5038z	Viking	Surr.	4.86	18.00	107.19	
Do.	3048z	Warrior	16	..	344.00	172.26	
Do.	3048z, (3235z, 3398z, 5060z)	(Warrior Menzies G.M. Co., N.L.)	..	..	..	..
Do.	5101z	Welcome	Ftd.	..	90.00	24.53	
Do.	5034z	Westralian Menzies	Ftd.	..	20.00	32.56	
Do.	5154z	Witch Hazel	Wdn.	..	21.00	8.82	
Do.	..	Voided leases	..	..	..	..
Do.	..	Sundry claims	..	148.65	345.00	232.40	
Do.	5121z	Commonwealth	Ftd.	..	98.00	56.34	
Do.	5035z	Federation	12	..	627.00	1,826.70	
Do.	5124z	Federation South	Surr.	..	..	..
Do.	5026z	Forest Belle	Ftd.	..	..	..
Do.	5170z	Forest Belle	Ftd.	..	198.00	220.85	
Do.	5250z	Forest Belle	10	..	..	..
Do.	5221z	Forest Belle North	Ftd.	..	..	..
Do.	5167z	Good Hope	Ftd.	..	..	..
Do.	5249z	Gunbower	Surr.	..	..	..
Do.	5216z	Lady Doris	Ftd.	..	..	..
Do.	5228z	Lady Doris West	Ftd.	..	..	..
Do.	5239z	Main Lode	12	..	..	..
Do.	4525z, (4547/8z), 4549z, 4582/3z, (5027z, 5033z)	Mt. Ida Consols, Ltd.	87	..	1,032.48	1,425.53	
Do.	5243z	Mt. Ida Meteor	12	..	..	..
Do.	5138z	Mystery	Ftd.	..	70.00	32.07	
Do.	5172z	New Chum	Surr.	..	30.00	31.01	
Do.	5282z	Rio Tinto	12	..	..	..
Do.	5301z	Sandstone	18	..	..	..
Do.	5033z	(Try Again)	Ftd.	..	..	..
Do.	5177z	Unexpected	12	..	66.00	135.97	
Do.	5222z	Unexpected North	12	..	..	..
Do.	5290z	Unexpected South	12	..	..	..
		Carried forward	..	334.83	45,609.83	35,148.49	

from all sources, etc.—continued.

Goldfield—continued.

DISTRICT—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
32.04	88.47	32,974.50	23,114.69	..	130.35	33,071.65	21,988.43	50.59	996.86	323,862.24	318,629.67
..	10.88	..	2,208.00	2,330.60
..	308.00	457.23
..	37.00	10.00
..	..	2,441.00	4,063.72	..	..	1,727.00	1,926.34	..	..	15,970.45	22,477.99
..	..	138.00	278.78	..	..	..	..	..	..	329.00	415.87
..	141.00	376.91	..	..	141.00	376.91
..	94.00	55.68
..	..	107.00	120.13	..	..	31.00	40.17	..	9.08	121.85	115.14
..	336.00	375.04
..	56.00	25.71
..	56.00	57.94
..	..	81.00	42.10	..	..	79.00	43.20	..	..	160.00	85.30
..	..	51.00	46.89	..	..	..	..	..	..	87.00	144.92
..	50.00	26.52
..	40.00	8.29
..	71.00	33.70	..	..	71.00	33.70
..	30.00	4.71
..	17.00	5.92
..	98.00	29.52
..	8.00	3.92	..	..	8.00	3.92
..	..	143.00	27.52	..	..	30.00	14.04	..	..	400.50	113.11
..	10.00	21.91	..	..	10.00	21.91
..	18.00	55.91	..	..	18.00	55.91
..	36.00	20.35
..	..	6,368.00	8,241.21	..	..	1,970.00	1,790.47	..	..	46,821.00	75,599.29
..	48.00	81.06
..	15.00	9.42
..	8.03	56.00	142.49	..	..	91.00	190.48	..	..	147.00	332.97
..	11.00	4.12	..	8.03	11.00	4.12
..	..	5.00	3.72	..	..	129.00	95.77	..	..	55.00	35.58
3.53	..	113.00	75.91	..	..	91.00	50.02	3.53	..	242.00	171.68
..	..	145.00	110.00	..	1.63	7.00	13.68	..	1.63	878.00	633.83
..	..	15.00	28.09	..	..	9.00	14.12	..	2.26	80.00	120.55
..	92.00	150.12	..	..	9.00	14.12
..	..	88.00	89.32	..	..	132.00	52.42	..	..	393.00	693.81
..	..	18.00	16.35	..	..	..	..	..	..	97.00	186.77
..	132.00	52.42
..	..	50.00	20.00	..	..	..	..	..	..	80.00	30.78
..	32.00	7.48
..	..	80.00	144.61	..	..	87.00	219.34	..	..	326.10	752.97
..	..	39.00	60.50	..	..	112.00	97.60	..	..	284.50	372.23
..	..	44.00	145.31	..	..	67.50	110.31	..	..	354.50	422.12
..	..	21.00	83.99	..	..	13.50	28.75	..	23.91	103.50	419.83
..	..	101.00	41.02	..	..	528.00	450.57	..	..	1,178.00	869.06
..	1,165.00	731.48
..	90.00	24.53
..	5.75	20.50	125.22
..	21.00	8.82
3.88	..	927.00	601.18	..	..	1,221.75	927.35	8.70	18.98	10,272.30	11,106.66
..	..	39.00	23.41	..	..	..	..	3.88	230.37	3,118.75	2,380.04
..	..	359.00	546.49	..	..	126.00	176.26	..	..	145.00	84.62
..	1,511.00	3,989.84
..	14.00	7.86
..	..	72.00	39.83	..	..	..	..	..	..	2,266.00	2,156.24
..	..	98.00	45.13	..	..	290.00	217.62	..	..	270.00	260.68
..	..	169.00	84.89	..	..	24.00	14.90	..	..	388.00	262.75
..	..	7.00	6.67	..	..	..	..	..	..	193.00	99.79
..	..	14.00	2.98	..	..	8.00	4.16	..	..	7.00	6.67
..	..	12.00	5.96	..	..	22.00	6.48	..	..	22.00	7.14
..	..	9.00	3.14	..	..	..	..	..	..	34.00	12.44
..	..	252.00	147.98	..	..	226.00	90.18	..	..	9.00	3.14
..	..	567.50	824.99	..	..	149.00	60.70	..	..	478.00	238.16
..	9,355.83	15,786.96
..	..	198.00	191.19	..	..	356.00	432.45	..	..	554.00	623.64
..	..	88.00	59.30	..	..	..	..	..	..	201.00	129.06
..	91.00	126.34	..	..	30.00	31.01
..	68.00	103.38	..	..	91.00	126.34
..	68.00	103.38
..	..	158.00	601.36	..	..	239.00	614.05	..	..	84.00	56.29
..	..	94.00	189.56	..	..	76.00	93.65	..	..	403.00	1,351.38
..	94.00	214.23	..	..	170.00	233.21
..	94.00	214.23
39.45	96.50	46,142.60	40,270.41	..	131.98	41,517.40	30,854.05	78.17	1,296.87	426,746.02	466,903.53

TABLE IV.—Production of Gold

North Coolgardie

MENZIES

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward .. .. .	..	334.83	45,609.83	35,148.49
Mt. Ida	5292z	Wild Rose	8	..	..	..
Do. .. .. .	.. .. .	Voided leases .. .. .	..	..	..	..
Do. .. .. .	.. .. .	Sundry claims .. .. .	..	..	361.00	175.17
		<i>From District generally:—</i>					
		Sundry parcels treated at:—					
		Adeline Mill, Boulder .. .. .	..	..	10.00	1.57
		Coonoga Battery, Comet Vale .. .. .	..	..	..	..
		Florence Battery .. .. .	..	..	77.50	77.36
		Fremantle Smelter, Ltd. .. .. .	..	..	..	..
		Menzies Mining and Exploration Corporation Battery .. .. .	..	..	5.00	3.76
		Mt. Ida Cyanide Works .. .. .	..	..	..	cy. 277.88
		State Battery, Menzies .. .. .	..	..	464.50	677.31
		State Battery, Mt. Ida .. .. .	..	..	655.00	306.78
		Various Works .. .. .	..	..	..	..
		Reported by Banks and Gold Dealers .. .. .	..	82.92	14.66	..
		Total .. .. .	..	82.92	349.49	47,182.83
						36,668.32	

ULLARING

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Davyhurst	726U	Brilliant	Ftd.	..	..	..
Do.	720U	Constance	Ftd.	..	27.00	7.06	
Do.	735U	Coronation	Ftd.	..	..	..
Do.	458U	(Eileen)	Surr.	..	..	..
Do.	458U, 573U, 576U, 598U, 787U	Eileen leases	Surr.	..	854.00	348.70	
Do.	824U	Emperor	24	..	..	..
Do.	641U	Federal Flag	Ftd.	..	..	..
Do.	815U, 816U	Federal Walhalla G.M. Co., N.L.	Ftd.	..	..	..
Do.	460U	Forget-me-not	Ftd.	..	..	cy. 2.68
Do.	711U	Golden Eagle	Ftd.	..	223.50	84.11	
Do.	459U	(Golden Pole) .. .. .	..	..	..	..
Do.	459U, 461U, 468U, 484U, 741U, 786U	Golden Pole G.Ms., Ltd.	90	..	5,823.00	9,614.36	
Do.	459U, 461U, 468U, 484U, 741U	(Golden Pole, G.Ms., N.L.) .. .. .	..	..	..	..
Do.	613U	(Great Ophir) .. .. .	..	..	..	..
Do.	613U	(Great Ophir G.Ms., Ltd.)	24	3.34	9.10	30.05	
Do.	440U	(Homeward) .. .. .	..	..	161.50	218.85
Do.	740U	Homeward Bound	Ftd.	..	93.10	56.82	
Do.	814U	(Homeward Bound)	11	..	..	..
Do.	440U, 496U	(Homeward leases)	a. r. p. 14 3 18	..	..	..
Do.	733U	King Edward	Ftd.	..	..	cy. 2.45
Do.	858U	Light of Israel	18	..	..	..
Do.	689U	Madame Berry	Ftd.	..	7.25	3.57	
Do.	686U	(Melrose)	24	..	87.20	172.99	
Do.	611U	President Loubet	15	..	25.00	10.54	
Do.	11U, 12U	Speakman's Mt. Callion, Ltd.	Ftd.	..	..	cy. 252.97
Do.	438U	(Walhi) .. .. .	..	..	..	..
Do.	496U	(Walhi Consols) .. .. .	..	..	..	..
Do.	789U	Walhi South	Ftd.	..	31.50	9.31	
Do.	438U	(Westralia Walhi G.Ms., N.L.) .. .. .	..	..	283.00	128.40
Do.	438U, 792U	Westralia Walhi G.Ms., N.L.	36	..	..	..
Do. .. .. .	.. .. .	Voided leases .. .. .	..	..	..	..
Do. .. .. .	.. .. .	Sundry claims .. .. .	..	..	373.50	109.55
Mulline	179U	Bella Male	18	..	544.00	315.79	
Do.	840U	Cooladdie	24	..	..	..
Do.	330U, 408U	Cooladdie leases	Surr.	..	240.00	223.98	
Do.	779U	Duchess of York	Ftd.	..	45.00	20.34	
Do.	761U	George Frederick	Ftd.	..	7.00	4.65	
Do.	807U	Gladstone	Surr.	..	..	..
Do.	762U	Himalaya	Ftd.	..	66.00	23.06	
Do.	765U	Hit or Miss	Ftd.	..	51.00	9.36	
Do.	769U	Keep-it-Dark	Wdn.	..	10.00	5.92	
Do.	403U	Lady Florence	Ftd.	..	94.00	17.84	
Do.	785U	Lady Florence	Ref.	..	..	..
Do.	139U, 235U, 555U, 670U, 671U, (677U), 679U (835U, 709U), (727U), 732U (774U), (775U, 767U)	Lady Gladys G.M. Co., N.L.	56	..	2,982.50	3,384.94	
		Carried forward .. .. .	..	3.34	12,038.15	15,058.29

from all sources, etc.—continued.

Goldfield—continued.

DISTRICT—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
39.45	96.50	46,142.00	40,270.41	..	131.98	41,517.40	30,854.05	78.17	1,296.87	426,746.02	466,903.53
..	12.00	3.37	..	..	12.00	3.37
..	..	736.00	476.23	..	9.14	341.00	168.44	..	77.07	8,668.75	7,304.19
..	9.57	2,133.00	1,366.92
..	35.00	12.27
..	..	11.00	29.05	..	..	10.00	3.50	..	..	10.00	3.50
..	88.50	106.41
..	..	7.00	3.22	..	..	..	1120.89	..	..	..	120.89
..	cy. 372.61	..	..	..	cy. 22.42	..	..	..	579.71
..	..	68.00	535.50	..	..	37.00	cy. 495.74	..	..	..	1,146.23
..	..	50.00	3.29	..	..	166.00	140.71	..	..	..	2,454.68
..	569.50	1,500.31
..	537.55	1,636.08
60.92	8.15	..	..	23.56	22.19	..	..	881.39	195.48	..	..
100.37	104.65	46,972.00	41,690.31	23.56	163.31	42,083.40	33,050.99	959.56	1,578.99	440,756.07	483,638.09

DISTRICT.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	21.00	16.41
..	84.00	31.07
..	25.00	22.89
..	..	3,319.00	1,253.40	..	..	1,487.00	906.84	..	8.07	1,887.00	2,246.19
..	6,318.00	3,095.63
..	..	22.00	12.42	..	..	13.00	17.63	..	..	35.00	30.05
..	..	62.00	39.21	..	..	..	..	..	..	86.00	141.87
..	62.00	39.21
..	..	45.65	15.08	..	..	..	..	..	..	195.00	144.74
..	415.45	234.51
..	..	18,961.00	25,960.86	..	..	15,587.00	11,796.08	..	..	34.00	47.51
..	41,537.00	49,422.00
..	970.00	2,321.69
..	161.00	96.79
..	..	550.00	281.78	..	..	..	..	..	3.34	559.10	311.83
..	418.50	681.40
..	..	52.00	20.35	..	..	..	..	..	..	106.30	59.91
..	52.00	20.35
..	..	139.00	146.37	..	..	..	..	..	..	139.00	146.37
..	25.20	18.65
..	14.81	160.50	68.46	..	14.81	160.50	68.46
..	..	118.50	190.54	..	..	35.50	10.93	..	.89	96.75	126.48
..	311.70	551.17
..	25.00	10.54
..	4,822.25	3,781.51
..	..	41.90	16.36	..	..	..	..	..	4.51	243.50	851.09
..	..	12,339.00	1,073.68	..	..	9,320.00	3,922.52	..	..	95.00	153.55
..	73.40	25.67
..	..	99.05	30.72	..	..	..	..	..	..	1,437.00	1,528.94
..	..	18.00	642.00	..	..	..	..	2.93	80.05	21,659.00	8,996.20
..	498.76	..	..	645.50	194.78	..	1.30	2,178.85	2,020.73
..	699.50	270.34	..	18.00	1,944.80	833.44
..	281.50	173.65	..	..	3,266.50	3,505.72
..	..	520.00	618.90	..	..	110.00	63.95	..	..	281.50	173.65
..	3,836.50	4,826.87
..	45.00	20.34
..	17.50	14.12
..	..	90.00	149.79	..	..	51.00	49.04	..	..	141.00	198.83
..	..	18.00	8.63	..	..	112.00	31.50	..	..	232.00	69.87
..	67.50	17.52
..	10.00	5.92
..	..	6.00	7.45	..	..	..	..	..	..	1,084.00	534.65
..	..	1,357.00	1,262.35	..	..	2,677.50	2,836.46	..	..	6.00	7.45
..	8,176.50	8,750.45
..	18.00	38,382.10	35,586.65	..	14.81	31,180.00	20,344.18	2.93	130.97	103,320.10	96,500.24

TABLE IV.—Production of Gold

North Coolgardie

ULARRING

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward	..	3.34	12,038.15	15,058.29	
Mulline ..	139U, 235U, 555U ..	(Lady Gladys leases)	..	..	..	..
Do. ..	670U ..	(Lady Gladys Junction)	..	..	..	..
Do. ..	752U ..	Little Gem	Ftd.	..	10.00	2.70	
Do. ..	719U ..	Melba	Ftd.	..	..	..
Do. ..	2U ..	(Mulline)	Ftd.	..	..	..
Do. ..	2U, 682U ..	Mulline leases	Ftd.	..	215.00	154.59	
Do. ..	839U ..	Overlander	12	..	..	..
Do. ..	819U ..	Pirate	18	..	..	..
Do. ..	758U ..	Recovered Rights	Ftd.	..	54.50	22.04	
Do. ..	722U ..	Reggie	Ftd.	..	84.00	47.31	
Do. ..	123U, (162U, 683U), 773U, (829U)	(Riverina G.M. Co., N.L.)	30	..	1,827.00	1,063.11	
Do. ..	810U ..	Riverina Main Reef	8	..	..	..
Do. ..	784U ..	Riverina North	Ftd.	..	37.75	27.99	
Do. ..	324U, 600U, 730U ..	Riverina South leases	29	43.87	1,797.00	1,084.06	
Do. ..	749U ..	Riverina Star	Ftd.	..	49.00	21.36	
Do. ..	836U ..	Standard	9	..	..	..
Do. ..	826U ..	Victoria	18	..	..	..
Do. ..	800U ..	Victory	Ftd.	..	10.00	6.45	
Do. ..	763U ..	Young Australia	12	..	50.00	26.42	
Do. ..	790U ..	Young Boulder	Surr.	..	22.00	8.41	
Do. ..	..	Voided leases	..	..	..	..
Do. ..	..	Sundry claims	..	..	22.00	16.86
Mulwarrie	771U ..	Big Buck	Ftd.	..	136.00	81.93	
Do. ..	734U ..	Bobby Dazzler	Ftd.	..	13.00	14.08	
Do. ..	760U ..	Called Back	Ftd.	..	49.90	50.49	
Do. ..	791U ..	Great Winara	Ftd.	..	84.65	21.59	
Do. ..	831U ..	Great Winara	12	..	..	..
Do. ..	737U ..	Green Jacket	Ftd.	..	24.25	12.48	
Do. ..	401U ..	Killaloe	Ftd.	..	8.85	8.28	
Do. ..	401U, (500U)	(Killaloe leases)	Ftd.	..	..	..
Do. ..	825U ..	Little Hero	Surr.	..	..	..
Do. ..	743U ..	Moonstone	..	..	18.35	29.02
Do. ..	9U ..	Mulwarrie	Surr.	..	82.00	78.57	
Do. ..	398U ..	Mulwarrie East	Surr.	..	42.00	1.11	
Do. ..	494U ..	Mulwarrie Main Reef	12	..	265.00	556.28	
Do. ..	395U ..	Mulwarrie North	Surr.	..	..	..
Do. ..	818U ..	Mulwarrie Westralia Mining Syndicate, N.L.	Ftd.	..	..	..
Do. ..	746U ..	N.T.B.	Ftd.	..	..	..
Do. ..	308U, 391U, 442U ..	Oakley leases	Surr.	..	169.05	310.52	
Do. ..	801U ..	Our Selection	Surr.	..	49.80	17.82	
Do. ..	729U ..	Recoup	Ftd.	..	12.25	7.87	
Do. ..	748U ..	Scotty's Last Chance	Ftd.	..	17.25	7.79	
Do. ..	783U ..	Sunrise	Ftd.	..	23.50	11.58	
Do. ..	852U ..	Surprise	5	..	..	..
Do. ..	674U ..	Thunderbolt	Ftd.	..	325.45	222.64	
Do. ..	644U ..	Toledo	Ftd.	..	200.00	113.67	
Do. ..	724U ..	Toledo South	Ftd.	..	12.00	8.80	
Do. ..	738U ..	Ularing Westralia	Surr.	..	116.85	44.87	
Do. ..	855U ..	Ularing Westralia	12	..	..	..
Do. ..	..	Voided leases	..	..	..	..
Do. ..	..	Sundry claims	..	..	19.75	7.84
Ularring	754U ..	Dead Finish	Ftd.	..	53.00	73.12	
Do. ..	780U ..	Drusilla	3	..	69.00	155.30	
Do. ..	89U, 92U ..	(London and Coolgardie Explorers, Ltd.)	36	..	395.00	663.07	
Do. ..	766U ..	Off Chance	12	..	59.00	62.61	
Do. ..	759U ..	Revenue	Wdn.	..	..	..
Do. ..	1U ..	Shamrock	Ftd.	..	246.00	197.35	
Do. ..	..	Voided leases	..	..	..	..
Do. ..	..	Sundry claims	..	..	..	..
<i>From District generally:—</i>							
Sundry parcels treated at:—							
Cresus South Battery, Kalgoorlie				..	73.25	34.46	
Riverina G.M. Co., N.L., Battery				..	204.00	666.73	
State Battery, Mulline				..	385.55	722.11	
State Battery, Mulwarrie				..	..	..
Reported by Banks and Gold Dealers ..				..	..	..
Total				..	47.84	19,371.10	21,721.57

from all sources, etc.—continued.

Goldfield—continued.

DISTRICT—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	18.00	33,382.10	35,586.65	..	14.81	31,180.00	20,344.18	2.93	130.97	103,320.10	96,500.24
..	170.89	7,741.00	15,025.05
..	10.00	52.78
..	9.00	7.80
..	1,004.25	1,980.40
..	..	43.00	22.87	..	..	..	..	..	..	258.00	177.46
..	27.00	26.97	..	..	27.00	28.97
..	..	34.00	35.12	..	..	310.50	196.75	..	..	344.50	231.87
..	54.50	22.04
..	..	16.00	8.67	..	..	..	..	..	..	100.00	55.98
..	..	1,256.00	835.80	..	..	803.00	308.83	..	..	11,254.00	7,096.21
..	..	26.00	8.72	..	..	164.75	87.05	..	..	190.75	95.77
..	..	40.00	24.18	..	..	..	..	..	..	77.75	52.17
..	..	747.00	336.43	..	..	204.00	219.02	..	43.87	6,493.50	5,205.42
..	25.75	6.14	..	..	74.75	27.50
..	62.00	41.73	..	..	62.00	41.73
..	352.00	270.10	..	..	352.00	270.10
..	..	62.00	25.56	..	..	..	..	..	..	72.00	32.01
..	..	61.00	120.84	..	..	250.50	779.29	..	..	361.50	926.55
..	..	29.00	7.27	..	..	..	..	..	..	51.00	15.68
..	13.80	6,238.72	7,106.72
..	1.92	207.00	161.64	..	15.86	524.50	404.22	..	18.01	1,341.50	1,354.95
..	..	43.55	22.36	..	..	..	..	..	..	179.55	104.29
..	43.75	39.70
..	..	8.00	5.40	..	..	..	..	..	..	57.90	55.89
..	84.65	21.59
..	77.50	17.06	..	..	77.50	17.06
..	112.80	59.77
..	89.35	48.74
..	359.50	554.98
..	..	55.00	44.23	..	53	74.00	74.72	..	53	129.00	118.95
..	63	18.35	29.02
..	..	240.00	171.50	..	..	91.00	70.71	..	..	2,739.49	6,029.23
..	42.00	1.11
..	..	125.00	382.77	..	..	195.00	301.44	..	..	1,121.00	2,538.33
..	1,586.00	2,199.32
..	18.50	18.50	..	..	18.50	18.50
..	25.80	30.72
..	..	155.30	97.89	..	..	173.50	146.09	..	..	2,346.85	3,991.45
..	..	8.20	3.53	..	..	..	..	..	..	58.00	21.35
..	53.45	39.91
..	36.25	15.39
..	23.50	11.58
..	29.00	28.16	..	..	29.00	28.16
..	..	33.20	10.84	..	3.90	67.50	40.96	..	3.90	565.15	461.50
..	429.00	396.41
..	26.00	15.10
..	..	59.75	49.50	..	..	..	..	..	..	213.60	158.16
..	59.00	20.91	..	..	59.00	20.91
..	20.54	3,070.65	5,553.21
..	..	111.25	57.40	..	4.75	128.25	63.35	..	4.75	429.25	267.42
..	..	110.00	44.66	..	..	..	..	..	..	281.25	308.13
..	..	74.00	127.38	..	..	37.00	74.51	..	..	180.00	357.19
..	..	205.00	355.26	..	..	25.00	38.25	..	..	2,236.60	3,964.55
..	..	351.00	699.90	..	..	265.00	266.51	..	..	675.00	1,029.02
..	7.50	5.56
..	..	129.00	64.15	..	..	..	..	..	..	1,690.75	2,097.00
..	..	7.00	4.49	..	..	..	..	..	1.86	1,384.75	2,875.21
..	13.00	6.84
..	15.82	..	..	..	..	..	..	..	15.82	..	..
..	77.25	44.75
..	cy. 3,633.35	..	..	..	cy. 933.77	..	..	442.50	7,430.59
..	..	54.70	402.97	..	..	..	cy. 391.06	..	..	579.45	1,606.82
..	1.69	.77	..	..
..	35.74	42,733.05	43,351.33	..	39.85	35,144.25	25,170.28	4.62	426.34	162,773.51	178,881.51

TABLE IV.—Production of Gold

North Coolgardie

NIAGARA

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Kookynie	27G	Altona : Cosmopolitan Proprietary, Ltd.	12			1,875.50	1,690.86
Do.	27G, 28G	(Altona leases : Cosmopolitan Proprietary, Ltd.)					
Do.	427G	Altona North Extended : Cosmopolitan Proprietary Ltd.	24			217.50	279.65
Do.	246G	Altona North-West : Cosmopolitan Proprietary, Ltd.	6			32.50	62.51
Do.	31G	Altona No. 1 North : Cosmopolitan Proprietary, Ltd.	12			142.00	60.19
Do.	28G	Altona No. 1 South : Cosmopolitan Proprietary, Ltd.	12			2,575.50	2,377.99
Do.	308G	Ballarat	Ftd.			30.00	10.67
Do.	265G, 269G	Battery leases : Cosmopolitan Proprietary, Ltd.	24				cy. 47.50
Do.	663G	Britisher	12				
Do.	316G	Canadian : Cosmopolitan Proprietary, Ltd.	12				
Do.	320G, (335G, 347G)	Champion : Guthrie & Co., Ltd.	12				
Do.	320G, (335G, 347G)	(Champion leases)					
Do.	320G, (334G, 335G, 347G, 409G, 410G)	(Champion Proprietary, Ltd.)				17,190.00	6,983.47
Do.	604G	Comet	Ftd.			51.50	125.40
Do.	20G, 87G, 94G, 333G, 433G, (458G, 459G, 460G, 520G, 532G), 533G, 534G, (535G)	(Cumberland Niagara G.Ms., Ltd.)	156			7,609.00	3,609.38
Do.	194G	(Diamantina)					
Do.	194G	Diamantina : Cosmopolitan Proprietary, Ltd.	24			67.00	57.52
Do.	615G	(Dow's Batavia and Papuan United)					
Do.	26G	Englishman : Cosmopolitan Proprietary, Ltd.	12			99,489.00	42,961.18
Do.	542G	Excelsior	Ftd.				
Do.	223G, 224G, 225G, 226G, 508G	(Hannans Gold Estates, Ltd.)	Ftd.				
Do.	647G	(Happy-go-Lucky)	12				
Do.	639G	Lorna Doone	Surr.			34.50	20.74
Do.	669G	Lubra	24				
Do.	393G	Manxman : Cosmopolitan Proprietary, Ltd.	Ftd.			154.00	89.02
Do.	662G	May-be	24				
Do.	224G	Mt. McTavish No. 1	Surr.				
Do.	388G, 615G	Papuan leases	17			119.50	143.72
Do.	624G	Pass By	Ftd.			17.50	15.19
Do.	658G	Pearly Button	3				
Do.	596G	Plenty	Ftd.			60.00	47.70
Do.	523G	Rise and Shine	Ftd.			177.50	127.70
Do.	25G	Scotchman : Cosmopolitan Proprietary, Ltd.	12			330.50	146.63
Do.	637G	Sovereign	Ftd.			105.00	37.06
Do.	593G	Star	Ftd.			58.00	31.36
Do.	631G	Streak	Surr.			43.00	81.71
Do.	625G	Surprise	Ftd.			9.00	5.70
Do.	656G	Treasure	18				
Do.	420G, 486G	Treasure leases	Ftd.			45.00	31.82
Do.	420G	(Treasure South)	Ftd.				
Do.	652G	Triby	Ftd.				
Do.	253G, (422G)	Victoria	Ftd.			86.50	137.33
Do.	663G	Victoria	6				
Do.	253G, (273G, 300G)	(Victoria and Day Dawn G.M. Co. (W.A.), N.L.)	Ftd.				
Do.	642G	Victoria South	Surr.				
Do.	22G	Welshman : Cosmopolitan Proprietary, Ltd.	12			12.50	28.58
Do.	23G	Welshman No. 1 : Cosmopolitan Proprietary, Ltd.	12				
Do.	469G	Whale	12			124.50	131.02
Do.		Voided leases					
Do.		Sundry claims				141.00	95.31
Niagara	616G	Bally Hooly	Ftd.			38.50	15.98
Do.	569G	Big Tom	Ftd.			251.00	380.72
Do.	480G	Brooklet	Ftd.			14.00	11.89
Do.	586G	Challenge	a. r. p.				
Do.	578G	Christmas	20			318.50	322.61
Do.	600G	Connecting Rod	Surr.			119.00	50.48
Do.	614G	Curraghmore	Ftd.				
Do.	633G	Dun, Isle	Ftd.				
Do.	518G, 529G, 577G	Eaglehawk Heather Co., N.L.	40			89.50	59.62
Do.	621G	Eclipse	Surr.			3,537.00	1,321.92
Do.	657G	Eclipse	Ftd.			68.50	54.01
Do.	570G	Eureka	Ftd.				
Do.	583G	Euroa	Ftd.			24.00	10.03
Do.	391G	(Euroa Extended)	5			11.00	7.23
Do.	(362G), 391G	(Euroa leases)					
Do.	602G	Gem	Ftd.			132.00	122.51
Do.	645G	Gem	Ftd.				
Do.	419G, 461G, (583G, 598G, 636G)	Hannans Main Reef G.M. Co., Ltd.	24				
Do.	635G	Iolanthe	Ftd.			25.00	13.86
Do.	588G	Jarraldale	Ftd.			25.50	10.37
Do.	661G	Justice	12				
Do.	552G	Kangaroo	Ftd.			47.00	30.79
Do.	513G	Kathleen	Ftd.			302.50	228.44
Do.	653G	Lady Betty North	5				
Do.	612G	Lady Nell	Ftd.			13.00	6.06
Do.	499G	Latrobe	Ftd.				
Do.	314G	Lily	5			88.00	156.21
Do.	618G	Lucky Hit	Ftd.			86.50	68.10
Do.	587G	Marcella	Surr.				
Do.	571G	May	5			296.50	219.46
		Carried forward				136,284.50	62,527.20

TABLE IV.—Production of Gold

North Coolgardie

NIAGARA

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward			136,284.50	62,527.20	
Niagara	442G	Mikado	6				
Do.	518G	(Missing Link)					
Do.	566G	Moonshine	Ftd.				
Do.	540G	Moonstone	Ftd.		51.50	45.75	
Do.	620G	Mulga Plum	Ftd.		30.50	31.96	
Do.	419G	(Opal)					
Do.	419G	(Opal: Hannan's Main Reef G.M. Co., Ltd.)					
Do.	461G	(Pearl: Hannan's Main Reef G.M. Co., Ltd.)					
Do.	452G	Pine Lodge	Ftd.				
Do.	630G	Pine Lodge	Ftd.		82.50	89.06	
Do.	619G	Reliance	Ftd.		51.00	38.41	
Do.	643G	Rose	Ftd.		32.50	28.34	
Do.	646G	Sandhurst	Ftd.				
Do.	659G	Sapphire	Wdn.				
Do.	660G	Sapphire Extended	Wdn.				
Do.	553G	Sunrise	Ftd.		97.00	78.44	
Do.	651G	Sweet Nell	Surr.				
Do.	591G	Thelma	Ftd.		70.00	15.89	
Do.	601G	Topaz	Ftd.		78.00	94.85	
Do.	445G	(Try Again)			93.00	41.26	
Do.	445G, 581G	Try Again leases	8				
Do.	610G	Wandin	Ftd.				
Do.	606G	Waratah	5		57.50	89.11	
Do.	505G, 611G	W.E.G. leases	17		1,104.00	1,014.60	
Do.	611G	(W.E.G. Extended)			65.00	36.77	
Do.	564G	Wheel of Fortune	Ftd.				
Do.	613G	White Cross	5		94.00	54.68	
Do.	605G	White Hills	Surr.		10.00	8.43	
Do.	475G	York	Ftd.		34.50	14.56	
Do.	644G	York	Ftd.				
Do.		Voided leases					
Do.		Sundry claims			383.50	210.42	
Tampa	627G	Blue Bell	Surr.		155.50	178.66	
Do.	655G	Blue Bell	Surr.				
Do.	622G	Clematis	Surr.				
Do.	278G	(Fortuna)			7.50	13.68	
Do.	278G, 349G	Fortuna leases	18		334.00	458.35	
Do.	349G	(Grafter)					
Do.	441G	Grafter No. 1 South	Ftd.		11.00	17.49	
Do.	634G	Independence	Surr.		16.00	6.27	
Do.	638G	Kaikorai	Surr.		67.00	39.39	
Do.	641G	Kiōra	Surr.		15.00	14.82	
Do.	511G	Ophir	Ftd.		28.00	79.05	
Do.	496G	Oriental	Ftd.		102.00	142.14	
Do.	352G	Perseverance	Ftd.		58.00	84.29	
Do.	352G, 369G, 400G	(Perseverance leases)	Ftd.				
Do.	664G	Rising Sun	12				
Do.	603G	Standard	Ftd.				
Do.	650G	Standard	Surr.				
Do.		Voided leases					
Do.		Sundry claims			213.50	125.40	
		<i>From District generally:—</i>					
		Sundry parcels treated at:—					
		Britannia Works				cy. 253.59	
		Challenge Cyanide Works					
		Champion Battery					
		Cumberland Battery			53.00	18.83	
		Eaglehawk Heather Battery					
		Golden Hope Works					
		Grafter Battery					
		Mignonette Battery			138.00	56.48	
		State Battery, Niagara			179.50	726.31	
		Tampa Cyanide Works				cy. 159.89	
		Various Works					
		Reported by Banks and Gold Dealers			220.73		
		Total			220.73	189.47	
					140,040.00	66,820.13	

from all sources, etc.—continued.

Goldfield—continued.

DISTRICT—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	67.09	114.049.00	41,697.16	..	9.27	120,297.62	32,769.62	..	334.61	670,272.82	354,850.56
..	..	11.00	6.61	..	..	..	..	..	..	191.00	258.26
..	23.93	431.00	563.27
..	11.25	1.27
..	..	12.00	6.00	..	..	..	..	..	..	131.00	93.38
..	116.50	75.75
..	552.50	490.53
..	119.00	70.99
..	398.00	224.38
..	1,241.00	1,474.59
..	..	79.50	41.05	..	..	..	..	..	..	162.00	130.11
..	51.00	38.41
..	..	75.00	23.51	..	..	..	..	..	..	32.50	28.34
..	10.42	84.00	53.65	..	10.42	75.00	23.51
..	75.00	4.98	..	..	75.00	53.65
..	..	42.50	23.74	..	..	..	..	..	1.03	180.00	129.78
..	..	115.00	57.33	..	..	..	..	..	..	115.00	57.33
..	206.00	102.63
..	..	19.50	17.56	..	..	..	..	..	..	183.50	246.24
..	..	153.00	114.20	..	..	78.00	71.78	..	..	653.50	536.15
..	114.00	262.13	..	..	114.00	262.13
..	39.00	15.45
..	..	50.00	86.13	..	..	81.50	104.61	..	..	221.50	297.56
..	..	391.00	196.68	..	..	1,068.00	589.94	..	..	4,400.00	4,252.43
..	..	20.00	14.55	..	..	..	..	..	..	85.00	51.32
..	39.00	33.24
..	..	77.00	35.42	..	..	137.50	81.90	..	..	326.50	198.71
..	87.50	66.26
..	439.50	276.36
..	..	20.00	7.85	..	..	..	..	..	..	20.00	7.85
..	37.28	8,123.65	5,160.77
..	..	974.50	401.85	..	..	461.50	232.24	..	24.11	3,615.25	2,359.00
..	155.50	178.66
..	..	119.00	126.16	..	..	20.00	5.35	..	..	139.00	131.51
..	15.50	35.16
..	109.00	187.42
..	..	106.50	190.11	..	..	540.00	728.46	..	..	980.50	1,376.92
..	1,751.00	2,487.00
..	173.00	276.92
..	16.00	6.27
..	67.00	39.39
..	15.00	14.82
..	47.50	102.98
..	594.50	1,424.70
..	..	71.00	13.01	..	..	..	..	..	..	129.00	97.30
..	1,072.00	1,029.14
..	209.00	112.32	..	..	209.00	112.32
..	580.00	179.09
..	..	48.00	63.76	..	..	..	..	..	..	48.00	63.76
..	13.92	10,276.05	5,155.81
..	..	107.50	77.74	..	..	256.00	193.83	..	..	1,291.00	880.49
..	cy. 496.40	..	..	..	cy. 468.46	..	..	..	1,218.45
..	cy. 389.96	..	..	..	389.96
..	..	50.00	14.81	..	..	..	..	..	..	50.00	14.81
..	53.00	178.66
..	..	46.50	59.51	..	..	47.50	186.98	..	..	94.00	246.49
..	cy. 79.32	..	..	..	79.32
..	28.96	..	..	52.00	28.96
..	cy. 72.09	..	..	..	..	..	..	138.00	128.57
..	..	177.00	1,339.17	..	..	64.50	509.76	..	..	421.00	2,575.24
..	cy. 196.28	..	..	..	1,259.50
..	95.00	1,386.24
185.94	84.74	..	..	91.36	77.48	..	..	800.57	761.49	..	..
185.94	151.83	116,814.50	45,182.40	91.36	97.17	123,586.12	37,230.36	800.57	1,206.79	711,364.02	393,721.05

TABLE IV.—Production of Gold

North Coolgardie

YERILLA

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.					
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.		
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.		
Edjuina	631R	Alpha	Ftd.						
Do.	640R	Belgrave	Ftd.						
Do.	686R	Bella	Ftd.			33.00	31.35		
Do.	773R	Box of Tricks	Ftd.			56.50	54.22		
Do.	610R	Broken Hill	Ftd.						
Do.	611R	Broken Hill North	Ftd.						
Do.	725R	Broken Hill North	Ftd.			56.00	67.49		
Do.	637R	Bulger	Ftd.			8.00	3.66		
Do.	826R	Bunyip	Surr.						
Do.	813R	Coster	Ftd.						
Do.	576R	Crow's Nest	Ftd.			174.00	221.36		
Do.	604R	Enterprise	Ftd.						
Do.	713R	Federal	Ftd.			19.00	21.69		
Do.	497R	(Gawler)							
Do.	502R	(Glengarry)	Ftd.						
Do.	588R	Golden Girl	Ftd.			33.00	14.83		
Do.	573R	Highland Mary	Ftd.						
Do.	847R	Jack Wren	6						
Do.	502R, 545R, 571R, 583R, 584R	London and Coolgardie Explorers, Ltd.	Ftd.			54.00	104.30		
Do.	677R	Lyon Glen	Ftd.			36.00	32.09		
Do.	653R	Maid Marion	Ftd.						
Do.	401R	(Neta)							
Do.	418R	(Neta Extended)							
Do.	401R, 418R, 497R, 600R	Neta leases	84			1,425.00	2,322.39		
Do.	715R	Never Can Tell	Ftd.			63.00	87.74		
Do.	648R	Orient	Ftd.						
Do.	711R	Orphan Boy	Ftd.			48.00	35.43		
Do.	613R	Perseverance	Ftd.						
Do.	782R	Perseverance	Ftd.			25.50	20.73		
Do.	566R	Scotchman	Ftd.			54.00	43.16		
Do.	701R	Scots Belle	Ftd.						
Do.	539R	Senate	24			179.00	377.43		
Do.	774R	Success	Ftd.						
Do.	626R	Trio	Ftd.						
Do.	712R	Triumph South	Ftd.			60.00	62.01		
Do.	841R	Turn of the Tide	5						
Do.		Voided leases							
Do.		Sundry claims				149.00	131.80		
Eucalyptus	775R	Battlers' Rest	Ftd.						
Do.	721R	Call me Early	Ftd.		87.71				
Do.	563R	Harlech Castle	Ftd.		162.51				
Do.	698R	St. Patrick	Ftd.			19.50	65.05		
Do.	504R, 507R	Yando leases	Ftd.			32.50	795.79		
Do.		Voided leases							
Do.		Sundry claims							
Linden	685R	Mammoth	Ftd.						
Do.		Voided leases							
Do.		Sundry claims				31.50	25.19		
Mt. Celia		Voided leases							
Mt. Howe		Sundry claims							
Mt. Remarkable		Voided leases							
Do.		Sundry claims							
Pinjin	809R	Ancient Briton	Ftd.						
Do.	729R	Anglo-Saxon	24			26.00	63.10		
Do.	738R	Anglo-Saxon North	24						
Do.	739R	Australasia	Ftd.						
Do.	795R	Binberry	Ftd.						
Do.	772R	Cardjella King	Ftd.						
Do.	810R	Exile	24						
Do.	824R	Fair Play	24						
Do.	816R	Harbour Light	24						
Do.	815R	Harbour Lights North	Surr.						
Do.	839R	Lilian	24						
Do.	845R	Lily of Australia	18						
Do.	829R	Mary Jane	24						
Do.	796R	Oaks	18						
Do.	761R	Pinjin Consols	Ftd.						
Do.	754R	Pinjin King	24						
Do.	751R	Pinjin Main Reef	Ftd.						
Do.	812R	Pinjin Queen	12						
Do.	832R	Shamrock	18						
Do.		Voided leases							
Do.		Sundry claims				47.00	43.52		
Yarrie	632R	Beatrice	Ftd.						
Do.	730R	Britisher	Ftd.			13.00	11.88		
Do.	788R	Dostmund	12						
Do.	746R	Golden Wallaby	Ftd.			5.00	4.55		
Do.	801R	Great Banjo	Surr.						
Do.	757R	Gwydir	Ftd.			24.00	8.47		
Do.	766R	Hidden Treasure	10			24.00	22.16		
Do.	736R	Homeward Bound	Wdn.			17.00	15.30		
Do.	784R	Kismet	Ftd.						
Do.	580R	Lake View South, Ltd.	24						
Do.	717R	Not-too-Late	Ftd.			20.00	40.52		
Do.	777R	Penola	Ftd.						
Do.	690R	Puzzle	Ftd.			22.00	31.02		
Do.	585R	Queen's Birthday	12	6.30					
Do.	680R	Return	Ftd.						
Do.	805R	Right Bower	Surr.						
Do.	631R	Star of the West	Ftd.			15.00	47.80		
Carried forward						6.30	250.22	2,769.50	4,806.03

from all sources, etc.—continued.

Goldfield—continued.

DISTRICT.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	33.50	19.03
..	85.00	27.82
..	284.50	193.93
..	..	29.00	14.92	..	..	..	..	..	..	85.50	69.14
..	85.00	58.37
..	17.00	4.13
..	56.00	67.49
..	27.75	14.58
..	61.00	132.57
..	..	70.00	44.25	..	..	61.00	132.57	..	..	70.00	44.25
..	..	103.00	130.78	..	..	78.00	36.10	..	..	635.00	759.14
..	48.00	18.52
..	19.00	21.69
..	130.00	173.15
..	359.00	209.88
..	94.00	90.07
..	130.00	137.93
..	..	24.00	35.55	..	..	73.00	48.33	..	..	73.00	48.33
..	283.00	217.34
..	182.00	161.49
..	17.00	10.72
..	4,280.50	5,466.29
..	..	1,770.00	3,487.09	..	..	1,052.00	2,347.61	..	..	1,182.50	1,421.81
..	4,247.00	8,157.09
..	63.00	87.74
..	81.50	48.73
..	48.00	35.43
..	122.00	141.77
..	..	19.50	11.93	..	..	..	..	..	..	45.00	32.66
..	341.00	229.89
..	39.50	45.68
..	..	632.50	1,087.49	..	..	318.00	612.72	..	..	2,265.00	4,584.96
..	..	53.00	16.27	..	..	..	..	..	..	53.00	16.27
..	35.00	10.28
..	80.00	62.01
..	122.00	99.15
..	3.65	122.00	99.15	..	3.65	4,169.00	3,577.76
..	76.00	42.37	..	..	1,096.00	924.16
..	37.42	41.50
..	37.42	9.00	41.50	..	..	..	..	..	..	91.89	63.96
..	4.18	2.50	63.96	..	..	..	..	..	..	1,028.41	93.22
..	..	7.00	93.22	..	..	..	..	..	..	19.50	65.05
..	..	2.50	48.77	..	..	..	..	..	..	1,386.21	1,416.00
..	322.84	1,340.95
..	367.50	194.49
..	170.50	103.87
..	453.65	9,991.49
..	..	46.00	17.99	..	..	17.00	17.98	..	..	17.98	306.34
..	14.00	5.39
..	5.00	11.13	..	..	5.00	11.13
..	17.74	415.09
..	4.00	1.32
..	35.00	10.64	..	..	35.00	10.64
..	..	205.40	591.76	..	..	1,042.00	942.01	..	..	1,273.40	1,596.87
..	..	102.30	92.30	..	..	141.00	79.03	..	..	243.30	171.33
..	..	46.00	20.71	..	..	93.00	57.43	..	..	139.00	78.14
..	..	13.90	5.02	..	..	..	..	..	..	13.90	5.02
..	..	50.00	12.98	..	..	57.00	15.13	..	..	107.00	28.11
..	..	24.00	10.15	..	..	..	..	..	..	24.00	10.15
..	76.00	24.76	..	..	76.00	24.76
..	..	50.70	53.76	..	..	73.00	134.08	..	..	123.70	187.84
..	146.00	228.59	..	..	146.00	228.59
..	50.00	53.14	..	..	50.00	53.14
..	167.00	168.30	..	..	167.00	168.30
..	55.00	9.44	..	..	55.00	9.44
..	..	36.00	21.72	..	..	169.00	130.57	..	..	205.00	152.29
..	..	41.00	44.73	..	..	90.00	59.88	..	..	131.00	104.61
..	..	50.00	31.65	..	..	718.00	435.24	..	..	768.00	466.89
..	33.94	55.00	25.66	..	..	40.00	12.16	..	33.94	95.00	37.82
..	..	43.50	62.26	..	..	65.00	76.49	..	..	108.50	138.75
..	101.00	50.36	..	..	101.00	50.36
..	142.00	79.32
..	..	166.10	208.61	..	..	433.25	217.76	..	..	646.35	469.89
..	50.00	45.90
..	13.00	11.88
..	..	32.00	23.08	..	..	77.00	142.09	..	..	109.00	165.17
..	5.00	4.55
..	..	46.00	20.81	..	..	..	..	..	..	46.00	20.81
..	..	106.00	38.21	..	..	..	..	..	..	130.00	46.68
..	..	191.00	107.66	..	..	271.00	112.44	..	..	486.00	242.26
..	17.00	15.30
..	..	39.00	23.62	..	..	30.00	21.65	..	..	69.00	45.27
..	3,230.00	1,578.88	..	..	3,230.00	1,578.88
..	20.00	40.52
..	..	64.00	56.67	..	..	96.00	36.54	..	..	160.00	93.21
..	41.75	149.37
..	..	203.00	335.66	..	14.94	214.50	47.93	6.30	14.94	472.50	791.93
..	25.00	14.02
..	..	33.00	39.01	..	..	..	..	..	..	33.00	39.01
..	15.00	47.80
..	75.54	4,365.90	6,919.75	..	18.59	9,271.75	7,992.50	6.30	3,781.63	39,218.62	48,895.87

TABLE IV.—Production of Gold

North Coolgardie

YERILLA

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward ..	..	6.30	250.22	2,769.50	4,806.03
Yarrie ..	831R ..	Star of Yarri ..	10	..	..	..	..
Do.	830R ..	Venture ..	6	..	..	..	..
Do.	581R ..	Wallaby ..	24	..	..	175.50	273.07
Do.	580R ..	(Wallaby Central) ..	..	..	..	430.00	574.06
Do.	579R ..	Wallaby North ..	24	..	..	..	..
Do.	635R ..	Welcome ..	Surr.	..	..	25.00	25.55
Do.	582R ..	Wild Dog ..	Ftd.	..	..	25.50	28.60
Do.	719R ..	Yarrie ..	Ftd.]	..	..	5.00	5.36
Do.	737R ..	Yarrie South ..	12]	..	..	100.00	296.35
Do.	787R ..	Yes-No ..	Surr.	..	..	..	..
Do.	..	Voided leases ..	..	..	..	..	..
Do.	..	Sundry claims ..	..	..	..	113.50	65.44
Yerilla ..	828R ..	Artful Dodger ..	Surr.	..	..	..	..
Do.	850R ..	Central East ..	5	..	..	..	..
Do.	843R ..	Clan Donachaich ..	12	..	..	..	..
Do.	785R ..	King of the Earth ..	5	..	..	..	..
Do.	836R ..	McGregor North ..	10	..	..	..	..
Do.	682R ..	Melba Consols ..	21	..	..	..	..
Do.	682R ..	(Melba Consols G.M. Co., N.L.) ..	..	..	..	308.00	167.57
Do.	689R ..	Melba Proprietary ..	Ftd.	..	..	..	..
Do.	704R ..	Queen of the Earth ..	Ftd.	..	..	..	..
Do.	807R ..	Red Cross ..	Ftd.	..	..	..	..
Do.	693R ..	Viola ..	Ftd.	..	2.22	..	..
Do.	752R ..	Viola ..	12	..	..	..	..
Do.	684R ..	Yerilla Central ..	5	..	..	74.00	136.77
Do.	851R ..	Yerilla King ..	12	..	..	..	..
Do.	..	Voided leases ..	..	..	..	..	..
Do.	..	Sundry claims ..	..	..	..	..	..
Yilgantie	692R ..	Yilgantie ..	Ftd.	..	..	37.00	72.97
Do.	802R ..	Yilgantie ..	Ftd.	..	..	..	..
Do.	..	Voided leases ..	..	..	..	..	..
Do.	..	Sundry claims ..	..	..	..	..	..
Yundamindera (late Pendinnie)	562R ..	A.W.A. ..	Ftd.	..	..	169.50	126.86
Do.	508R ..	Boer ..	Ftd.	..	..	77.00	139.78
Do.	645R ..	Central ..	Ftd.	..	..	..	..
Do.	699R ..	Dodger ..	Ftd.	..	..	..	..
Do.	825R ..	E.I.C. ..	12	..	..	..	..
Do.	702R ..	Emu ..	Ftd.	..	..	68.00	31.30
Do.	765R ..	Emu ..	Ftd.	..	..	35.00	83.82
Do.	705R ..	Gem ..	Ftd.	..	..	30.00	3.33
Do.	708R ..	Golden Gate ..	Ftd.	..	..	..	..
Do.	688R ..	Just in Time ..	Ftd.	..	..	244.00	258.60
Do.	708R ..	King Fisher ..	Ftd.	..	..	39.00	51.03
Do.	443R ..	(Landed at Last) ..	Ftd.	..	..	..	..
Do.	522R ..	Little Wonder ..	Ftd.	..	..	143.00	335.65
Do.	(443R), 457R, (463R), 479R, (480), 493R	(London and Hamburg Gold Recovery Co., Ltd.) ..	..	..	..	..	..
Do.	541R ..	Maori Queen ..	24	..	..	92.00	111.78
Do.	450R, 456R, (536R) ..	(Mt. Margaret Reward Claim, Ltd.) ..	..	..	..	..	..
Do.	803R ..	Nine of Hearts ..	Surr.	..	..	..	..
Do.	450R ..	(Potosi) ..	..	..	..	..	..
Do.	(443R), 450R, 456R, 457R, (463R), 466R, 479R, (480R), 493R, (536R), 537R, 559R, 560R, 565R, 567R	Potosi Consolidated, Ltd. ..	120	..	..	17,196.00	9,426.55
Do.	514R ..	Potosi North Extended ..	Ftd.]	..	..	..	..
Do.	743R ..	Pride of Pendennie ..	Wdn.	..	..	30.00	15.87
Do.	726R ..	Problem ..	Ftd.	..	..	..	..
Do.	466R ..	(Queen of the May) ..	..	..	..	710.00	739.43
Do.	467R ..	Queen of the May South ..	Ftd.	..	..	128.00	170.86
Do.	821R ..	Rose of Italy ..	5	..	..	..	..
Do.	718R ..	Sweet Neil ..	Ftd.	..	..	69.00	29.80
Do.	594R ..	Washington ..	Ftd.	..	..	593.50	178.03
Do.	703R ..	Wauchope ..	Ftd.	..	..	16.00	6.59
Do.	..	Voided leases ..	..	..	..	..	..
Do.	..	Sundry claims ..	..	..	..	71.50	50.77
From District generally:—							
Sundry parcels treated at:—							
		Bunyip Cyanide Works ..	..	..	..	..	..
		Fremantle Smelter, Ltd. ..	..	..	..	..	..
		Middleton's Works ..	..	..	..	..	cy. 333.36
		Neta Battery ..	..	..	..	14.00	11.32
		Pauley and McCoy's Battery ..	..	..	..	9.00	10.86
		State Battery, Pinjin ..	..	..	..	..	..
		State Battery, Yarrie ..	..	..	..	..	..
		State Battery, Yerilla ..	..	..	..	..	..
		State Battery, Yundamindera ..	..	..	..	119.50	130.54
		Various Works ..	..	..	..	..	..
		Reported by Banks and Gold Dealers ..	..	..	7.50	..	..
Total ..			..	6.30	259.94	23,917.00	18,697.90

from all sources, etc.—continued.

Goldfield—continued.

DISTRICT—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	75.54	4,365.90	6,919.75	..	18.59	9,271.75	7,992.50	6.30	3,781.63	39,218.62	48,895.87
..	161.00	69.32	..	..	161.00	69.32
..	10.50	4.45	..	..	10.50	4.45
..	..	241.00	244.29	..	..	2,066.50	916.39	..	2.12	2,607.50	1,602.83
..	..	403.00	429.37	..	..	983.00	618.89	..	..	2,411.00	2,335.30
..	..	231.00	75.80	..	..	763.50	214.89	..	..	1,150.50	353.73
..	81.00	63.61
..	54.50	41.34
..	5.00	5.36
..	..	51.00	99.94	..	..	69.00	110.16	..	..	220.00	506.45
..	..	41.00	64.26	..	..	23.00	29.24	..	..	64.00	93.50
..	15.87	175.00	149.74
..	3.31	308.50	163.24	..	..	497.50	324.54	..	3.31	966.50	586.65
..	20.00	6.36	..	..	20.00	6.36
..	25.00	10.24	..	..	25.00	10.24
..	20.00	9.58	..	..	20.00	9.58
..	..	31.00	29.03	..	..	117.50	113.61	..	..	148.50	142.64
..	..	10.00	3.89	..	..	128.00	70.73	..	..	138.00	74.62
..	..	395.50	221.39	..	..	149.00	65.64	..	..	544.50	287.03
..	308.00	167.57
..	33.00	25.40
..	32.50	19.12
..	..	29.00	10.80	..	..	14.00	7.74	..	..	43.00	18.54
..	2.22	..	..
..	73.00	72.46
..	..	38.00	33.20	..	..	35.00	39.26	..	..	1,196.00	1,903.06
..	..	437.00	890.40	..	..	608.00	824.02	..	..	59.00	77.25
..	59.00	77.25	..	..	2,999.96	1,954.68
..	3,062.96	1,249.50	659.40
..	6.63	689.00	304.74	19.30	..	234.00	147.42	19.30	6.63	79.00	169.49
..	30.00	12.36
..	..	30.00	12.36	..	..	..	..	..	..	94.75	106.35
..	14.48	..	..	..	..	..	..	121.67	19.14	15.00	43.55
..	..	154.00	67.66	..	..	..	..	..	18.40	620.00	1,172.75
..	374.00	793.36
..	15.00	19.67
..	11.00	11.00
..	19.00	21.36
..	..	19.00	21.36	..	..	..	..	..	..	68.00	31.30
..	1.03	117.50	280.25
..	..	77.00	189.92	..	1.03	5.50	6.51	..	..	30.00	3.33
..	9.00	4.7
..	..	117.00	83.40	..	..	..	..	..	..	382.00	344.72
..	39.00	51.03
..	60.00	73.10
..	..	27.00	16.85	..	..	..	..	..	..	449.00	1,333.63
..	1,942.00	943.02
..	..	163.00	167.82	..	..	159.00	234.99	..	..	908.00	1,382.40
..	10,833.00	6,875.91
..	cy. 76.97	..	..	..	76.97
..	..	17,278.75	7,240.28	..	..	2,235.10	1,046.22	..	..	76.00	152.80
..	38,449.85	18,094.70
..	368.00	430.30
..	30.00	15.87
..	..	269.00	83.16	..	..	..	..	..	..	269.00	83.16
..	1,810.66	1,719.92
..	694.55	1,211.06
..	..	24.00	9.96	..	..	..	..	..	..	24.00	9.96
..	84.00	36.61
..	cy. 80.47	..	..	818.50	340.97
..	16.00	6.59
..	51.94	947.10	1,280.06
..	..	192.50	57.66	..	..	237.00	211.14	..	1.37	944.00	922.44
..
..	cy. 107.57	..	..	..	107.57
..	113.64	..	..	..	13.64
..	1,191.65
..	14.00	11.32
..	..	114.25	55.12	..	..	79.00	107.83	..	..	202.25	173.81
..	..	51.50	85.83	..	..	10.00	237.25	..	..	61.50	323.08
..	..	27.00	223.00	..	..	83.50	548.23	..	..	110.50	771.28
..	..	22.00	10.56	..	..	50.00	94.07	..	..	72.00	104.63
..	..	77.00	53.43	..	..	19.60	633.50	..	..	216.10	817.47
..	145.50	750.18
..	870.49	154.74	..	..
..	99.96	25,913.90	17,868.47	19.87	19.62	18,133.95	15,050.67	1,917.76	7,121.36	115,463.78	103,055.46

TABLE IV.—Production of Gold

Broad Arrow

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.					
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.		
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.		
Bardoc	1278W	Baden Powell	24	..	..	..	..
Do.	1076W	(Bardoc G.M.S., Ltd.)	Ftd.	..	..	..	..
Do.	1076W	Bardoc Gold Mines, Ltd.	Ftd.	..	..	..	..
Do.	1240W	Brilliant	Ftd.	..	60.00	12.09	..		
Do.	1224W	Eureka	12	..	29.66	224.00	344.69		
Do.	36W	(Eva)	Surr.	..	..	..	..
Do.	1186W, 1187W	Excelsior leases	24	..	..	1,915.00	1,014.99
Do.	1236W	Gippslander	Ftd.	..	..	13.00	13.18
Do.	1112W	Grafter	Ftd.	..	..	..	..
Do.	107W, 108W (109W), 887W, 956W, 1043W	Half-mile Reef Mines, Ltd.	Ftd.	..	50.11	1,875.00	1,147.26		
Do.	1263W	Howden	Ftd.	..	..	..	..
Do.	1193W	King	Ftd.	..	..	..	..
Do.	1250W	Lady Charlotte Gold Mining Syndicate	Ftd.	..	..	261.00	85.62
Do.	1232W	Lancashire Hero	12	..	..	54.00	87.93
Do.	1226W	Lone Hand	Ftd.	..	..	131.00	520.19
Do.	1220W	Marmont	Ftd.	..	..	..	..
Do.	17W	(Mt. Pleasant)	Surr.	..	..	..	..
Do.	959W, 968W, 970W, 1045W, 1048W, 1233W	New Slug Hill G.M. Co., Ltd.	82	..	..	..	..
Do.	959W, 968W, 970W, 1045W, 1048W, 1233W	(Slug Hill (Pride of the Hill) G.M. Co., Ltd.)	..	..	..	1,841.00	2,053.65
Do.	1245W	Starlight	Ftd.	..	..	5.00	1.90
Do.	1043W	(Struck Oil)	Ftd.	..	..	..	..
Do.	1270W	(Windanya)	12	..	..	..	..
Do.	1207W	Windanya Half-mile North	Ftd.	..	..	697.00	202.44
Do.	1190W	Wycheproof	24	..	..	48.00	98.48
Do.	17W, 31W, 36W, 39W, 1023W, 1144W	(Zoroastrian Gold Estates, Ltd.)	Surr.	..	..	..	..
Do.	17W, 31W, 36W, 39W, 1023W, 1144W	Zoroastrian, Ltd.	Surr.	..	..	1,117.00	987.83
Do.	1272W	Zoroastrian, Ltd.	18	..	..	..	..
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	73.00	72.54
Black Flag	1212W	Beers	Ftd.	..	..	..	..
Do.	1279W	Big Dyke	12	..	..	..	..
Do.	43W, 52W, 62W, 546W	Black Flag Proprietary Co., Ltd.	a. r. p. 72 3 16	..	..	1,306.50	334.26
Do.	1231W	Crown	Surr.	..	..	452.00	105.80
Do.	1260W	Eulalie	..	..	..	..	..
Do.	1177W	(King Edward)	..	..	..	..	..
Do.	1177W	King Edward	12	..	..	..	..
Do.	1177W (1182W, 1238W)	(King Edward leases)	..	..	..	112.00	350.38
Do.	47W, 48W, 49W	Lady Bountiful G.M. Co., N.L.	36	..	..	290.00	431.46
Do.	1312W	Lambton Castle	6	..	..	..	..
Do.	1255W	Last Chance	Surr.	..	..	..	..
Do.	1281W	Last Chance	12	..	..	..	..
Do.	1239W	Sunset	Ftd.	..	..	82.00	18.90
Do.	1275W	Tartan	6	..	..	..	..
Do.	1273W	Windermere	Surr.	..	..	..	..
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	76.25	115.27
Broad Arrow	1258W	Acrasia	Ftd.	..	..	..	..
Do.	1241W	Boatswain's Locker	Ftd.	..	..	7.00	10.10
Do.	56W, 75W (87W, 122W, 1218W), 1259W	Broad Arrow Consols G.M. Co., N.L.	49	..	..	4,285.00	2,036.68
Do.	142W	Credo	a. r. p. 14 1 23	..	..	..	..
Do.	142W (225/6W)	(Credo G.M.S., Ltd.)	..	..	..	82.10	105.33
Do.	1252W	Daphne	Ftd.	..	..	44.00	62.41
Do.	1209W	Dixie	5	..	..	132.00	84.55
Do.	3W, 138W, 139W, 173W, (1000W, 1098W, 1183W, 1184W)	Golden Arrow Mine, Ltd.	47	..	..	1,163.00	535.14
Do.	56W, 75W, (87W, 122W)	(Liberty leases)	..	..	..	..	..
Do.	1237W	Lucknow	Ftd.	..	..	24.50	27.89
Do.	1267W	Mignonette	Ftd.	..	..	..	..
Do.	1264W	Mount Hardy Proprietary	Ftd.	..	..	..	..
Do.	1216W	Nemo	Ftd.	..	..	10.50	31.71
Do.	2W, 126W, 168W	New Austral Co., Ltd.	a. r. p. 20 1 27	..	..	313.00	926.17
Do.	1210W	Oriental	Ftd.	..	..	89.00	49.11
Do.	1195W	Surbiton: Mysore United Gold Co., Ltd.	Ftd.	..	..	124.50	47.20
Do.	1256W	Talbot	a. r. p. 5 1 4	..	..	..	..
Do.	643W	Victory	6	..	..	93.00	152.96
Do.	1268W	Yellow Jacket	Ftd.	..	..	..	..
Do.	1028W	Yellow Jacket: Mysore United Gold Co., Ltd.	Ftd.	..	..	10.00	9.44
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	156.44	176.00
Do.	1222W	Brooklyn	Ftd.	..	..	20.00	3.30
Do.	1313W	Fourth of July	6	..	..	..	..
Do.	1223W	Kalgurli G.M. Syndicate, Ltd.	12	..	..	..	..
Do.	1223W	(Kalgurli Syndicate)	..	..	..	4.00	16.09
Do.	1261W	Mona	Ftd.	..	..	..	..
Do.	45W	Mount Corlie	12	..	..	522.00	188.19
Do.	1320W	New Mona	5	..	..	..	..
Do.	(1W), 53W, 57W, 60W, 61W, 128W, 1050W, (1063W, 1091W, 1099W, 1105W, 1115W, 1130W)	New Standard Exploration Co., Ltd.	a. r. p. 79 2 28	..	..	5,737.00	5,594.10
Carried forward				156.44	161.87	23,492.58	17,989.26

from all sources, etc.—continued.

Goldfield.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	79.00	143.88	..	..	79.00	143.88
..	429.83	492.84
..	..	10.00	19.83	..	..	..	..	..	..	10.00	19.83
..	60.00	12.00
..	..	65.00	64.90	..	..	50.00	47.43	..	29.66	339.00	457.02
..	11.00	5.20
..	..	975.00	484.53	..	..	84.50	67.98	..	..	4,448.50	2,639.72
..	..	5.00	10.63	..	..	..	..	..	..	18.00	23.81
..	28.46	78.74
..	2.55	575.00	457.49	..	..	..	..	..	52.66	23,480.00	12,992.95
..	13.00	2.51	..	..	13.00	2.51
..31	8.00	3.34
..	..	70.00	21.27	..	..	..	..	..	..	331.00	106.89
..	..	114.50	350.84	..	..	126.00	397.09	..	..	294.50	835.86
..	..	31.00	55.66	..	..	..	..	..	..	162.00	575.85
..	31.00	15.02
..	10.00	28.14
..	cy. 42.31	..	..	6,739.97	4,140.87	..	28.37	6,739.97	4,183.18
..
..	6.24	13,265.00	10,632.96
..	..	5.00	2.05	..	..	..	..	..	..	10.00	3.95
..	139.00	91.82
..	..	45.00	20.60	..	..	63.00	16.88	..	..	108.00	37.48
..	..	175.00	49.81	..	..	..	..	..	..	923.00	268.14
..	..	85.50	71.54	..	..	156.00	17.13	..	..	519.75	717.22
..	5,060.60	3,350.67
..	..	133.33	548.06	..	..	34.33	147.74	..	..	1,674.66	2,146.85
..	221.00	191.47	..	..	221.00	191.47
..	103.64	4,133.25	2,081.79
..	..	178.66	155.76	..	..	242.67	155.46	..	..	699.58	586.61
..	27.25	20.21
..	16.00	34.53	..	..	16.00	34.53
..	..	372.00	259.50	..	..	260.00	156.60	..	..	24,243.25	6,683.01
..	..	25.00	17.06	..	..	..	..	..	..	477.00	122.86
..	55.32	..	..	..	..	..	..	..	55.32	..	..
..	172.00	429.74
..	40.70	155.41	..	..	40.70	155.41
..	..	106.00	262.10	..	..	22.86	175.08	..	..	370.86	1,293.21
..	..	45.00	306.99	..	..	251.50	191.18	..	..	7,532.15	10,522.64
..	10.00	14.78	..	..	10.00	14.78
..	..	77.00	202.20	..	..	94.00	304.05	..	..	171.00	506.25
..	33.00	53.28	..	..	33.00	53.28
..	82.00	18.90
..	35.50	30.73	..	..	35.50	30.73
..	60.00	10.37	..	..	60.00	10.37
..	27.81	285.32	4,654.16
..	..	56.50	66.14	..	68.00	120.00	89.52	..	589.61	69.69	1,328.20
..	..	31.00	17.67	..	..	..	..	..	..	31.00	17.67
..	7.00	10.10
..	..	1,923.00	847.03	..	..	450.00	212.35	..	..	9,140.00	4,847.57
..	17.10	86.00	52.56	..	17.10	86.00	52.56
..	..	50.00	24.49	..	..	..	..	..	237.19	677.18	1,070.12
..	..	6.00	7.04	..	..	..	..	..	..	50.00	69.45
..	..	39.00	59.26	..	60.72	65.35	102.71	..	60.72	266.35	293.54
..	..	2,077.00	1,545.98	..	..	3,097.00	1,850.33	..	..	34,727.75	19,645.69
..	298.90	375.35
..	24.50	27.89
..	..	32.00	10.41	..	..	4.00	38.21	..	..	36.00	48.62
..	..	15.00	64.82	..	..	..	..	..	..	15.00	64.82
..	18.00	48.74
..	..	88.00	799.16	..	..	50.00	193.12	..	..	40,516.50	44,579.68
..	..	4.00	3.15	..	..	..	..	..	..	178.00	121.29
..	284.50	143.64
..	..	149.00	197.83	..	..	298.50	322.71	..	..	447.50	520.54
..	..	65.00	115.22	..	..	242.00	210.93	..	35.87	475.50	629.07
..	..	102.00	61.32	..	..	57.00	28.00	..	..	159.00	89.32
..	572.00	454.03
..
..	54.85	122.74	13,259.48
130.72	..	312.50	301.68	69.58	25.59	810.00	414.22	464.89	157.20	3,198.00	1,919.85
..	20.00	3.30
..	118.00	18.54	..	..	118.00	18.54
..	137.00	45.22	..	..	137.00	45.22
..	..	22.00	36.22	..	..	..	..	..	..	26.00	52.31
..	..	33.00	6.83	..	..	..	..	..	..	33.00	6.83
..	..	691.00	163.12	17.00	..	985.00	276.50	17.00	..	6,419.75	3,196.38
..	cy. 62.35	..	..	..	62.35
1,909.65	..	9,040.00	4,907.37	3,329.92	..	8,498.00	3,697.77	5,239.57	..	111,749.00	52,944.10
2,040.37	57.87	17,828.99	12,637.87	3,416.50	171.41	23,650.88	14,069.49	6,393.73	1,290.49	325,625.62	211,625.36

TABLE IV.—Production of Gold

Broad Arrow

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward	156.44	161.87	23,492.58	17,989.26	
Paddington	1142W	Paddington Consols South	Ftd.	..	..	..
Do.	1221W	Pakeha	12	..	124.00	124.60	
Do.	1276W	Pioneer	24	..	..	..
Do.	1047W	Star of W.A.	18	..	698.00	536.09	
Do. .. .. .	.. .. .	Voided leases .. .. .	..	..	..	..
Do. .. .. .	.. .. .	Sundry claims .. .. .	..	27.31	840.03	426.13
Siberia	1305W [753s]	Bonnie Doon	12	..	..	..
Do.	1284W	Denver City	12	..	..	..
Do.	1286W [674s]	Golden	12	..	..	..
Do.	1292W [720s]	Invincible	12	..	..	..
Do.	1287W [706s]	Invincible Extended	12	..	..	..
Do.	1323W	Maid of the Valley	6	..	..	..
Do.	1293W [728s]	Mexico	13	..	..	..
Do.	1288W, 1303W	Orabanda leases	24	..	..	..
Do.	1291W [718s]	Missouri	12	..	..	..
Do.	1294W [736s]	Palmerston	12	..	..	..
Do.	1306W [754s]	Port Arthur	12	..	..	..
Dp.	1283W [124s]	Waverley	9	..	..	..
Do. .. .. .	.. .. .	Sundry claims .. .. .	..	..	..	..
Smithfield .. .. .	.. .. .	Voided leases .. .. .	..	..	..	..
Do. .. .. .	.. .. .	Sundry claims .. .. .	..	..	..	..
		<i>From Goldfield generally.—</i>					
		Sundry parcels treated at:—					
		Brown Hill Consols Works, Kalgoorlie .. .. .	..	..	15.00	30.94
		Carter's Venture Mill .. .. .	..	..	..	..
		Fremantle Smelter, Ltd. .. .. .	..	..	..	..
		Half-mile Reef Battery .. .. .	..	..	274.00	118.31
		Lady Bountiful Works .. .. .	..	..	..	cy. 17.89
		New Arrow Proprietary Battery .. .. .	..	..	767.00	308.37
		Orotava Works, Kalgoorlie .. .. .	..	..	..	..
		Paddington Consols Works .. .. .	..	..	..	..
		Paddington Cyanide Works .. .. .	..	..	..	cy. 984.00
		Paddington Slimes Works .. .. .	..	..	89.00	107.57
		Zoroastrian Battery .. .. .	..	..	63.50	34.61
		Various Works .. .. .	..	..	..	..
		Reported by Banks and Gold Dealers .. .. .	..	..	..	..
		Total		1,131.82			
				1,340.55	161.87	26,363.11	20,677.77

North-East Coolgardie

KANOWNA

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Voided leases .. .. .	..	..	..	..
Black Swan	434X, 878X, (898X,	(Atlas G.Ms., Ltd.) .. .. .	..	..	..	..
Gambier	981X, 1037X, 1057X)		..	..	..	..
Do.	898X	(Brilliant)	Ftd.	..	..	..
Do.	898X	Brilliant	Ftd.	..	..	..
Do.	434X	(Camelia) .. .. .	..	..	..	..
Do.	434X	Camelia	24	..	..	..
Do.	878X	Camelia Extended	12	..	..	..
Do.	1149X	Gambia	12	..	..	..
Do.	946X	Gem	Ftd.	..	26.00	67.86	
Do.	1181X	Gem	6	..	..	..
Do. .. .. .	.. .. .	Voided leases .. .. .	..	..	..	..
Do. .. .. .	.. .. .	Sundry claims .. .. .	..	..	..	..
Gindalbie	1090X	Diamond Jubilee Extended	Ftd.	..	24.00	12.18	
Do.	1047X	Eclipse	6	..	91.00	92.46	
Do.	1123X	Gindalbie	12	..	..	..
Do.	1191X	Jubilee	12	..	..	..
Do.	1155X	Little Nell	12	..	..	..
Do.	1184X	Mayflower	12	..	..	..
Do.	1127X	Monkland	18	..	..	..
Do.	1120X	Mulga Prince	Wdn.	..	31.00	6.12	
Do.	1124X	Mulga Prince Extended	Ftd.	..	28.50	14.56	
Do.	1192X	Occidental	18	..	..	..
Do.	1081X	Pride of Vosperton	Ftd.	..	66.00	12.33	
Do.	392X, 394X, 396X,	Queen Margaret G.M. Co., Ltd.	84	..	4,235.00	5,109.02	
Do.	1048X .. .. .		..	..	..	..
Do.	1185X	Red and White	9	..	..	..
Do.	392X, 394X, 396X	(South Gippsland leases) .. .. .	..	..	..	..
Do.	1174X	United	9	..	..	..
		Carried forward .. .. .	..	..	4,501.50	5,314.53

from all sources, etc.—continued.

Goldfield—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
2,040.37	57.87	17,828.99	12,637.87	3,416.50	171.41	23,650.88	14,069.49	6,393.73	1,290.49	325,625.62	211,625.36
..	..	367.00	152.09	..	..	88.00	19.73	..	..	34.00	4.23
..	173.00	20.45	..	..	651.50	352.55
..	..	444.00	647.61	..	..	1,037.00	347.46	..	123.20	173.00	20.45
699.81	..	2,899.50	853.21	650.50	..	2,282.00	349.63	1,469.37	..	9,149.00	7,747.77
..	23.00	4.52	..	..	4,645.40	2,299.77
..	4.00	4.19	..	..	8,195.79	5,070.18
..	18.25	100.85	..	..	23.00	4.52
..	254.00	124.06	..	..	4.00	4.19
..	64.50	11.72	..	..	18.25	100.85
..	32.00	15.57	..	..	254.00	124.06
..	75.00	122.68	..	..	64.50	11.72
..	370.00	121.77	..	..	32.00	15.57
..	192.00	70.26	..	..	75.00	122.68
..	4.84	..	..	..	370.00	121.77
..	15.56	..	..	4.84	192.00	70.26
..	37.50	19.66	..	15.56	..	..
..	223.00	48.31	..	..	37.50	19.66
..	26.10	..	132.50	206.01	26.10	..	223.00	48.31
..	132.50	206.01
..	132.50	206.01
..	1,027.00	200.90
..	20.00	9.54
..
..	cy. 470.82	..	..	15.00	30.94
..	11.67	..	..	..	470.82
..	11.67
..	274.00	118.31
..	8.50	31.88	..	..	8.50	49.77
..	172.94	299.35	..	5,229.08	4,161.40
..	cy. 4.44	..	..	..	4.44
..	cy. 409.28	..	..	..	409.28
..	cy. 1,234.67	..	..	..	cy. 332.11	..	..	..	4,277.38
..	89.00	107.57
..	63.50	34.61
260.16	236.20	..	..	..	1,970.91	..	10,838.85	10,129.19
3,000.34	57.87	21,539.49	15,525.45	4,329.30	191.81	23,665.13	16,989.50	15,790.48	1,434.09	367,464.99	247,985.73

Goldfield.

DISTRICT.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	..	1,309.00	521.30	..	..	..	..	..	..	160.00	141.76
..	8,007.00	3,378.99
..	237.00	104.88	..	27.45	48.00	56.56
..	237.00	104.88
..	..	464.00	214.57	..	3.53	450.00	412.42	..	3.53	242.50	325.82
..	78.00	81.34	..	..	914.00	626.99
..	174.00	70.46	..	..	78.00	81.34
..	7.50	174.00	70.46
..	73.00	209.91
..	27.00	33.67	..	..	27.00	33.67
14.63	..	100.00	53.57	10.02	183.01	362.25	417.91	24.70	183.01	209.00	197.87
..	472.25	475.10
..	..	152.00	158.77	..	..	54.00	45.42	..	..	24.00	12.18
..	..	60.00	15.30	..	..	10.00	7.59	..	..	423.00	469.25
..	50.00	23.74	..	..	70.00	22.89
..	..	70.00	65.79	..	..	12.00	5.16	..	..	50.00	23.74
..	31.00	28.52	..	..	82.00	70.95
..	..	217.00	140.56	..	..	219.00	178.45	..	..	31.00	28.52
..	436.00	319.01
..	31.00	6.12
..	17.00	95.96	..	..	28.50	14.56
..	..	4,558.25	4,042.05	..	..	3,376.00	3,153.17	..	..	17.00	95.96
..	66.00	12.33
..	13.00	14.98	..	..	14,841.25	15,257.51
..	13.00	14.98
..	155.00	667.52	..	..	3,697.00	3,805.05
14.68	..	6,930.25	5,211.91	10.02	186.54	5,265.25	5,341.19	24.70	221.49	155.00	667.52
..
..	30,606.50	26,523.92

TABLE IV.—Production of Gold

North-East Coolgardie

KANOWNA

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward				4,501.50	5,314.53
Gindalbie	847X, 964X, 965X	Vosperton G.Ms., Ltd.	Ftd.				
Do.	1101X	Walhalla	Wdn.			19.00	5.15
Do.	847X	(Whitehead's Find)	Ftd.				
Do.	1098X	Wild Cat	Surr.			6.00	7.20
Do.		Voided leases					
Do.		Sundry claims					
Gordon	98X, 1006X, 1013X	Advance Australia Prospectors, Ltd.	Ftd.		51.93	87.00	39.71
Do.	1106X	Lancashire Witch	Surr.			9.00	3.43
Do.	1104X	Mulga Queen	Surr.		20.00	91.00	126.27
Do.	891X	Sirdar	12				
Do.		Voided leases					
Do.		Sundry claims				89.00	98.70
Kanowna	35X, 64X, 345X	Ballarat and Prince Oscar Co., Ltd.	40			653.00	126.24
Do.	35X, 64X, 345X	(Ballarat and Prince Oscar Syndicate, Ltd.)					
Do.	1056X	Battler	Ftd.			14.00	27.19
Do.	1138X	Bella	Ftd.				
Do.	1189X	Blue Duck	Wdn.				
Do.	1112X	Bonnie Jean	Ftd.			26.00	23.64
Do.	1193X	Budgerie	9				
Do.	1160X	Bulong United	6				
Do.	1172X	Chance	8				
Do.	1167X	Clydesdale	Ftd.				
Do.	367X, 1036X, 1042X	(Commonwealth G.Ms., Ltd.)	a. r. p. 28 3 32				
Do.	982X	Dalmanutha	Ftd.				
Do.	1128X	Dalmanutha	12				
Do.	928X	Eaton's Lode Consolidated	Ftd.			957.00	321.19
Do.	1151X	Evelyn Amalgamated	1				
Do.	1137X	Evelyn Extended	Ftd.				
Do.	1079X	Federal	Ftd.			96.00	28.88
Do.	1062X	Gentle Polly	a. r. p. 3 2 0		2.71	57.50	365.00
Do.	33X, 180X, 200/1X	(Golden Cement Claims)					
Do.	55X	Golden Crown	14				
Do.	367X, 1036X, 1042X	(Golden Valley leases)				72.00	35.90
Do.	367X, 1036X, 1042X	(Golden Valley Mines of W.A., Ltd.)				640.00	302.99
Do.	1139X	Golden Wonder	10				
Do.	1153X	Great Scot	Surr.				
Do.	1143X	Hard's Luck	Ftd.				
Do.	1024X	Havilah	12			88.00	30.41
Do.	1186X	Home Signal	12				
Do.	1019X	Kanowna	7			407.00	632.85
Do.	153X, (807X)	(Kanowna Acquisition Syndicate, Ltd.)				1,115.00	652.67
Do.	153X, (807)	(Kanowna Consolidated G.Ms., Ltd.)				650.00	242.48
Do.	1194X	Kanowna Low Grade	12				
Do.	1175X	Kanowna Mystery	6				
Do.	1110X	Kanowna Star	Wdn.			13.00	3.94
Do.	1144X	Kanowna Wonder Extended	Ftd.				
Do.	1055X	Kintore	12			41.00	64.52
Do.	52X, 68X, 185X, 213X	Lake View South G.M. (W.A.), Ltd.	50			8,849.99	3,759.15
Do.	1150X	Lilian	Wdn.				
Do.	18X, 19X, (314X)	(Lily Australis G.Ms., Ltd.)					
Do.	18X, 456X	London and Coolgardie Explorers, Ltd.	29		17.69	247.00	580.00
Do.	1076X	Madame Melba	5			175.50	535.78
Do.	1154X	Minerva	3				
Do.	55X	(New Standard Exploration Co., Ltd.)				104.00	146.08
Do.	918X	North Cross Reef	Surr.				
Do.	942X	North Lead Central	Ftd.				
Do.	1152X	North Lead Lode Consols	10				
Do.	3X, 18X, 19X, 46X, 60X, 81X, 938X, 974X, 1035X, 1132X, 1134X, 1135X	North White Feather G.Ms., Ltd.	a. r. p. 121 2 8			9,648.00	7,589.08
Do.	153X	Q.E.D.	18				
Do.	1156X	Red, White, and Blue	Ftd.				
Do.	52X, 68X, 185X, 213X	(Robinson G.Ms., Ltd.)					
Do.	1083X	Scotia	12				
Do.	807X	(Second Kanowna Syndicate, Ltd.)	Ftd.				
Do.	1121X	Sunbeam	a. r. p. 19 2 33			73.00	74.75
Do.	194X, 1009X	Sunbeam leases	Surr.		5.16	153.00	200.59
Do.	1085X	Sunnyside	Ftd.			135.00	38.79
Do.	1169X	Surprise No. 1	5				
Do.	1099X	Wakeful	Ftd.			37.00	22.91
Do.	153X	(Waldon's Find G.M., Ltd.)					
Do.	1183X	Wattle Bird	8				
Do.	12X, 13X, 14X, 15X, 855X, 1001X, 1012X, 1103X, 1107X, 1108X, 1109X	White Feather Main Reefs, Ltd.	a. r. p. 152 3 38			21,044.35	11,246.71
Do.	982X, (1022X)	White Feather Main Reef South G.M. Co., N.L.	Ftd.				
Do.	9X, 10X, 72X, 83X, 180X, 200X, 201X, 431X	White Feather Reward, Ltd.	85			5,417.00	1,362.70
Do.	367X	Wood's Find	24				
Do.		Voided leases					
Do.		Sundry claims				88.11	387.63
		Carried forward				183.63	56,179.34
						88.11	34,447.12

TABLE IV.—Production of Gold

North-East Coolgardie

KANOWNA

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward	88.11	183.63	56,179.34	34,447.12	
Mulgarrie	1168X	Band of Hope G.M. Co., N.L.	12	..	..	..
Do.	149X	Hit or Miss South	24	2.00	10.00	35.16	
Do.	149X (74X, 165X) ..	(Phoenix G.Ms., Ltd.) .. .. .	..	11.00	..	..
Do. .. .. .	.. .. .	Voided leases .. .. .	..	..	..	..
Do. .. .. .	.. .. .	Sundry claims .. .. .	..	..	10.00	5.88
Six-Mile	1025X	Caledonia	Ftd.	..	..	..
Do.	1147X	Misobilisk	Wdn.	..	..	..
Do.	1018X	Signal Junction	Ftd.	7.55	..	..
Do.	1053X	William Tell	Ftd.	73.43	10.00	12.98	
Do. .. .. .	.. .. .	Voided leases .. .. .	..	..	..	..
Do. .. .. .	.. .. .	Sundry claims .. .. .	..	..	7.00	12.05
		<i>From District generally:—</i>					
		Sundry parcels treated at:—					
		Cresus South Works, Kalgoorlie .. .. .	..	..	..	..
		Donnan's Works .. .. .	..	..	..	..
		Heath's Cyanide Works .. .. .	..	..	..	..
		Kanowna Acquisition Works .. .. .	..	..	..	..
		Koh-i-Noor Works .. .. .	..	..	..	cy. 166.82
		Lake View South G. M. (W.A.), Ltd.—Robinson Works—(Venture Cyanide Syndicate) .. .. .	..	..	..	..
		Middletton's Cyanide Works .. .. .	..	..	..	..
		Mulgarrie Cyanide Works .. .. .	..	..	..	..
		Norton's Works .. .. .	..	..	124.00	196.41
		Old Cement Works (Martin's) .. .. .	..	..	..	cy. 238.76
		Orotava Works, Kalgoorlie .. .. .	..	..	..	..
		Queen Margaret Battery .. .. .	..	..	10.00	7.06
		Sims and Sons' Works	25.01	..	145.10	135.72	
		Various Works .. .. .	..	..	..	..
		TOTAL FOR LEASES AND QUARTZ CLAIMS	113.12	277.61	56,495.44	35,257.96	
		<i>Cement from Alluvial Claims.</i>					
		Reported by owners .. .. .	..	..	1,417.50	463.73
		Treated locally (not reported by owners)—					
		At Donnan's Works .. .. .	..	..	..	..
		At Kanowna Acquisition Syndicates' Works .. .. .	..	..	683.00	169.02
		At Kanowna Acquisition Works .. .. .	..	..	..	..
		At Lake View South Works (Robinson's) .. .. .	..	..	423.00	45.91
		At Martin's Cement Works .. .. .	..	..	..	..
		At Mudlark Works .. .. .	..	..	233.00	100.53
		At Norton's Works .. .. .	..	..	1,878.00	919.68
		At Old Cement Works (Martin's) .. .. .	..	..	424.50	217.99
		At Orotava Works, Kalgoorlie .. .. .	..	..	..	..
		At Robinson Works .. .. .	..	..	..	..
		At Sims and Sons' Works .. .. .	..	..	87.00	29.72
		At White Feather Reward Battery .. .. .	..	..	7.00	2.88
		At Various Works .. .. .	..	..	..	..
		Treated outside District (not reported by owners)—					
		At Adeline Mill, Kalgoorlie .. .. .	..	..	..	cy. 6.08
		At Brown Hill Consols Works, Kalgoorlie .. .. .	..	..	20.00	19.94
		At Various Works .. .. .	..	..	..	8.48
		Reported by Banks and Gold Dealers	1,025.91	..	..	..
		Total	1,139.03	277.61	61,668.44	37,231.92	

from all sources, etc.—continued.

Goldfield—continued.

DISTRICT—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
14.68	194.30	58,880.44	35,469.64	10.48	934.10	45,962.75	27,429.60	113.27	3,132.40	410,867.48	273,912.12
..	449.00	127.15	..	..	449.00	127.15
..	..	10.00	40.21	..	..	..	..	..	2.00	20.00	75.37
..	975.20	2,392.00	1,273.17
..	141.50	185.74
..	106.00	160.20
..	240.12	28.00	43.03
..	22.78	10.50	10.83	..	..	..	..	..	22.78	10.50	10.83
..	108.49	37.00	43.66
..	..	15.00	8.56	..	..	..	..	..	339.07	81.00	143.20
..	879.91	402.50	527.00
..	31.44	105.50	83.08
..	7.02	..	..	..	..	..	..	..	7.02
..	2.92	..	..	..	2.92
..	{ cy. 636.91 }	..	..	..	..	..	..	..	699.05
..	{ 82.14 }	..	..	..	..	..	..	..	..
..	{ cy. 430.84 }	..	..	..	..	..	..	..	430.84
..	{ cy. 1,811.72 }	..	..	..	cy. 122.85	..	..	..	289.67
..	{ 10.55 }	..	..	..	cy. 3,267.63	..	..	..	5,089.90
..	{ cy. 297.65 }	..	..	..	..	..	..	..	..
..	{ 12.34 }	..	..	..	cy. 707.80	..	..	..	1,017.79
..	{ cy. 252.54 }	..	..	..	..	..	..	..	..
..	320.50	252.54
..	800.31
..	1,269.10
..	cy. 3.81	..	..	..	cy. 429.71	..	..	..	89.33
..	cy. 76.52	..	..	..	7.06
..	25.01	..	10.00	135.72
..	145.10	135.72
..	426.50	4,899.05
14.68	217.08	58,915.94	39,054.76	10.48	934.10	46,411.75	32,164.18	138.28	5,731.41	415,542.58	291,565.85
..	20.90	4,840.00	1,241.94	90.63	842.61	3,748.25	694.34	305.41	864.33	24,310.90	12,377.72
..	125.00	10.89	..	..	125.00	10.89
..	683.00	169.02
..	..	736.66	162.20	..	..	..	..	..	..	736.66	162.20
..	423.00	45.91
..	..	363.25	102.84	..	..	..	..	..	..	363.25	102.84
..	..	134.00	58.92	..	..	75.00	16.27	..	..	509.00	192.68
..	..	1,569.07	306.89	..	..	1,039.50	157.19	..	..	8,999.07	3,035.59
..	873.00	325.51	..	..	4,656.50	2,121.49
..	2.00
..	..	641.00	cy. 2.00	..	..	1,024.00	163.06	..	..	1,665.00	256.29
..	93.23	..	..	..	..	..	..	1,962.00	585.71
..	2,458.50	1,910.67
..	58,431.73	48,301.69
..	16.02
..	20.00	8.48
..	27,784.55	36,686.67
1,065.90	.32	..	..	1,858.07	.54	..	..	102,653.39	.86	..	84.69
1,030.58	238.30	67,199.93	41,022.73	1,959.18	1,777.25	53,296.50	33,531.41	103,097.08	6,596.60	548,670.74	397,636.41

TABLE IV.—Production of Gold

North-East Coolgardie

BULONG

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Balagundi	1045Y	Croagh Patrick	24	..	..	..	..
Do.	975Y	Day Dawn	Ftd.	..	..	..	..
Do.	890Y	Ironbound	Ftd.	..	..	..	..
Do.	748Y	Mount Bellew	Ftd.	..	209.28	40.00	93.28
Do.	963Y	Phoenix	12	..	60.16	19.50	17.51
Do.	980Y	White Star	Ftd.	..	..	..	..
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	..	..
Bulong	1029Y, 1036Y, 1043Y	Barton leases	60	..	..	..	..
Do.	944Y	Brilliant	Ftd.	..	16.67	9.00	42.40
Do.	884Y	Bulong Surprise	a. r. p.	..	..	..	..
Do.	781Y	Castle Comer	1 1 26	..	48.11	55.00	235.54
Do.	864Y	Castle Comer Extended	Surr.	..	54.05	16.00	88.15
Do.	..	..	Surr.	..	..	31.00	22.07
Do.	802Y	Don	a. r. p.	..	..	..	..
Do.	1013Y	Fualroe	4 3 3	..	45.90	12.00	44.04
Do.	90Y	Furness Abbey	12	..	..	..	..
Do.	906Y	Gascoyne	Ftd.	..	..	..	..
Do.	913Y	Golden Celt	Ftd.	..	20.64	5.00	5.71
Do.	889Y	Golden Eagle	Ftd.	..	..	..	..
Do.	772Y	(Golden Hope)	Surr.	..	82.35	18.00	14.53
Do.	954Y	Golden Lake	..	..	..	10.00	6.52
Do.	862Y	Golden West	Surr.	..	..	145.00	201.52
Do.	835Y	(Green Harp)	12	..	..	..	..
Do.	772Y, 835Y, 845Y, (848Y)	Green Harp leases	a. r. p.	..	..	1,145.00	380.19
Do.	962Y	Green Harp South	16 5 24	..	..	..	..
Do.	751Y	(I.O.U.)	3	..	..	24.00	3.90
Do.	1009Y	Little Wonder	Surr.	..	..	..	..
Do.	11Y, (36Y)	(Melbourne United G.M. Co., N.L.)	7	..	..	..	..
Do.	951Y	New Queen Margaret South G.M. Co., Ltd.	..	..	..	..	..
Do.	921Y	Ninety-Eight	24	..	..	..	..
Do.	957Y	Oversight	6	..	..	..	..
Do.	1026Y	Oversight Central	18	..	..	..	..
Do.	751Y, 793Y, 797Y	Perseverance leases	6	..	..	..	..
Do.	74Y, 564Y	(Princess Margaret G.M. Co., N.L.)	Surr.	..	..	..	..
Do.	953Y	Pyrites King	..	..	..	4.00	1.00
Do.	979Y	Queen Margaret Central	Ftd.	..	..	..	..
Do.	90Y	(Queen Margaret Central G.M. Co., N.L.)	12	..	..	..	..
Do.	9Y, 11Y, 14Y, (36Y)	Queen Margaret G.M. Co., Ltd.	Ftd.	..	1,834.25	5,190.00	5,395.75
Do.	74Y, 142Y, 564Y, (692Y), 693Y (697, 763Y, 967Y, 971), 1020Y	..	96	..	..	..	..
Do.	205Y	Queen Margaret No. 1 South	Ftd.	..	..	..	..
Do.	205Y	(Queen Margaret No. 1 South G.M. Co., N.L.)	Ftd.	..	..	..	..
Do.	95Y	Queen Margaret South	Surr.	..	..	6.00	7.58
Do.	951Y	(Queen Margaret South)	..	..	1.57	15.00	5.45
Do.	95Y, 631Y	(Queen Margaret South G.M. Co., N.L.)	Surr.	..	..	..	..
Do.	1049Y	Redemption	5	..	..	..	..
Do.	681Y	(Slug Hill)	Ftd.	..	..	..	..
Do.	681Y	Slug Hill	Ftd.	..	..	..	..
Do.	681Y	(Slug Hill Proprietary G.M. Co., N.L.)	Ftd.	..	..	..	..
Do.	780Y	Southern Cross	Ftd.	..	..	101.00	651.14
Do.	873Y	Stawell	Ftd.	..	..	25.00	33.20
Do.	981Y	Storm King	12	..	..	..	..
Do.	844Y	Triumph	Ftd.	..	..	..	..
Do.	850Y	Trump	Ftd.	..	..	47.50	84.56
Do.	935Y	Wearing of the Green	Surr.	..	..	6.50	107.52
Do.	14Y	(White Horse)	..	..	..	..	..
Do.	14Y	(White Horse: Queen Margaret G.M. Co., Ltd.)	..	..	..	..	..
Do.	1019Y	Zeehan	Ftd.	..	..	..	..
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	..	..
Hogan's Find	898Y	Britannia	Ftd.	22.73	5.44	114.50	169.64
Do.	737Y	Mt. Monger	Ftd.	..	..	5.00	17.66
Do.	..	Voided leases	..	..	..	..	..
Majestic	1017Y	Majestic	Surr.	..	..	..	..
Mt. Monger	948Y	Inverness	24	..	..	..	..
Do.	1027Y	Inverness Extended	24	..	..	..	..
Do.	849Y, 860Y	Mt. Monger G.M. Co., N.L.	Ftd.	..	..	..	..
Do.	846Y	Struck Oil	Ftd.	..	..	..	..
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	7.00	6.39
Randalls	1010Y	Accumulator	Ftd.	..	..	..	..
Do.	910Y	Agnes	18	..	..	274.75	122.54
Do.	925Y	Albion	Ftd.	..	..	..	..
Do.	987Y	Birthday Gift	Ftd.	..	..	..	..
Do.	942Y	Doris	Surr.	..	..	..	..
Do.	902Y	Father Christmas	Surr.	..	..	..	..
Do.	875Y	Flagship	Ftd.	..	..	26.00	3.69
Do.	960Y	Floradora	Ftd.	..	..	186.50	122.32
Do.	991Y	Gladys May	Ftd.	..	..	..	..
Do.	973Y	Golden Cliff	Wdn.	..	..	7.00	1.76
Do.	964Y	Just in Time	Ftd.	..	..	..	..
Do.	952Y	Lady Eileen	Ftd.	..	..	45.00	19.86
Do.	1002Y	Lady Eileen	Ftd.	..	..	..	..
Do.	1022Y	Last Chance	Wdn.	..	..	..	..
Do.	945Y	Maxwell	Ftd.	..	..	23.75	6.99
Do.	826Y	Mighty Rumble	Ftd.	..	..	98.00	51.52
Carried forward			..	22.73	2,378.42	7,712.00	7,963.94

from all sources, etc.—continued.

Goldfield—continued.

DISTRICT.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	..	69.00	9.23	..	..	12.00	14.68	..	..	12.00	14.68
..	69.00	9.23
..	102.76	12.00	30.64	..	..	..	..	..	25.56	10.00	17.89
..	..	7.00	13.18	..	79.12	..	..	..	1,548.77	196.00	617.58
..	..	28.00	3.97	..	..	..	..	..	139.28	26.50	30.69
..	..	6.00	1.70	..	..	..	..	..	..	28.00	3.97
..	4.50	144.50	173.19
..	..	10.00	3.12	..	..	32.00	29.77	..	..	64.50	39.71
..	573.00	123.82	..	..	573.00	123.82
..	16.67	19.00	45.52
..	17.36	85.00	212.43	..	..	23.50	115.87	..	65.47	205.50	626.94
..	54.05	124.00	292.11
..	31.00	22.07
..	1.76	12.00	14.84	..	18.40	14.00	3.13	..	66.06	52.40	94.45
..	57.00	122.24	..	..	57.00	122.24
..	7.96	10.00	11.50
..	78.26	20.00	64.15
..	9.00	48.48
..	82.35	67.00	45.11
..	12.00	6.57
..	..	132.50	338.02	..	..	322.00	97.31	..	..	10.00	6.52
..	10.43	749.00	835.98
..	318.00	214.32
..	..	2,424.00	731.82	..	..	2,294.00	573.83	..	..	5,863.00	1,685.84
..	..	117.00	22.45	..	..	..	..	..	..	141.00	26.35
..	..	30.00	18.84	..	..	79.50	50.72	..	..	53.00	17.33
..	109.50	69.56
..	24.00	30.74	..	..	236.20	200.79
..	..	6.00	3.33	..	..	..	..	..	..	24.00	30.74
..	2.50	9.59	..	..	41.00	17.89
..	13.00	11.07	..	..	2.50	9.59
..	13.00	11.07
..	230.50	90.49
..	cy. 1.05	..	..	..	..	..	..	632.00	969.09
..	1,302.12	..	..	..	118.75	34.00	189.23	..	1,420.87	4.00	2.05
..	34.00	189.23
..	212.96	2,903.05	3,637.94	..	172.95	1,548.35	2,753.02	..	2,688.71	363.00	403.13
..	62,494.40	60,854.63
..	1.87	..	..	..	..	..	..	..	1.87	..	..
..	106.00	791.50
..	6.00	7.58
..	1.57	15.00	5.45
..	159.71	..	..	5.81	1,748.03	566.00	2,199.81
..	159.71	..	..
..	557.00	601.35
..	11.34	..	..	..
..	..	22.00	45.34	..	..	..	..	18.94	..	195.00	80.24
..	123.00	696.48
..	..	20.00	49.11	..	..	..	..	..	..	47.00	137.93
..	20.00	49.11
..	10.00	4.10
..	392.50	837.93
..	6.50	107.52
..	730.72	336.50	745.65
..	6.44	..	..	..	..	..	..	..	..	2,230.00	1,623.61
..	3.00	7.29	..	6.44	3.00	7.29
18.21	..	54.00	11.78	25.63	..	124.50	46.60	70.66	732.56	3,220.25	2,237.20
..	1,566.91	906.38	5,409.96	13,777.35
..	3.64	10.00	41.08
..	869.00	269.50	207.30
..	..	15.50	10.81	..	..	20.00	14.15	..	36.18	30.00	28.13
..	..	22.50	14.66	..	..	35.00	27.95	..	..	35.50	24.96
..	15.00	6.21	..	..	57.50	42.61
..	15.00	6.21
..	435.00	28.65
..	56.25	11.50	56.64
..	..	13.00	2.97	..	..	120.00	64.86	1,806.32	602.35	345.00	835.58
..	..	76.80	23.31	..	..	..	..	215.60	..	76.80	218.37
..	..	427.50	113.00	..	..	234.00	81.51	..	..	936.25	317.05
..	..	24.00	3.57	..	..	..	..	..	..	24.00	3.57
..	..	48.70	16.70	..	..	10.00	3.05	..	..	58.70	19.75
..	..	16.80	2.70	..	..	..	..	..	..	16.80	2.70
..	19.36	160.40	93.47	..	..	..	..	..	19.36	160.40	93.47
..	..	55.90	6.49	..	..	..	..	..	..	81.90	10.18
..	..	167.60	33.82	..	..	..	..	..	..	354.10	156.14
..	22.00	3.47	..	..	22.00	3.47
..	7.00	1.76
..	32.22	..	..	..	..	..	..	..	32.22	..	..
..	45.00	19.86
..	..	13.45	4.08	..	..	..	..	..	..	13.45	4.08
..	..	37.00	11.51	..	..	..	..	..	..	37.00	11.51
..	..	73.90	9.71	..	..	..	..	..	..	97.65	16.70
..	..	101.70	24.21	..	..	..	..	..	..	8.46	95.66
..	214.20	..
18.21	1,696.85	7,192.30	5,519.80	25.63	548.93	5,612.35	4,381.11	1,889.26	13,327.65	90,248.75	94,223.34

TABLE IV.—Production of Gold

North-East Coolgardie

BULONG

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward .. .. .	..	22.73	2,378.42	7,712.00	7,963.94
Randalls	956Y	Mighty Rumble Extended	Ftd.	..	..	..	..
Do.	986Y	New Chum	Ftd.	..	..	..	..
Do.	805Y, 892Y, 990Y ..	New Santa Claus G.M. Co., Ltd.	54	..	..	..	..
Do.	947Y	Recovery	Ftd.	..	..	..	..
Do.	922Y	Royal Purple	Ftd.	..	..	32.00	17.96
Do.	805Y, (891Y), 892Y ..	(Santa Claus G.M. Co., Ltd.) .. .. .	..	..	..	..	..
Do.	927Y	South Flagship Extended	Ftd.	..	..	33.00	4.06
Do.	899Y	Surprise	Ftd.	..	..	34.00	11.89
Do.	1000Y	Surprise	Ftd.	..	..	..	..
Do.	1006Y	Waterloo	Wdn.	..	..	..	..
Do.	.. .. .	Sundry claims .. .. .	..	..	..	7.00	1.46
Sudden Jerk	985Y	Black Cat	12	..	..	..	..
Do.	.. .. .	Voided leases .. .. .	..	..	..	..	..
Do.	.. .. .	Sundry claims .. .. .	..	..	..	..	..
Taurus	919Y	Marmont	Ftd.	..	..	17.00	25.49
Do.	1014Y	Raub	12	..	..	..	..
Do.	.. .. .	Voided leases .. .. .	..	..	..	..	..
Do.	.. .. .	Sundry claims .. .. .	..	..	..	..	..
Woodline	1005Y	Unknown	24	..	..	..	..
Do.	.. .. .	Sundry claims .. .. .	..	..	..	..	..
		<i>From District generally:—</i>					
		Sundry parcels treated at:—					
		Berry's Battery .. .. .	..	..	..	50.00	27.27
		Middleton's Cyanide Works .. .. .	..	..	..	..	..
		Queen Margaret Works .. .. .	..	..	..	7.00	6.77
		State Battery, Randalls .. .. .	..	..	..	..	..
		Various Works .. .. .	..	..	..	..	..
		Reported by Banks and Gold Dealers .. .. .	..	695.39	..	..	..
		Total .. .. .	..	718.12	2,378.42	7,892.00	8,058.84

KURNALPI

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Jubilee	.. .. .	Voided leases .. .. .	..	..	..	..	..
Do.	.. .. .	Sundry claims .. .. .	..	..	..	..	..
Kurnalpi	280K	Billy Billy	Ftd.	..	..	631.00	564.97
Do.	281K	Hope	Ftd.	..	..	33.00	35.94
Do.	299K	Kurnalpi Main Reef	Ftd.	..	..	..	..
Do.	314K	Lady of the Lake	18	..	..	..	..
Do.	310K	Sheba	6	..	..	..	..
Do.	.. .. .	Voided leases .. .. .	..	..	..	..	..
Mulgabbie	263K	Sundry claims .. .. .	..	..	..	8.50	9.54
Do.	303K	Cables	6	..	13.32	..	..
Do.	303K	Hope	6	..	..	..	..
Do.	266K	Ironclad	Ftd.	..	..	..	..
Do.	260K	Mulgabbie Perseverance	Surr.	..	..	3.50	242.26
Do.	312K	Mulgabbie Perseverance	12	..	..	..	..
Do.	.. .. .	Voided leases .. .. .	..	..	..	..	..
Do.	.. .. .	Sundry claims .. .. .	..	..	..	28.32	cy.14.83
		<i>From District generally:—</i>					
		Sundry parcels treated at Various Works .. .. .	..	241.89	..	..	..
		Reported by Banks and Gold Dealers .. .. .	..	..	..	..	..
		Total .. .. .	..	241.89	41.64	676.00	867.54

from all sources, etc.—continued.

Goldfield—continued.

DISTRICT—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
18.21	1,696.85	7,192.30	5,519.80	25.63	548.93	5,612.35	4,380.11	1,889.26	13,327.65	90,248.75	94,223.34
..	..	95.20	13.05	..	..	..	..	..	..	95.20	13.05
..	..	32.00	12.82	..	..	..	..	..	..	32.00	12.82
..	..	525.80	265.01	..	..	1,609.00	949.33	..	..	2,134.80	1,214.34
..	..	63.50	9.54	..	..	30.00	7.43	..	..	93.50	16.97
..	32.00	17.96
..	50.00	41.29
..	..	432.50	111.43	..	..	119.00	21.78	..	..	584.50	137.27
..	34.00	11.89
..	..	95.50	493.33	..	..	21.00	5.05	..	..	116.50	498.38
..	..	43.35	21.78	..	..	..	..	..	..	43.35	21.78
..	..	202.55	57.40	..	..	105.50	32.23	..	..	315.05	91.09
..	5.74	5.00	15.66	..	12.80	5.00	5.12	..	18.54	10.00	20.78
..	45.37	4.25	32.89
..	10.23	..	..	..	..	..	..	..	10.23
..
..	3.70	8.60	36.24	..	..	11.00	36.78	..	3.70	17.00	25.49
..	19.60	73.02
..	2.06	..	1,641.55	662.32
..	4.00	10.29	112.69	..	260.00	346.86
..	..	185.50	249.86	..	..	24.25	11.05	..	..	209.75	260.91
..	..	39.33	61.57	..	..	..	..	..	..	39.33	61.57
..	cy. 136.26	..	..	50.00	163.53
..	cy. 17.59	..	..	..	17.59
..	7.00	6.77
..	cy. 35.24	..	..	..	35.24
1,170.66	238.75	..	..	..	24,042.91	50.99	5,928.05	5,257.24
1,138.87	1,706.29	8,921.28	6,877.72	264.38	561.99	7,541.10	5,648.26	26,046.92	13,446.25	101,966.33	103,274.62

DISTRICT.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	145.13	1,810.50	1,400.54
..	18.87	..	46.00	28.91
..	..	179.00	156.73	..	..	..	..	..	8.66	810.00	721.70
..	33.00	35.94
..	..	80.00	25.69	..	..	..	..	..	..	80.00	25.69
..	153.07	..	..	..	153.07	..	..	..
..	42.00	7.82	..	..	42.00	7.82
..	1,710.05	835.61
..	4.25	..	..	..	16.85	..	..	217.92	21.10	53.50	53.61
..	27.18	..	..	..	40.50	..	98.98
..	31.01	..	..	..	..	3.00	117.97	..	31.01	3.00	117.97
..	4.81	..	..	..	4.81	..	..
..	..	2.00	341.52	..	..	..	..	..	6.93	7.00	629.67
..	3.80	185.40	..	..	3.80	185.40
..	38.93	..	..
..	19.11	3.50	13.89	6.50	1,354.71	79.75	580.18
..	55.00	174.51
273.52	185.79	..	..	..	9,622.84	..	..	..
273.52	35.26	261.00	523.94	338.86	67.95	52.80	424.06	10,019.20	1,651.78	4,734.10	4,896.53

TABLE IV.—Production of Gold

East Coolgardie

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Binduli	Voided leases .. .. .	..	..	..	..
Boorara	Crown Jewel	24	..	..	..
Do.	Golden Ridge G.M. Co., N.L.	168	..	..	..
Do.	(Golden Ridge Proprietary leases)	..	..	14,303.00	9,783.98	
Do.	(Golden Ridge, W.A., Proprietary, Ltd.) .. .. .	..	..	..	..
Do.	Waterfall Consols	Ftd.	9.73	..	..
Do.	(Waterfall leases) .. .. .	..	..	..	..
Boulder	(Acrobat: Paringa Consolidated Mines, Ltd.) .. .. .	..	..	..	..
Do.	Associated G.Ms. of W.A., Ltd.	a. r. p. 75 3 24	..	..	..
Do.	Associated Northern Blocks (W.A.), Ltd.	24	..	85,605.00	72,409.40	
Do.	Associated Southern G.Ms. (W.A.), Ltd.	Ftd.	..	32,255.60	36,135.34	
Do.	(Boulder Central G.M. Co., N.L.)	Ftd.	..	..	..
Do.	Boulder Consols No. 1	Ftd.	78.48	..	..
Do.	(Boulder Consols No. 1 G.M. Syndicate, N.L.)	Ftd.	..	37.00	6.37	
Do.	Boulder Deep Levels, Ltd.	96	..	2,523.00	1,688.24	
Do.	(Boulder Main Reef South)	Surr.	..	35.00	12.79	
Do.	(Boulder Venture)	Surr.	..	62.00	4.33	
Do.	Boulder Venture leases	Surr.	..	..	..
Do.	(Brookman Bros' Boulder G.M. Co., Ltd.)	Surr.	..	..	..
Do.	(Brown Hill Central G.Ms., Ltd.) .. .. .	..	..	69.00	14.49	
Do.	Central and West Boulder G.Ms., Ltd.	54	..	69.70	54.35	
Do.	(Chaffers G.M. Co., Ltd.) .. .. .	..	..	3,986.00	1,141.93	
Do.	(Chaffers G.M. Co., Ltd.)	12	..	..	..
Do.	Crossus Central	24	..	..	..
Do.	Crossus North No. 1, Ltd.	9	..	4,218.00	903.32	
Do.	(Crossus Proprietary G.M. Co.) .. .. .	..	..	..	..
Do.	Crossus South G.Ms., Ltd.	a. r. p. 35 0 34	..	1,449.50	2,319.39	
Do.	Deep Levels Extended G.M. Co., N.L.	24	..	..	..
Do.	Deep Levels South	24	..	..	..
Do.	Golden Horseshoe Estates Co., Ltd.	a. r. p. 86 3 24	..	181,191.00	179,222.43	
Do.	(Golden Link Consolidated G.Ms., Ltd.) .. .. .	..	..	..	..
Do.	(Golden Link Consolidated G.Ms., Ltd.) .. .. .	..	..	..	..
Do.	Golden Links, Ltd.	30	..	19,257.00	5,805.86	
Do.	Golden Pike and Lake View East Mines, Ltd.	a. r. p. 37 1 15	..	62.50	26.14	
Do.	Great Boulder Main Reef, Ltd.	24 3 0	..	19,393.00	7,848.43	
Do.	Great Boulder No. 1, Ltd.	24	..	605.00	229.93	
Do.	Great Boulder Perseverance G.M. Co., Ltd.	24	..	135,638.00	142,757.09	
Do.	Great Boulder Proprietary G.Ms., Ltd.	a. r. p. 97 1 0	..	112,718.00	132,473.23	
Do.	(Great Boulder South G.M. Co., Ltd.) .. .. .	..	..	..	..
Do.	Hainault G.Ms., Ltd.	20	..	30,028.50	12,349.07	
Do.	(Hannan's Block 45, Ltd.) .. .. .	..	..	..	..
Do.	Hannan's Central Extended G.M. Co., N.L.	Ftd.	..	..	..
Do.	(Hannan's Central G.M., Ltd.) .. .. .	..	..	..	..
Do.	(Hannan's Crossus G.M. Co., Ltd.) .. .. .	..	..	..	..
Do.	(Hannan's Excelsior G.M., Ltd.) .. .. .	..	..	..	..
Do.	(Hannan's Golden Pike G.M., Ltd.) .. .. .	..	..	..	..
Do.	(Hannan's North Crossus G.M. Co., Ltd.) .. .. .	..	..	..	..
Do.	(Hannan's Star G.Ms., Ltd.) .. .. .	..	..	25,060.00	10,340.51	
Do.	Hannan's Star, Ltd.	a. r. p. 38 1 0	..	..	..
Do.	Idaho leases	24	..	93.00	458.88	
Do.	(Ironside's North G.M. Co., N.L.) .. .. .	..	..	124.00	49.22	
Do.	Ivanhoe Gold Corporation, Ltd.	a. r. p. 75 1 0	..	163,657.00	126,252.00	
Do.	Ivanhoe Junction G.M. Co., N.L.	43 3 8	..	340.00	47.72	
Do.	Kalgoorlie Amalgamated, Ltd.	122	..	8,201.00	2,792.00	
Do.	(Kalgoorlie Bank of England G.M. Co., Ltd.) .. .. .	..	..	..	..
Do.	Kalgoorlie Mint and Iron King Gold Estates, Ltd.	42	..	863.00	590.34	
Do.	(Kalgoorlie Mint and Iron King G.Ms., Ltd.) .. .. .	..	..	..	..
Do.	Kalgurii Golden Eagle	12	..	1,167.00	356.87	
Do.	Kalgurii G.Ms., Ltd.	18	..	56,598.00	46,471.25	
Do.	Lake View Consols, Ltd.	72	..	93,685.25	48,090.47	
Do.	Lake View Extended	Ftd.	..	..	..
Do.	Lake View South G.M. (W.A.), Ltd.	20	..	14.50	1,577.46	
Do.	Last Chance	Ftd.	..	..	..
Do.	London	Ftd.	..	..	..
Do.	London	18	..	..	..
Do.	Lucey	23	..	..	..
Do.	Never be forgotten	10	..	..	..
Do.	Merrivue	Ftd.	..	145.00	115.30	
Do.	(New Standard Exploration Co., Ltd.) .. .. .	..	..	108.00	73.36	
Do.	(North Boulder G.M. Co., Ltd.) .. .. .	..	..	..	..
Do.	North Boulder G.Ms., Ltd.	31	..	100.00	26.21	
Do.	Northern Blocks Syndicate, Ltd.	54	..	168.00	32.78	
		Carried forward	88.46	993,829.55	842,460.48

from all sources, etc.—continued.

Goldfield.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	120.00	76.83
..	600.00	35.43	..	..	600.00	35.43
..	4,203.00	2,192.71	..	..	4,203.00	2,192.71
..	..	24,649.00	9,959.20	..	..	8,983.00	3,705.19	..	49.70	54,409.00	30,071.23
..	322.78	552.78
..	9.73	..	..
..	2,849.00	2,389.48
..	10.25	37.15
..	..	76,625.40	57,411.53	..	..	94,641.00	54,416.42	..	..	562,622.70	522,242.15
..	..	35,697.80	43,853.10	..	..	36,804.00	43,010.10	..	524.18	133,341.32	270,174.45
..	4.71
..	49.00	3.74
..	78.48	37.00	6.37
..	124.00	15.34
..	2,523.00	1,688.24
..	35.00	12.79
..	62.00	4.33
..	..	56.00	15.63	..	..	..	..	..	..	56.00	15.63
..	8,655.00	8,417.00
..	..	124.00	16.80	..	..	..	..	..	..	2,957.50	2,071.92
..	..	221.00	60.38	..	..	947.00	305.39	..	..	27,539.70	17,422.87
..	4,256.00	1,299.03
..	10.00	1.93	..	..	10.00	1.93
..	350.00	50.16	..	..	350.00	50.16
..	..	1,864.00	1,107.86	..	..	1,010.00	409.25	..	..	9,922.25	3,859.56
..	79.00	45.87
..	..	2,347.00	657.46	..	..	4,380.00	1,707.33	..	..	33,668.00	14,956.04
..	10.00	1.02	..	..	10.00	1.02
..	..	75.00	183.82	..	879.18	282.00	763.78	..	879.18	357.00	947.60
..	..	222,935.00	160,440.10	..	..	243,619.00	152,718.61	..	..	1,140,469.00	1,279,898.43
..	10,729.00	6,096.80
..	1,525.00	733.48
..	..	664.00	217.97	..	..	4,548.00	1,654.74	..	..	45,232.00	21,400.12
..	..	20.00	9.67	..	..	84.00	40.75	..	..	405.50	119.05
..	..	2,857.00	1,515.77	..	..	2,370.00	775.30	..	..	120,916.89	113,181.81
..	..	715.00	216.65	..	..	210.50	61.43	..	..	4,893.50	3,132.31
..	..	147,735.00	105,836.47	..	..	152,620.00	80,648.57	..	..	909,951.23	910,382.56
..	..	132,052.00	128,305.91	..	..	149,943.00	130,542.23	..	..	896,763.00	1,187,896.39
..	437.00	122.11
..	..	45,799.00	20,452.35	..	..	51,740.00	19,894.15	..	..	163,405.70	70,526.52
..	2,343.55	3,226.69
..	10,201.00	6,867.12
..	6,098.00	3,360.33
..	4,256.75	4,416.90
..	103.50	49.58
..	25.00	15.15
..	50.00	13.21
..	..	20,125.00	6,324.27	..	..	..	..	..	..	85,652.75	40,438.85
..	139.85	..	..	4,500.00	1,883.39	..	..	4,500.00	2,023.24
..	482.67	210.00	843.36	..	1,049.05	37.00	342.82	..	1,531.72	340.00	1,645.06
..	66.00	6.45	..	..	1,348.00	807.48
..	..	175,505.00	125,755.00	..	..	185,985.00	122,460.04	..	..	1,078,212.00	990,847.63
..	168.00	35.51	..	..	508.00	83.23
..	..	11,608.00	2,762.95	..	..	11,858.00	3,113.33	..	..	31,667.00	8,668.78
..	11,775.50	7,080.49
..	..	623.00	444.00	..	..	629.00	351.13	..	..	2,728.00	1,691.06
..	3,647.00	7,454.80
..	..	197.00	40.55	..	..	702.00	131.47	..	..	2,111.50	565.14
..	..	72,568.00	59,598.00	..	..	111,540.00	90,645.10	..	..	350,337.48	310,000.83
..	..	106,855.00	46,067.53	..	..	117,755.00	42,242.12	..	..	796,577.85	882,240.44
..	..	53.00	11.96	..	..	274.00	20.38	..	..	327.00	52.34
..	..	1,072.00	700.50	..	..	1,551.00	662.21	..	..	8,931.48	10,920.54
..	30.00	6.15
..	..	16.00	1.90	..	..	..	..	..	..	16.00	1.90
..	5.40	..	..	..	5.40	.25	10.40
..	231.00	35.77	..	..	231.00	35.77
..	93.00	15.36	..	..	93.00	15.36
..	162.00	125.89
..	..	17.00	10.59	..	..	..	..	..	..	108.00	73.36
..	33,549.15	47,532.52
..	..	331.00	829.64	..	..	1,057.00	840.54	..	..	1,488.00	1,696.39
..	..	221.00	15.46	..	..	668.00	150.11	..	..	1,057.00	198.35
..	482.67	1,083,837.20	773,806.23	..	1,933.63	1,194,468.75	755,881.12	..	3,078.64	6,588,372.08	6,804,231.02

TABLE IV.—Production of Gold

East Coolgardie

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward ..	..	85.46	993,829.55	842,460.48
Boulder	244E	(North Croesus G.M., Ltd.) .. .. .	..	..	..	..
Do.	(261E), 281E, 287E, 444E	North Kalgurli Co., Ltd.	48	..	16,757.00	12,409.27	
Do.	890E, 912E	North Western Associated G.Ms. (W.A.) Ltd. ..	..	..	..	..
Do.	890E, 912E	North Western Associated G.Ms. (W.A.), Ltd. ..	42	..	37.00	21.74	
Do.	410E, 448E, 532E, 578E, 698E, 944E, 1395E, 3031E, 4180E	Oroya Brownhill Co., Ltd.	a. r. p. 133 0 18	..	90,970.00	153,225.63	
Do.	4211E	Oroya East (Hannans) G.M., Ltd.	24	..	..	..
Do.	4E, 501E, 1591E, 2988E	(Paringa Consolidated Mines, Ltd.) .. .. .	..	..	..	..
Do.	4E, 392E, 501E, 1591E, 2988E	Paringa Mines, Ltd.	a. r. p. 47 3 7	..	976.79	1,217.29	
Do.	4227E	Queenslander	11	..	..	..
Do.	1208E, 3612E ..	South Kalgurli G.Ms., Ltd.	a. r. p. 14 1 27	..	..	sey 8,591.39
Do.	4074E	Star of Abadare	21	..	119.00	156.47	
Do.	4261E	Star of Hope	12	..	..	285.80
Do.	3031E	(Trafalgar G.M. (W.A.), Ltd.) .. .. .	..	..	..	..
Do.	4187E	Trurant	12	..	..	..
Do.	4066E	(Wendouree) .. .. .	..	2,127.12	87.00	208.43
Do.	946E	West Queen of the West	a. r. p. 24 3 20	..	..	..
Do.	.. .. .	Voided leases .. .. .	..	..	..	..
Feysville	Block 48	Hampton Plains Estate, Ltd. .. .. .	..	..	101.00	30.29
Do.	Block 50	Hampton Properties, Ltd. .. .. .	..	..	1,622.00	699.88
Do.	2684E	Rosina	Ftd.	..	..	..
Do.	4221E	Western Star	16	..	..	..
Do.	.. .. .	Voided leases .. .. .	..	..	..	..
Kalgoorlie	4132E	Altai	Ftd.	..	..	..
Do.	4148E	Argentum	Ftd.	..	..	..
Do.	3935E	Australian Nation	Ftd.	..	..	..
Do.	1101E, 4051E ..	A.W.A. United leases	a. r. p. 20 0 23	..	3,015.00	1,402.91	
Do.	4070E	Badra	6	..	20.00	2.50	
Do.	4185E	Blue Mountain	Ftd.	..	..	..
Do.	4139E	Blue Spec	Ftd.	..	..	..
Do.	796E, 1228E ..	Bonnie Lass leases	27	..	42.76	266.50	
Do.	4088E	Bonnie Play	a. r. p. 9 0 21	..	..	..
Do.	552E, 4022E, 4098E ..	Brown Hill Consols leases	37	..	4,631.00	6,370.72	
Do.	558E, 1175E, 3961E ..	Brown Hill Extended, Ltd.	60	..	..	..
Do.	1101E (1111E, 3890E)	(Brown Hill Junction G.M. Co., N.L.) .. .. .	..	..	..	..
Do.	552E (861E), 922E, (999E, 1075E)	(Brown Hill Proprietary G.Ms., Ltd.) .. .. .	..	..	..	..
Do.	21E, 64E	Butchers Hill leases	Ftd.	..	81.00	10.64	
Do.	4126E	Cardigan	Ftd.	..	..	..
Do.	4220E	Colleen Bawn	18	..	..	..
Do.	3978E	Commonwealth	Ftd.	..	..	..
Do.	4064E	Dan O'Connell	Ftd.	..	30.00	5.44	
Do.	4127E	Darkies Venture	15	..	..	..
Do.	3880E, 4146E ..	Devon Consols leases	a. r. p. 46 3 35	..	8,480.00	2,598.75	
Do.	4037E, 4039E, 4054E	(Devon Consols South Extended leases) ..	..	..	970.00	688.27
Do.	3770E	Eagle Hawk United	8	..	153.33	104.00	
Do.	4120E	Ethel	Ftd.	..	36.00	9.58	
Do.	4072E	Eve	Ftd.	..	31.00	2.32	
Do.	4128E	Excelsior	Surr.	..	46.00	5.65	
Do.	4052E, 4063E ..	Fair Play leases	16	..	4.77	180.00	
Do.	4087E	Fortunatus	Ftd.	..	..	219.50
Do.	4150E	Found at Last	Ftd.	..	..	..
Do.	4073E	Golden Dream	Ftd.	..	41.00	8.00	
Do.	4197E	Golden Lode	Ftd.	..	..	..
Do.	1694E	Golden Zone	22	..	1,338.00	787.60	
Do.	4175E	Great Northern	Ftd.	..	..	..
Do.	4059E	Great Northern Associated	Ftd.	..	141.00	20.86	
Do.	4124E	Great Secret	a. r. p. 2 3 20	..	..	..
Do.	4094E	Great Wonder	Ftd.	..	..	..
Do.	140E, 415E, 1163E	Hannans Consols, Ltd.	21	..	873.00	476.02	
Do.	4056E	Hannan's Find	6	..	143.00	28.80	
Do.	983E (1183E, 1305E, 1393E)	(Hannan's Golden Group, Ltd.) .. .. .	..	..	..	..
Do.	4046E	Hannan's Hope	12	..	..	..
Do.	4157E	Hannan's Hope Extended	Ftd.	..	..	..
Do.	12E, 229E, 248E, (3938E)	Hannan's North G.Ms., Ltd.	48	..	2,958.00	2,923.07	
Do.	(941E, 942E), 943E, (1024E, 1025E, 1029E, 1035E, 1036E, 1037E, 1445E), 4010E	(Hannan's Proprietary Development Co., Ltd.) ..	..	..	6,758.00	2,602.44
Do.	(941E, 942E), 943E, (1024E, 1025E, 1029E, 1167E, 1445E), 4010E, 4222E, 4223E, 4224E, 4225E, 4226E	Hannan's Proprietary, Ltd.	a. r. p. 112 1 30	..	12.10	74.00	
Do.	97E, 100E, 211E, 212E, 213E, 1653E	Hannan's Reward and Mt. Charlotte, Ltd. ..	94 0 37	..	4,394.00	4,759.05	
Do.	796E, 1228E ..	(Hannan's Reward North G.M. Co., N.L.) ..	..	..	..	..
Do.	922E	Herlichite	Ftd.	..	93.00	60.23	
		Carried forward ..	..	2,428.54	1,139,202.84	1,042,756.62

from all sources, etc.—continued.

Goldfield—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	482.67	1,033,837.20	773,806.23	..	1,933.63	1,194,468.75	755,881.12	..	3,078.64	6,588,372.08	6,804,231.02
..	..	8,468.00	7,728.98	..	..	3,515.50	1,277.74	43.99	16.97	32,792.55	27,525.54
..	..	507.00	359.24	..	..	760.00	405.87	..	..	459.00	264.55
..	..	108,447.00	155,001.02	..	..	128,182.00	148,203.10	..	..	1,304.00	786.85
..	584.00	276.82	..	..	584.00	276.82
..	..	3,195.19	1,874.45	..	..	..	..	..	..	216.00	157.80
..	91.48	..	3,310.00	1,808.77	..	..	10,409.98	10,648.34
..	734.00	971.51	91.48	..	734.00	971.51
..	..	37,526.00	19,600.75	..	..	88,146.00	38,391.38	..	..	202,783.00	131,214.82
..	..	257.00	55.37	..	..	220.00	29.89	..	..	596.00	371.06
..	4.48	10.00	2.28	..	4.48	10.00	2.28
..	..	433.00	308.22	..	..	755.00	558.15	..	..	189.95	56.84
..	..	50.00	161.77	..	..	..	..	..	2,127.12	1,188.00	866.37
..	137.00	370.20
..	1,594.00	516.95	..	..	1,594.00	516.95
..	29.22	931.00	328.70
..	..	409.00	373.20	..	..	133.00	115.55	4,565.62	..	20,562.00	2,362.06
..	..	16.00	13.63	..	..	..	..	..	7.26	6,283.00	3,873.36
..	30.50	23.86	..	.98	49.50	28.08
..	21.88	30.50	23.86
..	..	53.00	4.02	..	..	..	..	..	..	134.85	54.94
..	..	18.00	2.12	..	..	..	..	..	..	53.00	4.02
..	18.00	2.12
..	71.00	39.56
..	..	10,125.00	2,652.19	..	..	9,348.00	2,064.85	..	..	22,488.00	6,119.95
..	..	10.00	7.65	..	..	..	..	..	..	30.00	10.15
..	..	9.00	1.52	..	17.51	..	..	..	17.51	..	..
..	60.85	889.00	512.51	..	..	11.00	1.85	..	..	20.00	3.37
..	..	6.00	3.01	..	..	1,211.50	957.09	..	160.69	2,478.00	2,061.29
..	..	6,226.00	5,844.66	..	..	..	..	..	..	6.00	3.01
..	..	538.00	244.02	..	..	6,711.00	7,359.41	..	..	17,705.00	19,669.16
..	135.00	79.81	..	..	13,905.75	36,409.37
..	1,122.00	327.15
..	379.00	505.38
..	..	1,060.00	83.83	..	..	..	..	..	..	1,141.00	94.47
..	..	47.00	9.67	..	..	..	..	..	..	47.00	9.67
..	136.00	17.53	..	..	136.00	17.53
..	66.28	26.50	26.74
..	..	65.00	8.82	..	71.25	24.00	4.24	..	71.25	30.00	5.44
..	89.00	13.06
..	..	2,847.00	511.57	..	..	2,453.00	565.26	..	36.73	26,777.00	11,650.19
..	..	1,281.00	712.67	..	..	..	..	..	..	2,251.00	1,400.94
..	176.24	233.00	411.85	..	17.21	99.00	112.32	..	366.66	635.00	943.57
..	..	28.00	7.10	..	..	..	..	..	..	64.00	16.68
..	31.00	2.32
..	..	414.00	85.24	..	..	86.00	18.24	..	..	546.00	109.13
..	..	251.35	645.42	..	..	313.00	436.78	..	4.77	744.35	1,301.70
..	..	16.00	3.82	..	..	..	..	..	..	16.00	3.82
..	9.51	..	..	..	..	..	..	..	9.51	..	..
..	41.00	8.00
..	..	21.00	1.57	..	..	..	..	..	..	21.00	1.57
..	..	1,727.00	636.89	..	..	646.00	162.08	..	..	5,614.50	2,639.52
..	..	427.00	84.57	..	..	150.00	22.53	..	..	577.00	107.10
..	..	20.00	2.87	..	..	..	..	..	..	161.00	23.73
..	..	10.00	1.38	..	..	10.00	.32	..	..	20.00	1.70
..	16.01	..	..	..	..	..	..	..	16.01	..	..
..	..	1,260.00	443.99	..	..	590.00	327.30	..	..	6,396.00	3,745.29
..	..	54.00	19.64	..	..	310.00	68.39	..	..	507.00	116.83
..	6.00	17.27
..	..	15.00	1.24	..	..	..	..	..	..	15.00	1.24
..	2.62	..	..	..	..	..	..	..	2.62	..	..
..	..	1,770.00	861.07	..	..	1,686.00	694.91	..	..	17,725.00	12,140.48
..	26,965.50	11,440.78
..	..	1,851.00	449.01	..	..	1,222.00	301.02	..	12.10	3,147.00	770.63
..	..	7,742.00	3,638.23	..	..	18,450.00	4,521.25	..	2.58	64,359.10	39,333.99
..	..	63.00	37.01	..	..	34.00	22.74	..	16.87	334.00	247.34
..	280.50	173.23
..	747.90	1,282,221.74	977,212.02	91.48	2,044.08	1,466,068.25	966,200.91	4,701.09	6,070.13	7,730,652.41	8,068,517.52

TABLE IV.—Production of Gold
East Coolgardie

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward ..	..	2,428.54	1,139,202.84	1,042,756.62
Kalgoorlie	4113E	Hidden Fortune	a. r. p. 8 2 0	..	..	..
Do.	4001E, 4035E, 4036E	Hidden Secret leases	18	..	313.65	1,010.75	
Do.	3991E	Hird's lease	12	42.85	197.00	135.23	
Do.	983E	Isabel	24	..	171.00	64.30	
Do.	12E, 229E	(Kalgurli Star Syndicate, Ltd.) .. .. .	..	..	..	..
Do.	4097E	Kapai	24	..	103.00	19.22	
Do.	790E, 1008E	King of the Hills G.M. Co., Ltd.	Ftd.	..	..	..
Do.	4130E	Lady Alice	Ftd.	..	40.00	4.63	
Do.	4216E	Lady Alice	12	..	..	..
Do.	4153E	L.S.D.	Ftd.	..	..	..
Do.	4103E	(Lucknow) .. .. .	..	..	30.00	9.92
Do.	4103E	Lucknow G.M. Co., N.L.	12	..	..	..
Do.	4151E	Mandeville	Ftd.	..	..	..
Do.	2E, 279E	Maritana G.M. Co., N.L.	15	..	297.00	223.14	
Do.	4111E	Mexico	Surr.	..	..	..
Do.	21E, 64E	(Monte Christo G.M. Co., N.L.)	Ftd.	..	..	..
Do.	4200E	Mt. Ferrum Consols	Ftd.	..	..	..
Do.	4174E	Mullingar South	6	..	..	..
Do.	4025E	Napoleon	12	..	410.00	216.11	
Do.	983E	(New Standard Exploration Co., Ltd.) .. .. .	..	..	48.00	34.85
Do.	4192E	Nil Desperandum	5	..	..	..
Do.	4037E, 4039E, 4054E	(North End G.Ms., Ltd.) .. .. .	..	..	..	..
Do.	4037E, 4039E, 4054E	North End Mines, Ltd.	a. r. p. 21 2 0	..	..	..
Do.	4219E	N.Q.V.	Ftd.	..	..	..
Do.	535E	Octagon Explorers, Ltd.	12	..	554.00	141.38	
Do.	4232E	Off Chance	6	..	..	..
Do.	4050E	Pride of the Hills North	Surr.	..	20.00	3.09	
Do.	4164E	Pride of the Hills, North	6	..	..	..
Do.	(225E), 1114AE, 3789E	(Reefers Eureka G.M. Co., N.L.) .. .. .	..	..	602.00	161.39
Do.	(225E), 1114E, 3789E	Reefers Eureka leases	a. r. p. 17 3 9	..	..	..
Do.	4039E	(Rising Sun) .. .. .	..	..	170.00	28.50
Do.	4121E	Royal	8	..	..	..
Do.	3771E	Sons of Gwalla, Kalgoorlie	12	..	198.00	59.10	
Do.	4213E	Surprise	12	..	..	..
Do.	4218E	Sylvia	24	..	..	..
Do.	4188E	Triumph	12	..	..	..
Do.	4199E	Valmai	Ftd.	..	..	..
Do.	4137E	Walhalla	Ftd.	..	..	..
Do.		Voided leases .. .. .	..	..	..	..
Mt. Monger	4239E [985Y]	Black Cat	12	..	..	..
Do.	4241E [1024Y]	Champion	24	..	..	..
Do.	4249E [1040Y]	Chance	24	..	..	..
Do.	4263E [591Y]	Gippsland	24	..	..	..
Do.	4238E [948Y]	Inverness	24	..	..	..
Do.	4242E [1027Y]	Inverness Extended	24	..	..	..
Do.	4265E [368Y]	Just in Time	24	..	..	..
Do.	4254E [P.A. 337Y]	Kalgoorlie and Boulder Firewood Co., Ltd.	24	..	..	..
Do.	4251E [1042Y]	Progress	24	..	..	..
Do.	4250E [1041Y]	Royal Oak	18	..	..	..
Do.	4252E [1044Y]	Tamertane	24	..	..	..
		<i>From Goldfield generally:—</i>					
		Sundry parcels treated at:—					
		Adeline Works .. .. .	..	42.64	25.00	51.99
		Bonnie Lass Works .. .. .	..	..	..	..
		Boulder Pudding Works .. .. .	..	..	..	..
		Brown Hill Consols Works .. .. .	..	..	161.00	328.90
		Croesus South Works .. .. .	..	..	2,305.50	998.63
		Devon Consols Works .. .. .	..	..	252.50	82.02
		Eureka Works .. .. .	..	..	..	..
		Fremantle Smelter, Ltd. .. .. .	..	..	..	..
		Great Boulder No. 1 Works .. .. .	..	..	140.00	63.21
		Hampton Properties Battery .. .. .	..	..	197.00	127.76
		Hannan's Central Works .. .. .	..	..	..	..
		Hannan's North Works .. .. .	..	..	373.00	470.22
		Hannan's North (Weston's Works) .. .. .	..	..	..	..
		Hannan's Proprietary Works .. .. .	..	..	672.66	315.83
		Hannan's Reward and Mt. Charlotte Works .. .. .	..	..	37.00	24.97
		Orotava Works .. .. .	..	..	..	cy. 712.91
		Venture Syndicate's Works .. .. .	..	..	..	..
		Various Works .. .. .	..	..	..	..
		Sundry claims—					
		Binduli Mining Centre .. .. .	..	18.34	..	3.58
		Boulder Mining Centre .. .. .	..	7.80	20.00	..
		Kalgoorlie Mining Centre .. .. .	..	..	730.00	209.17
		Reported by Banks and Gold Dealers .. .. .	..	57.23	63.50	4.57
		Total		126.01	2,534.89	1,147,370.15	
						1,048,261.99	

from all sources, etc.—continued.

Goldfield—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	747.90	1,282,221.74	977,212.02	91.48	2,044.08	1,466,068.25	966,200.91	4,701.09	6,070.13	7,730,652.41	8,068,517.52
..	..	10.00	3.80	..	..	32.00	20.91	..	..	42.00	24.71
..	..	581.85	7,784.28	..	..	241.64	1,608.69	..	..	1,137.14	10,403.72
..	..	56.50	213.08	..	..	199.00	318.68	..	42.85	452.50	668.99
..	98.63	1,169.00	292.39	..	..	506.00	153.25	..	98.63	1,846.00	509.94
..	5.05	1,597.29	888.34
..	..	870.00	175.55	..	..	344.00	68.75	..	..	1,317.00	263.52
..	128.00	89.22
..	..	40.00	2.38	..	..	..	..	..	..	80.00	7.01
..	12.55	27.00	9.69	..	12.55	27.00	9.69
..	..	5.00	.. 36	..	..	..	..	..	..	5.00	.. 36
..	1.38	294.00	74.49	..	..	..	..	..	1.38	324.00	84.41
..	..	17.50	2.61	..	..	..	..	..	..	17.50	2.61
..	..	21.00	1.54	..	..	..	..	..	..	21.00	1.54
..	..	312.00	194.62	..	3.25	385.00	272.14	..	3.25	3,312.50	2,684.60
..	..	30.00	17.09	..	..	..	..	..	..	30.00	17.09
..	4.21	..	379.00	74.37
..	..	32.00	4.35	..	..	..	..	..	..	32.00	4.35
..	4.00	1.10	..	..	4.00	1.10
..	..	484.00	216.38	..	..	513.00	277.86	..	..	1,407.00	710.35
..	213.00	86.76
..	..	82.00	28.19	..	..	..	..	..	..	82.00	28.19
..	..	414.00	143.00	..	..	5,462.00	2,282.03	..	..	5,876.00	2,423.03
..	1,737.00	514.02	..	..	1,737.00	514.02
..	15.00	6.23	..	..	15.00	6.23
..	..	866.00	262.16	..	..	705.00	268.06	..	..	3,030.00	1,032.91
..	31.99	239.00	147.53	..	31.99	239.00	147.53
..	20.00	3.09
..	33.91	8.00	5.17	..	..	..	..	..	33.91	8.00	5.17
..	..	399.00	140.57	..	..	36.00	16.44	..	..	2,032.40	1,312.30
..	282.00	92.21	..	..	282.00	92.21
..	170.00	28.50
..	10.00	2.80	..	..	10.00	2.80
..	36.00	16.17	..	..	685.00	339.54
..	..	14.00	2.51	..	..	..	..	..	..	14.00	2.51
..	13.00	.. 35	..	..	13.00	.. 35
..	20.00	2.74	..	..	20.00	2.74
..	35.00	3.54	..	..	35.00	3.54
..	..	23.00	2.54	..	..	..	..	..	..	23.00	2.54
..	162.47	5,066.85	4,071.31
..	264.76	7.00	6.33	..	264.76	7.00	6.33
..	57.00	15.16	..	..	57.00	15.16
..	66.00	19.16	..	..	66.00	19.16
..	34.00	7.34	..	..	34.00	7.34
..	135.00	49.69	..	..	135.00	49.69
..	80.00	23.21	..	..	80.00	23.21
..	135.00	71.47	..	..	135.00	71.47
..	143.00	45.30	..	..	143.00	45.30
..	14.55	3.37	..	..	14.55	3.37
..	147.00	57.74	..	..	147.00	57.74
..	98.00	24.12	..	..	98.00	24.12
..	42.64	..	25.00	51.99
..	cy. 84.94	..	..	..	84.94
..	138.34	..	..	..	38.34
..	cy. 2,393.07	..	..	161.00	4,776.89
..	{ cy. 1,979.68 } { 175.24 }	..	..	76.10	1,445.33	..	..	9,230.35	7,120.80
..	cy. 1,481.81	..	..	..	cy. 356.16	..	..	252.50	1,099.77
..	{ cy. 643.67 } { 117.92 }	..	..	..	cy. 105.92	..	..	..	105.92
..	cy. 33.38	..	..	..	1208.88	..	..	..	327.64
..	{ 185.38 }	..	..	..	..	..	..	5,431.25	3,484.82
..	227.00	152.87
..	cy. 1,483.78	..	..	..	1,483.78
..	1,010.00	1,055.78
..	cy. 1,243.06	..	..	..	cy. 224.88	..	..	..	1,467.94
..	322.69	..	8,610.90	5,735.96
..	37.00	24.97
..	125.71	..	..	..	cy. 276.76	..	..	..	1,015.38
..	cy. 1,161.90	..	..	..	cy. 4,803.89	..	..	..	5,965.79
..	15.15	..	13,878.90	15,261.82
..	25.00	24.60
2,251.68	12.38	1,003.00	263.75	2,370.94	33.73	1,015.00	321.96	18.34	..	519.00	762.63
113.37	143.19	..	..	117.18	36.38	..	..	4,630.42	46.11	2,748.00	794.88
..	6,861.31	9,013.32	..	4.57
2,365.05	1,037.39	1,289,953.59	993,790.58	2,579.60	2,426.74	1,478,917.54	984,350.90	16,580.70	15,801.55	7,805,455.04	8,146,233.58

TABLE IV.—Production of Gold

Coolgardie

COOLGARDIE

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Bonnievale	(126, 374), 3847, 3848, 4096	Bendigo and Coolgardie Proprietary Co., N.L.	29	..	..	503.00	179.03
Do.	4177	Black Cat	12	..	..	..	..
Do.	595, 1405, 1741	Gem leases	41 3 11	..	..	2,944.00	2,177.31
Do.	3805	Gentle Annie	Ftd.	..	..	73.00	151.92
Do.	1741	(Golden Drop)	..	..	..	..	..
Do.	595 (1401), 1405, 1741	(New Victoria Consols G.M. Co., N.L.)	..	..	..	..	..
Do.	4060	North Burgess	Ftd.	..	..	..	..
Do.	1552, 3947	Vale of Coolgardie G.Ms., Ltd.	40	..	..	3,617.00	1,743.05
Do.	144, 1151, 1639, 2146, 2266, 3572, 3575, 4012, 4099, 4113, 4114	Westralia and East Extension Mines, Ltd.	202	..	..	26,388.00	16,482.23
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	22.00	11.04
Bulla Bulling	4053	Iron King	Ftd.	..	..	80.00	28.99
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	..	..
Burbanks	4073	Abundance	Ftd.	13.36	..	60.00	18.59
Do.	3931	Bell Bird	Ftd.	..	..	50.00	28.93
Do.	4029	Boshter	6	..	..	212.50	175.79
Do.	134, 135, 136, 1527, 1705, (1918, 1919), 2761, (3486), 3571, 3661, 3806, 3996, 4025, 4032	(Burbanks Birthday Gift G.M., Ltd.)	..	..	..	200.00	1,930.18
Do.	134, 135, 136, 1527, 1705, 2761, 3571, 3661, 3806, 3996, 4025, 4032	Burbanks Birthday G.Ms., Ltd.	122	..	..	..	..
Do.	4063	Burbanks Horseshoe	Ftd.	..	3.53	22.00	11.99
Do.	3920, 3959	Burbanks Junction G.M. Co., N.L.	12	..	..	..	..
Do.	2985, 2986, 3444, 3870, 4059	(Burbanks Main Lode, Ltd.)	..	..	..	..	..
Do.	2985, 2986, 3444, 3870, 4059	(Burbanks Main Lode (1902), Ltd.)	..	..	..	2,608.00	2,189.03
Do.	2985, 2986, 3444, 3870, 4059	Burbanks Main Lode (1904), Ltd.	84	..	..	..	..
Do.	1705	(Burbanks North G.M., Ltd.)	..	..	..	..	..
Do.	3935	Commonwealth	Ftd.	..	..	112.00	87.22
Do.	3959	(Coronation No. 2)	..	..	..	..	..
Do.	4061	Cumberland	Ftd.	..	..	74.00	20.12
Do.	4097	Glencoe	Ftd.	..	..	22.00	13.06
Do.	1918	Glentho South	Ftd.	..	..	..	..
Do.	4168	Glentho South	10	..	..	..	..
Do.	4225	Gold Reef	24	..	..	..	..
Do.	2160	(Lady Robinson)	..	..	..	..	..
Do.	2160, 3950, 4125	Lady Robinson G.M. Co., N.L.	25	..	..	5,921.00	2,314.71
Do.	4183	Lord Bobs	Surr.	..	..	..	..
Do.	4241	Lord Bobs	6	..	..	..	..
Do.	3809, 3828, 3960	Lord Bobs leases	Ftd.	..	..	201.00	369.22
Do.	3845	Lord Bobs No. 1 North	Surr.	..	..	321.00	214.03
Do.	4242	Lord Bobs No. 1 North	12	..	..	..	..
Do.	4104	Manchuria	Ftd.	..	..	27.00	59.20
Do.	4204	Manipoto	3	..	..	..	..
Do.	3969	Mint	Ftd.	..	..	..	..
Do.	3939	Shamrock Ale	5	..	18.61	61.50	69.03
Do.	4228	Sovereign	12	..	..	..	..
Do.	4225	Tartan	6	..	..	..	..
Do.	3920	(Try Again)	..	..	..	..	..
Do.	3920, 3959	(Try Again leases)	..	..	..	19.00	140.56
Do.	3932	Wallsend	Ftd.	..	..	24.75	12.13
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	39.14	75.50
Coolgardie	4044	Ada	5	..	..	220.00	22.31
Do.	4186	Albert	Ftd.	..	..	..	..
Do.	4119	A.M.A.	Ftd.	..	..	34.00	11.95
Do.	4034	Australasian	Ftd.	..	..	22.50	10.76
Do.	22	(Bayley's Consols G.M. Co., N.L.)	Ftd.	..	..	5,112.00	3,225.66
Do.	133, 139, 142, (547)	(Bayley's G.Ms., Ltd.)	..	..	..	6,649.00	2,611.41
Do.	133, 139, 142	Bayley's Mines, Ltd.	72 0 25	..	..	..	..
Do.	471	Bayley's South Extended	Surr.	..	..	..	..
Do.	4230	Bayley's Sulphide Lode	15	..	..	..	..
Do.	4261	Big Blow	12	..	..	..	..
Do.	3590	Big Blow : Flagstaff G.Ms., Ltd.	Surr.	..	..	106.00	26.48
Do.	4091	(Big Blow : Flagstaff G.Ms., Ltd.)	Ftd.	..	..	442.00	94.46
Do.	4194	Blue Pigeon	Ftd.	..	..	..	..
Do.	4194, 4203	Blue Pigeon leases	Ftd.	..	..	..	..
Do.	4047	Boronia	Ftd.	..	1.66	37.00	27.57
Do.	3972	Brilliant	18	..	..	217.00	291.23
Do.	4024	Canterbury	Ftd.	..	..	17.00	6.61
Do.	4005	Canterbury East	Ftd.	..	..	..	..
Do.	3918	Coolgardie Redemption	18	..	..	1,587.00	1,431.08
Do.	4094	Coolgardie Redemption Extended	12	..	..	54.00	2.61
Do.	4106	Cosmopolitan	Ftd.	..	..	..	..
Do.	3961	Daisy	Ftd.	..	..	160.50	55.63
Do.	4209	Daisy	6	..	..	..	..
Do.	4134	Eagle Hawk	Ftd.	..	..	..	..
Do.	4166	East Redemption	Ftd.	..	..	..	..
Carried forward				13.36	62.94	58,296.25	36,306.18

from all sources, etc.—continued.

Goldfield.

DISTRICT.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	cy. 86.02	..	..	..	cy. 304.44	..	..	3,891.00	3,411.86
..	..	21.00	12.74	..	..	40.00	22.88	..	..	61.00	35.62
..	..	1,029.00	626.21	..	..	606.00	438.43	..	..	6,599.00	5,456.83
..	809.50	1,292.42
..	283.50	240.83
..	12,725.50	5,096.84
..	..	3,150.00	1,347.51	..	..	2,110.00	898.10	..	..	69,794.00	185.17
..	..	31,688.00	13,680.38	..	..	40,115.00	14,875.74	..	..	182,826.65	37,247.72
..	2.26	15,174.20	12,773.44
..	56.00	34.00	..	..	236.50	139.23
..	165.00	47.93
..	261.50	233.58
..	15.00	4.47	..	12.82	213.00	163.37
..	13.36	..	60.00	18.59
..	205.00	258.97
..	..	221.00	149.63	..	..	381.00	169.73	..	..	943.50	596.07
..	..	2,667.00	2,900.95	..	..	..	..	..	..	132,706.00	126,351.59
..	..	10,561.00	3,743.03	..	..	8,976.50	7,673.65	..	..	19,537.50	11,416.68
..	3.53	40.75	22.16
..	..	490.00	268.36	..	..	518.00	446.74	..	..	1,008.00	715.10
..	3,209.00	1,671.63
..	4,824.00	3,214.50
..	..	5,737.00	4,144.01	..	..	8,730.00	5,630.07	..	..	14,467.00	9,774.08
..	22.50	7.70
..	13.54	301.75	343.53
..	12.00	5.67
..	202.00	80.31
..	22.00	13.06
..	372.00	466.26
..	..	63.50	52.69	..	28.32	44.00	116.99	..	28.32	107.50	169.68
..	27.13	14.91	..	..	27.13	14.91
..	5,315.40	3,327.12
..	..	3,868.00	2,209.83	..	..	310.50	243.47	..	..	11,721.50	6,115.04
..	..	86.00	78.02	..	..	355.00	575.94	..	..	441.00	653.96
..	455.00	640.61	..	..	455.00	640.61
..	3,188.50	3,243.17
..	..	84.00	42.67	..	..	..	..	..	..	1,446.50	1,299.41
..	..	221.00	128.75	..	..	..	..	..	..	25.00	23.84
..	25.00	23.84	..	..	59.00	100.17
..	..	32.00	40.97	..	..	..	..	..	..	63.00	30.02
..	63.00	30.02	..	..	33.00	15.20
..	..	97.00	104.15	..	..	92.00	105.93	..	33.93	563.00	436.38
..	63.00	20.49	..	..	63.00	20.49
..	77.00	33.11	..	..	77.00	33.11
..	157.00	338.15
..	860.00	646.02
..	..	660.00	317.87	..	..	..	..	..	..	327.75	147.18
..	..	55.00	14.62	..	..	..	..	..	..	3,598.50	3,915.77
..	47.36	467.75	231.85
..	76	117.00	57.67	..	..	62.00	40.11	..	42.60	278.00	44.44
..	..	29.00	25.09	..	..	..	..	..	..	29.00	25.09
..	34.00	11.95
..	..	48.00	84.00	..	97.60	228.00	36.24	..	97.60	420.50	196.43
..	..	1,339.00	627.06	..	..	..	..	..	..	14,042.00	10,790.97
..	..	1,265.00	358.15	..	..	..	..	882.14	89.41	76,402.97	99,179.62
..	10.59	1,318.00	1,176.66	15.10	..	834.74	1,055.44	15.10	10.59	2,152.74	2,232.10
..	47.00	7.58
..	8.56	45.00	17.04	..	8.56	45.00	17.04
..	277.00	76.36	..	..	277.00	76.36
..	5,111.00	2,065.24
..	1.98	147.00	60.99	..	..	..	..	..	1.98	589.00	155.45
..	..	63.50	39.38	..	..	24.00	10.75	..	..	87.50	50.13
..	55.00	15.61	..	..	55.00	15.61
..	37.58	19.00	20.32	..	..	13.00	5.67	..	40.23	69.00	53.56
..	..	114.00	235.89	..	..	117.00	160.13	..	..	643.00	1,177.63
..	17.00	6.61
..	9.62
..	918.10	2,065.00	1,730.10	..	..	210.00	172.85	..	1,257.62	4,397.00	3,744.84
..	..	120.00	128.65	..	..	..	..	..	..	174.00	131.26
..	..	5.00	1.91	..	..	..	..	..	..	5.00	1.91
..	..	134.00	46.62	..	..	..	..	..	..	442.50	190.17
..	153.00	50.89	..	..	153.00	50.89
..	12.00	38.00	20.80	..	..	..	..	..	12.00	38.00	20.80
..	..	211.00	7.94	..	..	..	..	..	..	211.00	7.94
..	981.01	67,763.00	34,569.64	15.10	134.48	65,077.87	33,944.65	910.60	1,702.35	605,220.09	460,746.18

TABLE IV.—Production of Gold

Coolgardie

COOLGARDIE

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1934.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward	..	13.36	62.94	58,296.25	36,306.18
Coolgardie	3997	Edwenia	Ftd.	..	..	..	..
Do.	4187	Elvira	Ftd.	..	..	..	..
Do.	1865	Empress of Coolgardie	18	..	..	..	..
Do.	1865	(Empress of Coolgardie G.M., 1896, Ltd.)	..	..	..	..	..
Do.	4150	Expectation	Ftd.	..	..	..	..
Do.	1604, (1605, 2753, 3658, 3672, 3810, 3955)	(Flagstaff G.Ms., Ltd.)	..	..	..	339.00	216.18
Do.	284, 745	(Forrest King of Coolgardie, Ltd.)	..	..	..	..	..
Do.	4056	Gambier	12	..	17.89	..	..
Do.	4189	(Garden Gully)	..	..	..	..	..
Do.	4189, 4197	Garden Gully leases	24	..	..	..	..
Do.	3827	Garfield	12	..	150.21	89.00	89.56
Do.	4127	Gipps Land	Ftd.	..	..	23.00	4.49
Do.	717, 1149, 3790	Gleeson's Success G.Ms., Ltd.	Ftd.	..	..	..	..
Do.	4267	Glueck Auf	12	..	..	..	..
Do.	4192	Golden Bar	5	..	..	..	..
Do.	20, 188A, 3756, 3780	(Golden Bar G.M. Co., N.L.)	Ftd.	..	..	..	..
Do.	20	Golden Bar Tindal's Coolgardie G.M. Co., N.L.	Ftd.	..	..	303.00	127.88
Do.	4137	Golden West	Ftd.	..	..	..	..
Do.	400	Great Coolgardie	Ftd.	..	..	..	..
Do.	3319, 3624	Great Hanover Central Corporation, 1904, Ltd.	29	..	..	..	..
Do.	1604, (1605, 4091)..	Greenmount Mines, N.L.	6	..	..	..	..
Do.	73, 1902, 3556, 3701, 3811, 3813, 3998	Griffiths leases	a. r. p. 69 3 24	..	..	2,436.00	1,103.47
Do.	22	Guthrie and Co., Ltd.	Ftd.	..	..	..	..
Do.	4167	Gwladys	Ftd.	..	..	..	..
Do.	Block 53	Hampton Plains Estate, Ltd.	..	..	..	995.00	1,323.73
Do.	Block 59	Hampton Plains Estate, Ltd.	..	..	..	..	..
Do.	4178	Harbour Lights	Ftd.	..	..	..	..
Do.	4234	Hettie May	16	..	..	..	..
Do.	4262	Homeward Bound	6	..	..	..	..
Do.	4190	Jolly Britons	Ftd.	..	..	..	..
Do.	226, 3527	(Killarney and Kyjak)	Surr.	..	..	..	..
Do.	4122	(King's Cross)	..	..	..	..	..
Do.	471, 3530, 4067, 4068	King's Cross leases	Surr.	..	..	494.00	232.33
Do.	18, 82, 226, 376, (1385), 3527, 3598, 3819	(King Solomon's G.Ms., Ltd.)	Surr.	..	..	1,082.00	564.44
Do.	18, 82, 226, 376, 3527, 3598, 3819	King Solomon's leases	Surr.	..	..	..	..
Do.	4221, 4222	King Solomon's leases	36	..	..	..	..
Do.	666, (1384, 2216, 2357, 2419, 2826), 3549, 3818	Lady Charlotte G.Ms., Ltd.	Ftd.	..	..	..	..
Do.	284, 336, 745, (1583, 2073, 2094, 2105, 3654, 3858, 3865)	(Lady Loch G.Ms., Ltd.)	..	..	..	..	..
Do.	284, 336, 745 (1583, 3654, 3858, 3865)	Lady Loch Mines, Ltd.	36	..	..	358.00	374.57
Do.	3993	Lady Mary	Ftd.	7.54	..	..	..
Do.	4198	Lady Mary	Ftd.	..	..	..	..
Do.	4202	Lady Olive	6	..	..	..	..
Do.	3530	(Lanarkshire G.Ms. of Australia, Ltd.)	Surr.	..	..	..	..
Do.	4232	Last Chance	12	..	..	..	..
Do.	4193	Last Try	Ftd.	..	..	..	..
Do.	3556	Lily	6	..	..	..	..
Do.	3803, 3804, 3856, 3857	Lindsay's Consolidated Mines, Ltd.	Surr.	..	19.69	2,016.00	1,377.62
Do.	4103	Lindsay's East	Ftd.	..	..	..	..
Do.	4182	Lizard Extended	12	..	..	..	..
Do.	4162	Mascotte	Ftd.	..	..	..	..
Do.	3701	(Morning Star South)	..	..	..	..	..
Do.	4092	Mulga	Ftd.	..	..	25.00	2.68
Do.	3319, 3624	(New Central Investment Corporation, Ltd.)	..	..	..	..	..
Do.	3975	Newmarket	Ftd.	..	..	53.00	5.07
Do.	4050	Olive	Ftd.	..	..	121.00	16.17
Do.	4199	Our Dream	Ftd.	..	..	..	..
Do.	4196	Oyama	12	..	..	..	..
Do.	(3415), 3416, (3968), 1865	Perseverance G.Ms., Ltd.	16	..	..	1,169.00	1,095.16
Do.	4152, 4153	(Phoenix G.Ms., Ltd.)	..	..	..	3,559.00	915.29
Do.	717	Queen's Cross leases	48	..	..	..	..
Do.	4116	Redleap	Ftd.	..	..	..	..
Do.	(1019), 3573, 3609, 3639	Richmond	18	..	..	83.00	42.05
Do.	3077	Richmond Consolidated Mining Co., Ltd.	Ftd.	..	..	..	..
Do.	4176	Ritanita	Ftd.	..	..	106.00	6.01
Do.	4123	Roosevelt	Ftd.	..	..	..	..
Do.	226	Rosefield	Ftd.	..	33.58	..	..
Do.	1839	(Rose Hill United G.M. Co., Ltd.)	Surr.	..	..	..	..
Do.	3537	Royal Tar	Ftd.	..	..	180.00	33.41
Do.	(3415), 3416, (3510, 3968)	(Sherlaw's G.M. Co., Ltd.)	Ftd.	..	..	..	..
Do.	4021	Stanley	Ftd.	..	..	72.00	16.98
Do.	73	(Star of the South)	..	..	..	..	cy. 75.38
Do.	4037	St. George	Ftd.	..	..	12.00	1.85
		Carried forward	..	20.90	284.31	71,811.25	43,960.18

from all sources, etc.—continued.

Goldfield—continued.

DISTRICT—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	981.01	67,763.00	34,569.64	15.10	134.48	65,077.87	33,944.65	910.60	1,702.35	605,220.09	460,746.18
..	150.00	6.81
..	..	202.00	49.59	..	..	286.00	45.86	..	..	488.00	95.45
..	400.00	221.30	..	..	400.00	221.30
..	..	12.00	5.99	..	..	..	..	..	..	2,868.00	950.53
..	..	183.00	70.79	..	..	..	..	..	..	12.00	5.99
..	10,846.50	4,565.56
..	857.50	526.40
..	..	83.00	22.54	..	..	10.00	1.19	..	17.89	93.00	23.73
..	..	129.00	24.89	..	..	..	..	..	..	129.00	24.89
..	38.08	206.00	306.51	..	50.34	378.00	80.24	..	..	378.00	80.24
..	..	27.00	4.37	..	..	137.00	237.15	..	322.42	651.00	1,074.51
..	50.00	8.86
..	1,132.00	1,211.26
..	10.00	.74	..	..	10.00	.74
..	116.00	133.94	..	..	116.00	133.94
..	11,977.00	7,493.57
..	303.00	127.88
..	..	19.00	3.01	..	..	..	..	..	..	19.00	3.01
..	230.00	110.66	..	..	215.00	14.44
..	..	300.00	93.63	..	..	395.00	151.31	..	..	230.00	110.66
..	695.00	244.94
..	11,814.00	3,833.04	..	..	21,639.00	10,631.45
..	..	780.00	306.74	..	..	295.00	117.01	..	..	1,075.00	423.75
..	..	19.00	12.77	..	..	7.00	3.54	..	..	26.00	16.31
..	358.42	67.00	112.49
..	..	1,446.00	1,568.61	..	..	827.00	787.35	..	..	3,849.00	3,880.58
..	..	56.00	28.92	..	..	12.00	13.11	..	..	68.00	42.03
..	20.50	12.36	..	..	20.50	12.36
..	84.00	16.68	..	..	84.00	16.68
..	..	65.00	15.57	..	..	..	..	..	..	65.00	15.57
..	..	792.00	561.39	..	..	..	..	..	..	157.00	53.51
..	792.00	561.39
..	582.00	397.18
..	..	210.00	52.00	..	..	..	..	23.99	..	26,335.75	15,360.83
..	..	413.00	224.54	..	..	110.00	19.72	..	..	523.00	244.26
..	275.00	215.37	..	..	275.00	215.37
..	9,704.00	6,388.99
..	24,711.00	20,061.88
..	..	732.00	591.97	..	..	194.00	176.43	..	..	3,923.00	2,904.99
..	..	30.00	5.89	..	..	42.00	7.37	7.54	1.38	72.00	13.26
..	46.00	36.60	..	..	46.00	36.60
..	60.25	15.07	504.00	281.40
..	24.10	16.51	..	..	24.10	16.51
..	..	101.00	29.09	..	..	..	..	..	..	101.00	29.09
..	342.75	217.64
..	..	557.00	233.58	..	..	..	..	..	19.69	7,949.00	2,375.92
191.31	cy. 105.44	..	..	..	..	191.31	..	..	105.44
..	..	15.00	5.35	..	..	55.00	103.99	..	..	55.00	103.99
..	15.00	5.35
..	250.00	30.63
..	25.00	2.68
..	944.00	571.65
..	9.15	..	53.00	5.07
..	121.00	16.17
..	..	39.00	36.60	..	..	28.00	22.54	..	..	67.00	59.14
..	..	24.00	44.93	..	..	52.00	67.46	..	..	76.00	112.39
..	..	1,079.00	778.27	..	..	871.00	451.90	..	..	3,799.00	3,066.90
..	..	5,703.00	1,722.14	..	..	..	77.29	..	..	12,028.50	4,524.96
..	..	7,956.00	995.24	..	26.20	5,426.00	1,123.28	..	26.20	13,382.00	2,118.52
..	..	93.00	39.23	..	..	52.00	32.22	..	..	110.00	43.89
..	228.00	113.50
..	1,417.12	1,792.28
..	256.00	38.91
..	..	18.00	28.15	..	..	10.00	.54	..	33.58	10.00	.54
..	18.00	28.15
..	364.00	166.50
..	..	47.00	2.68	..	..	..	..	..	..	522.75	135.78
..	..	10.00	1.07	..	..	..	..	2.94	5.93	158.00	18.53
..	13,305.00	5,977.05
..	537.00	143.66
..	975.00	819.75
..	12.00	1.85
191.31	1,019.09	89,109.00	42,541.13	15.10	211.02	87,284.47	42,061.35	1,205.78	2,502.93	788,973.56	561,983.80

TABLE IV.—Production of Gold

Coolgardie

COOLGARDIE

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward	..	20.90	284.31	71,811.25	43,960.18
Coolgardie	(20, 33, 188A, 3718, 3756), 3824, 3830, 4227	Tindal's Coolgardie G.M. Co., N.L.	50	..	..	5,980.25	1,432.83
Do.	4093	(Undaunted)	..	..	..	297.81	89.49
Do.	4093, 4117	Undaunted leases	17	..	..	..	..
Do.	4136	Union Jack	Surr.	..	..	..	..
Do.	1385	(Union Jack G.M. Co., N.L.)	Ftd.	..	..	..	..
Do.	4260	W.A. Mint	12	..	..	..	..
Do.	4272	Welcome	7	..	..	..	..
Do.	4067, 4122	West Australian Sluicing Syndicate, Ltd.	48	..	..	..	..
Do.	..	Voided leases	..	..	..	..	..
Gibraltar	..	Sundry claims	..	..	..	440.00	278.33
Do.	..	Voided leases	..	..	..	..	..
Gnarlbine	4048	Gnarlbine	Ftd.	..	..	..	..
Do.	4265	Gnarlbine	12	..	..	..	..
Do.	3838	(Prince of Wales)	Ftd.	..	..	..	..
Do.	3838, (4004)	Prince of Wales G.M. Co., Ltd.	Ftd.	..	..	..	..
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	..	..
Higginsville	4268	Cock Bird	10	..	..	..	..
Do.	4217	Harp of Erin	12	..	..	..	..
Do.	4253	Hidden Secret North	12	..	..	..	..
Do.	4269	Little Gladys	18	..	..	..	..
Do.	4270	Shoe	12	..	..	..	..
Do.	4184, 4185	Sons of Erin G.M. Co., N.L.	24	..	..	..	..
Do.	4191	(Sons of Erin North Extended)	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	..	..
Londonderry	3834	Cheapside	18	..	..	301.00	171.56
Do.	4062	Grosmont	5	..	1.59	45.50	25.52
Do.	4049	Londonderry G.M., Ltd.	Ftd.	..	..	7.00	1,185.56
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	..	..
Mungari	4109	B.W.	Ftd.	..	..	18.00	5.94
Do.	4243	Easter Gift	20	..	..	..	..
Do.	4041	Great Mungari	Wdn.	..	..	10.00	1.98
Do.	3837	Lucy's Luck	Ftd.	..	..	25.00	2.35
Do.	4035	Maggie Miller	Ftd.	..	..	14.00	1.97
Do.	4175	St. Agnes	Ftd.	..	..	..	..
Do.	4157	Sweet Nell	Ftd.	..	..	..	..
Do.	4100	Washington Consols Extended	Ftd.	..	..	12.00	1.42
Do.	4072	Washington's Luck	Ftd.	..	..	50.00	15.28
Do.	4069	Yamba	Ftd.	..	..	19.00	9.94
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	..	..
Red Hill	3408	Boomer	12	..	..	37.00	527.64
Do.	4146	Evening Star	Ftd.	..	..	..	..
Do.	4141	Red Hill South	Ftd.	..	..	..	..
Do.	3404, 3409, 3417, 3426, 3427	(Red Hill (W.A.) Gold Syndicate, Ltd.)	..	..	..	..	..
Do.	3404, 3409, 3417, 3426, 3427, 4038, (4145, 4147), 4191	Redhill Westralia G.Ms., Ltd.	a. r. p. 94 1 13	..	..	3,038.00	3,889.31
Do.	4135	Shotover	Ftd.	..	..	..	..
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	..	..
Widgiemooltha	4016	Alliance	Ftd.	..	..	149.10	17.65
Do.	4064	Clarence	Ftd.	..	..	..	..
Do.	4105	Clarendon	Ftd.	..	..	41.50	102.75
Do.	4028	Flinders	12	..	12.09	78.00	233.71
Do.	4142	Imperial	Ftd.	..	..	31.00	14.26
Do.	4174	Invermay	Ftd.	..	..	..	..
Do.	4259	Lady of the Lake	24	..	..	..	..
Do.	4151	Oliver	Ftd.	..	..	..	..
Do.	4070	Pom Poms Bungiwee	Ftd.	..	..	16.00	10.77
Do.	4179	Star	Surr.	..	..	..	..
Do.	3906	Yorkshire Lass	8	..	..	189.00	125.04
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	7.00	3.05
<i>From District generally:—</i>							
Sundry parcels treated at:—							
		Bendigo and Coolgardie Proprietary Battery	..	..	..	25.00	5.89
		Burbanks Main Lode Battery	..	..	..	..	..
		Coolgardie Redemption Battery	..	..	..	96.86	31.65
		Devon Consols Works, Kalgoorlie	..	..	..	..	..
		Finey and Howell's Works	..	..	..	..	..
		Fremantle Smelter, Ltd.	..	..	..	..	..
		Hepburn & Co.'s Works	..	..	..	..	cy. 466.19
		Highgate Works	..	..	..	..	cy. 92.69
		King Solomon's Works	..	..	..	103.00	146.91
		Lady Robinson Battery	..	..	..	..	..
		Lake View Consols, Ltd., Boulder	..	..	..	..	..
		Lindsay's Battery	..	..	..	..	..
		Londonderry Works	..	..	..	68.00	38.83
		Moss' Cyanide Works	..	..	..	..	..
		Red Hill Westralia Battery	..	..	..	..	..
		State Battery, Coolgardie	..	..	..	346.00	210.09
		State Battery, Widgiemooltha	..	..	..	45.00	107.34
		Various Works	..	..	..	..	..
		Reported by Banks and Gold Dealers	..	..	..	..	..
Total				20.90	297.99	83,301.27	53,185.12

from all sources, etc.—continued.

Goldfield—continued.

DISTRICT—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
191.31	1,019.09	89,109.00	42,541.13	15.10	211.02	87,284.47	42,061.35	1,205.78	2,502.93	788,973.56	561,983.80
..	..	3,350.00	901.60	..	..	7,627.00	1,806.40	..	..	51,646.25	10,520.14
..	..	268.00	66.90	..	..	..	..	..	..	565.81	156.39
..	..	635.00	76.24	..	..	340.00	156.54	..	..	975.00	232.78
..	..	16.00	4.73	..	..	..	..	..	..	16.00	4.73
..	644.50	599.26
..	34.69	40.00	23.86	..	34.69	40.00	23.86
..	46.00	12.94	..	..	46.00	12.94
..	..	74.00	52.07	..	..	588.00	307.82	..	..	662.00	359.89
..	..	927.00	343.22	..	..	901.50	336.81	93.96	75.35	35,536.65	27,275.14
..	119.84	5,698.95	2,161.34
..	212.00	67.14
..	..	35.00	13.65	..	..	..	..	..	..	12.00	8.08
..	54.00	21.83	..	..	75.50	32.00
..	54.00	21.83
..	345.00	143.60
..	905.00	223.50
..	10.94	216.25	568.87
..	14.00	8.20	..	1.31	36.00	21.50
..	105.00	33.12	..	..	14.00	8.20
..	88.00	60.72	..	..	105.00	33.12
..	25.00	8.03	..	..	68.00	60.72
..	2.06	13.00	15.20	..	2.06	25.00	8.03
..	285.20	2,631.00	1,775.31	..	285.20	13.00	15.20
..	172.00	194.44	..	..	2,631.00	1,775.31
..	94.00	55.61	..	..	172.00	194.44
..	16.52	455.00	194.68	..	16.52	94.00	55.61
..	..	437.00	206.89	..	..	133.00	56.09	..	..	94.00	55.61
..	..	191.00	59.59	..	..	..	..	..	1.59	1,988.25	1,103.62
..	398.50	156.99
..	7.00	1,192.20
..	13,069.10	11,384.82
..	45.00	5.76	..	44.66	498.85	268.32
..	18.00	5.94
..	40.00	25.68
..	17.71	40.00	25.68	..	17.71	10.00	1.98
..	135.50	72.88
..	14.00	1.97
..	..	20.00	5.38	..	..	..	..	..	..	20.00	5.38
..	..	251.00	118.73	..	..	132.00	60.59	..	..	383.00	179.32
..	12.00	1.42
..	50.00	15.28
..	19.00	9.94
..	14.00	9.09
..	..	10.00	4.86	..	..	48.00	14.99	..	..	58.00	19.85
..	..	10.00	121.23	..	..	26.00	381.96	..	35.33	133.00	1,299.77
..	..	18.00	20.93	..	..	..	..	..	..	18.00	20.93
..	..	4.85	35.17	..	..	4.00	3.73	..	..	8.85	38.90
..	1,389.32	6,470.00	9,640.15
..	..	14,630.00	7,587.02	..	..	14,299.10	5,785.63	..	..	33,062.10	18,966.69
..	..	2.00	1.28	..	..	..	..	..	..	2.00	1.28
..	2.97	963.25	390.94
..	110.00	6.29
..	..	268.00	61.60	..	..	48.00	9.56	..	..	703.10	207.85
..	90.00	50.36
..	..	18.00	12.49	..	..	..	..	..	..	59.50	115.24
..	..	39.00	204.42	..	..	45.00	409.53	..	12.09	205.00	962.64
..	..	185.00	33.50	..	..	10.00	1.65	..	..	226.00	49.41
..	..	53.00	18.24	..	..	..	..	..	..	53.00	18.24
..	12.00	10.88	..	..	12.00	10.88
..	..	60.00	65.20	..	5.99	6.00	7.34	..	9.73	66.00	72.54
..	37.00	40.91
..	6.00	5.51
..	..	6.00	5.51	..	..	..	..	..	..	1,002.25	593.89
..	..	196.25	125.21	..	..	279.00	160.64	..	..	4,700.30	1,387.79
..	17.80	3.83	1.22	368.98	541.65	262.38
..	2.88	..	..
..	25.00	5.89
..	..	20.00	3.14	..	..	..	..	..	..	20.00	3.14
..	96.86	31.65
..	..	10.00	6.53	..	..	..	..	..	..	10.00	6.53
..	cy. 169.64	..	..	..	..	..	..	..	169.64
..	119.87
..	598.39
..	78.00	199.47
..	..	152.50	50.51	..	..	61.00	34.61	..	..	695.00	464.40
..	..	25.00	18.42	..	..	45.00	4.94	..	..	70.00	23.36
..	17.00	39.31	..	..	17.00	39.31
..	..	44.00	11.00	..	..	..	..	..	..	44.00	11.00
..	230.50	85.10
..	721.55	..	..	..	721.55
..	10.00	5.56	..	..	10.00	5.56
..	..	138.00	131.69	..	..	59.00	184.24	..	..	543.00	526.02
..	203.00	155.65
..	2,235.75	8,170.06
..
..	..	11.44	..	52.61	94	..	..	3,867.54	543.04	..	..
192.18	1,034.27	111,207.69	53,272.59	67.71	574.13	115,794.87	55,129.27	5,173.43	5,477.64	959,394.84	666,501.23

TABLE IV.—Production of Gold

Coolgardie

KUNANALLING

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.					
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.		
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.		
Balgarrrie	687s	Abundance	Ftd.	..	..	..	..
Do.	622s	(Balgarrrie G.M. Co., N.L.)	..	..	..	..	..
Do.	695s	Bullion Vault	Ftd.	..	..	..	..
Do.	697s	Bunyip	Ftd.	..	..	78.00	22.54
Do.	723s	Irene	Ftd.	..	..	200.00	21.20
Do.	622s	United Australia	6	..	..	72.00	18.83
Do.	565s	Zuleiku	12	..	..	130.00	197.71
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	..	..
Carbine	764s	Bullion	12	..	..	..	..
Do.	33s	Carbine	a. r. p.	..	..	1,258.00	583.56
Do.	758s	(Carbine South)	24	..	..	..	..
Do.	667s	Grafter	Ftd.	..	..	40.00	23.84
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	..	..
Carnage	2s	(Glenrock Consolidated, Ltd.)	Surr.	..	..	..	..
Do.	2s	(Perry's Reef)	Surr.	..	..	..	..
Do.	2s	Perry's Reef	Surr.	..	..	108.00	51.34
Do.	2s, (453s, 548s)	(Perry's Reef leases)	Surr.	..	..	..	..
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	..	..
Cashman's	607s [1284w]	Denver City	12	22.41	25.45	..	..
Do.	3s	Fingall Proprietary, Ltd.	Ftd.	..	..	..	..
Do.	3s	(Lady Evelyn)	Ftd.	..	..	..	..
Do.	716s [1289w]	Lady Evelyn	12	..	..	22.50	34.21
Do.	3s	(Lady Evelyn G.Ms., Ltd.)	Ftd.	..	..	..	..
Do.	715s [1288w]	Orabanda	6	..	..	40.00	21.62
Do.	739s [1295w]	Ora Banda Nellie	12	..	..	..	..
Do.	456s	Virgin	Ftd.	..	..	..	..
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	..	..
Dunnsville	774s	Jaudie Central	12	..	..	..	..
Do.	590s	Jourdie	12	..	..	..	..
Do.	582s	Jourdie Hills Boulder	Ftd.	..	..	91.00	63.78
Do.	369s, 661s	Jourdie Hills G.M. Co., Ltd.	24	..	..	3,566.00	2,665.97
Do.	698s	Masterton	Ftd.	..	1.65	29.00	19.03		
Do.	732s	Never Despair	Ftd.	..	..	13.00	5.69
Do.	17s, (82s, 83s)	(New Standard Exploration Co., Ltd.)	..	..	..	..	..
Do.	17s	North Coolgardie G.Ms., Ltd.	24	..	..	..	..
Do.	514s	Pride of Jaudie North	12	..	..	181.00	104.49
Do.	369s	(Pride of the Jourdies)	..	..	..	..	..
Do.	17s	(Wealth of Nations)	..	..	..	994.00	233.16
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	..	..
Kandana	688s	Mary Beatrice	Ftd.	..	..	..	..
Do.	..	Voided leases	..	..	..	..	..
Kintore	64s	(City of London G.Ms., Ltd.)	Surr.	..	..	..	..
Do.	725s	Golden Crest	Ftd.	..	..	..	cy. 22.35
Do.	77s, 93s, 99s, 100s, 105s, 138s, 409s, 482s, 677s	Great Cement Proprietary, Ltd.	Surr.	..	..	840.00	501.03
Do.	734s, 735s	Great Cement Proprietary, Ltd.	43	..	..	..	..
Do.	99s, 99s, (138s)	(Great Dyke and Orizaba Cement Claims, Ltd.)	Surr.	..	..	..	..
Do.	721s	Hands Across the Sea	12	..	..	..	..
Do.	61s, 62s	(Hands Across the Sea G.M. Co., Ltd.)	Surr.	..	..	..	..
Do.	61s, 62s	Hands Across the Sea leases	Surr.	..	..	..	..
Do.	482s	(Kintore North)]	Surr.	..	..	..	..
Do.	64s	London	Surr.	..	..	137.00	68.10
Do.	740s, (64s)	London	12	..	..	..	..
Do.	77s	(Ormuz)	Surr.	..	..	..	..
Do.	671s	Stockdale's Consols	Ftd.	..	..	..	..
Do.	409s	Sugarloaf: Great Cement Proprietary, Ltd.	Surr.	..	..	..	..
Do.	409s	(Sugarloaf, 25-Mile, Cement Leases, Ltd.)	Surr.	..	..	72.00	963.02
Do.	603s	Sydney Mint	12	..	..	..	..
Do.	100s, 105s	(W.A. Proprietary Cement Leases, Ltd.)	Surr.	..	..	..	..
Do.	..	Voided leases	..	..	..	75.00	188.09
Do.	..	Sundry claims	..	..	..	..	..
Siberia	633s	Ardinalg	Ftd.	..	..	..	..
Do.	753s [1305w]	Bonnie Doon	Surr.	..	..	..	..
Do.	479s	Fair Adelaide	12	..	..	..	..
Do.	674s [1286w]	Golden	12	..	29.84	22.00	72.83		
Do.	643s	Horseshoe	Ftd.	..	..	260.00	216.64
Do.	519s	Invincible	Surr.	..	..	..	..
Do.	720s [1292w]	Invincible	12	..	..	..	..
Do.	717s [1290w]	Invincible Consols	12	..	..	..	..
Do.	706s [1287w]	Invincible Extended	12	..	501.33	..	..
Do.	747s [1301w]	Lady Frida West	12	..	..	..	..
Do.	106s	Mexico	Ftd.	..	..	15.00	7.16
Do.	728s [1293w]	Mexico	13	..	..	..	..
Do.	518s	Mexico West	Ftd.	..	..	..	..
Do.	742s [1296w]	Minnie Dora	Ftd.	..	..	..	..
Do.	718s [1291w]	Missouri	12	..	..	..	..
Do.	736s [1294w]	Palmerston	12	..	..	..	..
Do.	752s [1309w]	Pearling Ground	Wdn.	..	..	..	..
Do.	746s [1300w]	Pole	12	..	..	..	..
Do.	754s [1306w]	Port Arthur	12	..	..	..	..
Do.	655s	Silkworth	Ftd.	..	..	124.00	130.56
Do.	124s [1283w]	Waverley	9	..	..	..	..
Do.	..	Voided leases	..	..	..	43.00	32.35
Do.	..	Sundry claims	..	..	..	..	..
25-Mile	522s, 599s, 604s, 647s, 648s, 649s, 650s, 651s, 657s	Amalgamated G.Ms., Ltd.	Ftd.	..	..	474.65	194.18
Carried forward				22.41	558.27	8,885.15	6,463.28

from all sources, etc.—continued.

Goldfield—continued.

DISTRICT.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	1.64	36.00	8.20
..	10.94	..	340.00	81.43
..	13.00	4.67
..	78.00	22.54
..	200.00	21.20
..	..	90.00	48.43	..	..	150.00	111.23	..	..	342.00	188.72
..	..	40.00	87.00	..	..	..	..	..	..	545.50	1,738.25
..	65.31	2,575.25	2,206.33
..	..	28.00	33.48	..	..	56.00	17.52	..	18.57	836.25	335.23
..	285.00	175.90	..	..	285.00	175.90
..	79.81	902.00	305.26	..	597.32	3,000.50	1,622.30	..	687.98	6,683.50	3,258.27
..	22.00	10.29	..	..	22.00	10.29
..	112.00	77.09
..	1,256.00	1,724.03
..	16.00	6.53	..	..	16.00	6.53
..	1,079.50	500.53
..	171.50	224.90
..	199.00	119.24
..	220.00	259.22
..	176.04	659.31	732.00	1,066.78
..	61.00	27.50
..	..	4.00	40.67	..	..	..	..	22.41	310.94	4.00	40.67
..	174.00	408.07
..	259.00	229.83
..	..	207.75	408.23	..	..	11.50	37.37	..	..	241.75	479.81
..	2,511.40	1,882.55
..	..	359.50	183.11	..	..	290.00	129.02	..	..	689.50	333.75
..	..	67.00	28.14	..	..	34.00	28.32	..	..	101.00	56.46
..	45.10	284.83	35.00	190.23
..	197.67	3,414.00	3,253.77
..	6.16	116.00	67.61
..	35.00	12.56	..	..	35.00	12.56
..	300.00	97.11	..	..	415.00	159.19
..	398.00	217.97
..	..	1,054.00	793.01	..	..	285.00	966.91	..	..	9,443.00	7,420.49
..	1.65	29.00	19.03
..	13.00	5.69
..	13,681.00	5,788.52
..	..	63.00	30.51	..	..	..	..	..	..	63.00	149.88
..	..	288.00	162.45	..	..	287.00	168.29	..	..	1,091.50	668.09
..	410.74	465.47
..	..	267.00	68.50	..	..	..	..	..	..	1,695.00	513.11
..	..	45.00	22.18	..	..	..	..	..	172.31	613.50	441.25
..	58.25	59.80	..	..	175.58	139.50
..	280.00	41.11
..	185.00	27.01
..	29.93	2,528.60	1,597.90
..	22.35
..	..	595.00	234.01	..	..	..	..	..	..	16,601.00	5,372.99
..	31.75	615.77	..	..	31.75	615.77
..	3,537.00	1,051.97
..	..	12.00	6.70	..	..	80.50	64.02	..	..	92.50	70.72
..	2,963.25	2,063.95
..	689.00	577.60
..	56.00	88.64
..	..	298.75	130.48	..	..	..	..	..	..	561.75	438.98
..	..	328.00	141.96	..	..	43.00	169.45	..	..	371.00	311.41
..	4,519.75	4,386.96
..
..	49	..
..	341.00	277.98
..	452.50	1,160.65
..	294.75	1,462.93
..	28.45	7,020.75
..	4,512.46	5,023.86
..	..	326.00	201.24	..	..	82.00	66.43	..	..	573.50	670.79
..	100.00	32.30
..	23.00	4.90	..	..	23.00	4.90
..	126.00	95.80
..	18.17	..	..	..	3.53	..	40	..	..	82.17	120.37
..	168.12	216.64
..	178.49	271.41
..	..	13.00	307.13	..	..	172.00	61.50	..	..	185.00	368.63
..	70.00	15.00	..	..	70.00	15.00
..	501.33	..
..	..	10.00	3.04	..	..	..	..	..	..	10.00	3.04
..	..	166.50	377.64	..	..	50.00	49.43	..	..	3,091.50	4,236.49
..	216.50	427.07
..	77.00	19.97
..	..	55.00	34.16	..	..	..	..	..	..	55.00	34.16
..	..	82.00	47.72	..	..	114.00	32.16	..	..	196.00	79.88
..	1.84	159.00	25.10	..	1.84	159.00	25.10
..	100.00	43.10	..	..	100.00	43.10
..	..	100.00	79.87	..	..	..	..	..	..	100.00	79.87
..	29.00	24.31	..	..	29.00	24.31
..	42.00	14.32
..	183.62	50.00	160.07	..	..	274.00	318.83	..	496.67	1,466.80	1,873.81
..	1.07	129.19	1,755.65	2,544.17
..	79.00	50.72	30.91	..	196.00	135.15
..	2,019.30	1,471.90
..	281.60	5,451.50	4,190.79	..	644.24	6,137.90	5,150.78	286.47	4,171.03	105,011.18	79,421.86

TABLE IV.—Production of Gold

Coolgardie

KUNANALLING

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward	..	22.41	558.27	8,885.15	6,463.28
25-Mile	696s	(Blue Bell)	..	..	8.05	224.00	110.66
Do.	727s	(Blue Bell Extended)	..	..	..	17.00	8.39
Do.	696s, 727s	Blue Bell leases	12	..	..	..	..
Do.	(646s), 656s, (657s)	Bow's leases	10	..	..	..	..
Do.	712s	Bungarow	Ftd.	..	..	32.00	17.83
Do.	522s	(Catherwood G.Ms. (1898), Ltd.)	Ftd.	..	..	..	..
Do.	74s	(Consolation)	Ftd.	..	..	..	..
Do.	111s	(Emu)	..	..	..	..	..
Do.	111s	Emu	12	..	..	..	..
Do.	568s	Fremantle Extended	Ftd.	..	..	..	..
Do.	568s	(Golden Fremantle Co., N.L.)	Ftd.	..	..	..	..
Do.	751s	Great Northern Star	24	..	..	..	..
Do.	757s	Inkermann	12	..	..	..	..
Do.	673s [1285w]	Lochiel	12	..	..	1.00	46.79
Do.	691s	Mary Anne	Ftd.	..	..	..	..
Do.	714s	Mildura	Ftd.	..	28.55	..	..
Do.	731s	New Fremantle	Surr.	..	..	10.50	6.91
Do.	726s	Nil Desperandum	Ftd.	..	113.39	..	..
Do.	(70s, 74s), 79s, (111s, 278s, 436s)	Premier G.M. Co., N.L.	24	..	..	1,503.50	946.34
Do.	74s	(Premier South G.M. Co., N.L.)	Ftd.	..	..	..	..
Do.	767s	Premier West	12	..	..	..	..
Do.	586s, 602s	Shamrock leases	18	..	36.76	324.00	284.46
Do.	645s	Star of Fremantle	5	..	..	1,484.00	925.07
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Sundry claims	..	..	..	..	..
		<i>From District generally:—</i>					
		Sundry parcels treated at:—					
		Amalgamated G.Ms. Ltd., Battery	..	..	..	14.33	9.47
		Bow's Battery	..	..	..	..	..
		Half-mile Reef Battery, Broad Arrow	..	..	..	10.00	20.30
		Hepburn's Cyaniding Works	..	..	..	..	..
		Lady Bountiful Battery, Broad Arrow	..	..	..	8.75	8.90
		Orotava Works, Kalgoorlie	..	..	..	..	..
		Premier Battery	..	..	..	169.00	78.02
		Stanley Battery	..	..	..	..	..
		State Battery, Siberia	..	..	..	..	..
		Various Works	..	..	..	..	..
		Reported by Banks and Gold Dealers	..	..	..	..	..
		Total	..	21.41	745.02	12,656.23	8,927.32

Yilgarn

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Blackbourne	671	Blackbourne	12	..	..	..	..
Do.	696	Blackburn South	12	..	..	..	..
Do.	557	King Edward VII.	Ftd.	..	..	100.00	3.29
Do.	615	Millionaire	Ftd.	..	..	28.00	5.04
Do.	..	Voided leases	..	..	..	..	..
Do.	..	Voided leases	..	..	..	..	..
Golden Valley	693	Alligator	Ftd.	..	..	..	..
Greenmount	694	Bulletin	Ftd.	..	..	..	..
Do.	603	Excelsior	Ftd.	..	..	..	..
Do.	580	Federal	Ftd.	..	..	80.00	13.42
Do.	684	Gem	Ftd.	..	..	..	..
Do.	604	Great Southern	Ftd.	..	..	135.00	23.48
Do.	713	Great Surprise	6	..	..	..	..
Do.	503, 535, 555	(Greenmount G.M.s. Ltd.)	..	..	..	5.00	2.11
Do.	503, 535, 555	Greenmount Mines, N.L.	48	..	..	..	..
Do.	591	Imperial	Ftd.	..	..	133.00	30.92
Do.	566	Little Wonder	Ftd.	..	..	..	..
Do.	622	Lord Roberts	Surr.	..	18.24	237.00	54.87
Do.	625	Madge	Surr.	..	..	57.00	14.76
Do.	599	Port Royal	Surr.	..	..	..	..
Do.	590	Rand	Ftd.	..	..	60.00	19.46
Do.	640	Rand	Ftd.	..	..	26.00	5.44
Do.	565	Royal George	13	..	..	799.00	242.49
Do.	564	St. George	Ftd.	..	..	95.00	22.04
Do.	744	Southern Cross Boulder	12	..	..	..	..
Do.	550	Sunbeam	8	14.00	..	748.00	243.76
		Carried forward	..	14.00	18.24	2,503.00	681.08

from all sources, etc.—continued.

Goldfield—continued.

DISTRICT—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	281.60	5,451.56	4,190.70	..	644.24	6,137.90	5,150.78	286.47	4,171.03	105,011.13	79,421.86
..	..	336.00	191.02	..	..	..	..	..	8.05	697.00	429.47
..	..	96.00	62.93	..	..	..	..	..	..	113.00	71.32
..	..	40.00	15.40	..	..	592.00	332.26	..	..	632.00	347.66
..	..	845.50	309.40	..	..	852.00	96.26	..	..	1,697.50	405.66
..	32.00	17.83
..	38.00	11.85
..	69.00	110.41
..	143.00	167.01
..	133.35	34.95	..	..	133.35	34.95
..	80.00	9.24
..	442.00	144.47
..	65.00	17.58
..	..	15.00	8.28	..	..	65.00	17.58	..	..	203.00	228.14
..	94.30	..	cy. 8.12	..	..	188.00	219.86	..	..	51.00	74.49
..	50.00	19.58	..	94.30	33.00	14.84
..
..	28.55	..	..
..	..	242.00	138.61	..	..	..	..	..	..	252.50	145.52
..	..	125.00	315.71	..	..	9.00	2.98	..	113.39	134.00	318.69
..	..	604.50	2,358.37	..	..	185.50	196.71	..	..	62,102.00	46,744.40
..
..	925.00	383.28
..	58.50	61.75	..	..	58.50	61.75
..	..	389.80	394.52	..	41.90	485.50	693.72	..	192.12	2,097.30	2,329.05
..	..	522.00	301.67	..	..	821.00	363.50	..	..	4,084.00	2,649.10
..	8,446.20	6,054.70
..	..	1,203.00	428.04	..	..	264.00	122.02	..	14.82	1,688.35	735.27
..	85.45	..	..
..	14.33	9.47
..	..	165.00	44.63	2.18	..	30.00	3.06	2.18	..	195.00	47.69
..	10.00	20.30
..	cy. 184.39	..	..	..	184.39
..	8.75	8.90
..	9.56
..	..	55.83	21.84	..	..	..	cy. 9.56	..	..	507.58	308.29
..	33.53
..	35.50	8.02	..	..	35.50	8.02
..	14.86	..	690.00	341.58
..	19.14	1.10	..	..	19.14	1.10	..	..
..	375.90	10,091.13	8,789.33	21.32	637.24	9,907.25	7,550.51	322.65	4,703.81	190,689.04	141,900.27

Goldfield.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	..	160.00	49.68	..	..	332.00	92.69	..	..	492.00	142.37
..	92.00	32.93	..	..	92.00	32.93
..	100.00	3.29
..	28.00	5.04
..	84.00	43.25
..	130.00	218.32
..	..	200.00	51.74	..	..	200.00	43.33	..	..	400.00	95.07
..	440.00	131.12	..	..	440.00	131.12
..	18.00	4.90
..	80.00	13.42
..	..	35.00	5.39	..	..	42.00	4.08	..	..	77.00	9.47
..	135.00	23.48
..	31.99	3.38	..	..	31.99	3.38	..	..
..	5.00	2.11
..	..	5,650.00	1,186.00	..	..	16,428.00	4,554.53	..	..	22,078.00	5,740.53
..	133.00	30.92
..	71.00	19.92
..	18.24	237.00	54.87
..	65.00	16.14
..	..	8.00	1.38	..	..	..	..	..	..	71.00	13.87
..	..	11.00	2.88	..	..	..	..	..	..	179.00	43.05
..	26.00	5.44
..	..	226.00	71.75	..	..	414.00	162.47	..	..	1,806.00	602.41
..	..	12.00	2.60	..	..	..	..	..	..	204.00	56.43
..	154.00	58.87	..	..	154.00	58.87
..	..	811.00	231.64	..	..	1,773.00	622.21	14.00	..	3,572.00	1,161.61
..	..	7,113.00	1,603.06	31.99	3.38	19,875.00	5,692.23	45.99	21.62	30,677.00	8,528.81

TABLE IV.—Production of Gold

Yilgarn

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.				
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	
		Brought forward		14.00	18.24	2,503.00	681.08	
Greentmount	655	Sunbeam North	Ftd.					
Do.	536	Transvaal	24			833.00	110.18	
Do.	503	(United Australia)						
Do.		Voided leases						
Do.		Sundry claims						
Hope's Hill	19, 52, 288, (360), 480	Hope's Hill G.M. Co., Ltd.	Ftd.			33,886.00	5,712.75	
Do.	703	Mellor's Hill	12					
Do.	661	Mount Victor	Surr.					
Do.	620	Railway	Ftd.			81.35	20.41	
Do.	628	Railway South	Ftd.			65.00	17.15	
Do.		Voided leases						
Do.		Sundry claims						
Jaccoletti	656	Christmas Gift	18			20.00	57.29	
Do.	717	Eveless Eden	18					
Do.	490, 517, 558/9	Jaccoletti G.Ms., Ltd.	48					
Do.	490, 517, 558/9	(Lady Loch Mines, Ltd.)						
Do.	714	Marvel Loch	12					
Do.	490, 517	(Turnbull's leases)						
Do.		Sundry claims						
Kennyville	570	(Great Leviathan)				883.85	1,078.59	
Do.	683	New Chum	24					
Do.	570	Northern Blocks Syndicate, Ltd.	24					
Do.	582	Yilgarn Perseverance	Ftd.		5.58	158.00	71.82	
Koolyanobbing	641	Chadwick's Reward	24					
Mt. Jackson	246, 450/1, 469, 460, 494	Associated Mt. Jackson G.Ms. (W.A.), Ltd.	Ftd.					
Do.	212, 217, (233), 397, (462)	(Mt. Jackson G.Ms., Ltd.)				7,844.00	5,723.95	
Do.	212, 217, 397	Mt. Jackson G.Ms., Ltd.	a. r. p.					
Do.	212, 217, (233), 397, 462	(Mt. Jackson G.Ms., Ltd., 1897)	31 3 8					
Mt. Rankin	525	Mt. Rankin	Ftd.			97.00	28.34	
Do.		Voided leases						
Parker's Range	508	Australia	18			123.00	144.53	
Do.	520	Blue Hill	18			238.00	399.67	
Do.	751	El Es Dee	12					
Do.	594	Golden Cube	Surr.			334.00	353.25	
Do.	707	Golden Cube	12					
Do.	573	Gordon Highlander	Ftd.			60.00	24.33	
Do.	668	Gordon Highlander	12					
Do.	719	Great Victoria	12					
Do.	547	Havelock	Ftd.					
Do.	642	Triumph	Ftd.			33.00	24.61	
Do.		Voided leases						
Southern Cross	652	Alison Brown	Wdn.			10.00	1.77	
Do.	579	Auraria	Wdn.					
Do.	663	Birthday Gift	Ftd.					
Do.	13, 29, 279, 505/6, (509)	British and Foreign Development Syndicate, Ltd.	122			5,160.00	5,836.88	
Do.	738	Brown Hill	7					
Do.	279	(Central)						
Do.	749	Central Extended	3					
Do.	556	Eureka Boulder	Ftd.					
Do.	697	Excelsior	12					
Do.	13	(Fraser's G.M. Co., N.L.)						
Do.	256, 554, (562)	Fraser's South Extended G.M. Co., Ltd.	44			8,727.50	3,230.03	
Do.	29	(Fraser's South G.M. Co., N.L.)						
Do.	576	Golden Pig North	Ftd.			54.00	4.59	
Do.	653	Golden Pig North	Wdn.			15.00	2.57	
Do.	670	Golden Pig North	Ftd.					
Do.	552	(Haddon)				625.00	132.52	
Do.	552, 611	Haddon leases	17			1,435.00	197.03	
Do.	529, 551	Hatt and Lang's leases	Ftd.					
Do.	673	Ine Zella	Ftd.					
Do.	613	Lord Cardigan	Ftd.			491.00	148.16	
Do.	560	Northern Star	Ftd.			89.00	25.00	
Do.	647	Northumberland	Ftd.					
Do.	575	Pendrea	Ftd.					
Do.	681	Pride of the Hills	Ftd.					
Do.	529	(Reward)	Ftd.			1,554.00	903.88	
Do.	737	Reward	12					
Do.	644	Southern Cross Boulder	Ftd.					
Do.	612	Southern Cross Extended	Ftd.			53.00	6.41	
Do.	611	(Takedown)				16.00	13.79	
Do.	568	Taroola	Ftd.			60.00	8.29	
Do.	631	William Tell	Ftd.			27.00	5.04	
Do.	567	Wimmera	Surr.			550.00	66.80	
Do.	676	Wimmera	Surr.					
Do.		Voided leases						
Do.		Sundry claims				26.00	10.18	
From Goldfield generally:								
Sundry parcels treated at:—								
André's Cyanide Works							cy. 122.53	
Fraser's Battery								
Fremantle Smelter, Ltd.								
Hatt's Battery							cy. 280.46	
Hope's Hill Slimes Plant (Venture Syndicate)								
Orotava Works, Kalgoorlie								
State Battery, Southern Cross							cy. 17.33	
Various Works								
Reported by Banks and Gold Dealers						9.61		
Total					23.61	23.82	66,051.70	25,461.21

from all sources, etc.—continued.

Goldfield—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	..	7,113.00	1,603.06	31.99	3.38	19,875.00	5,692.23	45.99	21.62	30,677.00	8,528.81
..	..	10.00	.87	..	..	..	..	..	..	10.00	.87
..	..	4,200.00	691.25	..	..	16,870.00	3,633.69	..	..	22,362.00	4,540.06
..	410.00	120.15
..	63.00	16.52	..	..	1,077.00	277.69
..	..	2,163.00	1,588.32	..	..	..	..	..	..	63.00	16.52
..	124,825.00	31,671.83
..	..	25.00	27.68	..	..	65.00	25.46	..	..	90.00	53.14
..	..	85.00	16.22	..	..	..	..	..	..	85.00	16.22
..	..	40.00	5.27	..	..	..	..	..	..	81.35	20.41
..	105.00	22.42
..	60.00	6.81
..	57.00	13.37
..	..	304.00	206.13	..	.62	34.00	9.05	..	.62	67.00	13.37
..	128.00	62.41	..	..	452.00	325.83
..	622.00	349.17	..	..	622.00	349.17
..	..	2,091.00	674.01	..	..	..	cy. 134.01	..	..	..	134.01
..	500.00	316.81	..	..	2,091.00	674.01
..	500.00	316.81
..	2,143.00	1,481.72
..	..	560.00	461.10	..	11.30	202.00	77.16	..	11.30	202.00	77.16
..	2,160.00	885.95	..	..	3,821.85	2,948.67
..	67.00	6.74	..	..	67.00	6.74
..	..	6.00	2.65	..	..	6,380.00	2,010.95	..	..	6,380.00	2,010.95
..	158.00	71.82
..	6.00	2.65
..	..	5,390.00	3,329.09	..	..	..	..	..	..	801.50	224.71
..	1,820.00	597.27	..	..	15,054.00	9,806.22
..	1,992.00	1,045.99	..	..	1,992.00	1,045.99
..	9,537.00	6,210.61
..	3.84	5.20	196.00	47.54
..	56.00	21.96
..	..	360.00	384.19	..	..	364.00	263.64	..	..	1,373.00	1,118.38
..	..	313.00	455.48	..	..	290.00	245.82	..	..	1,071.00	1,627.94
..	..	186.00	194.77	..	..	26.00	28.61	..	..	26.00	28.61
..	663.00	212.84	..	..	600.00	672.09
..	663.00	212.84
..	60.00	24.33
..	14.37	..	..	..	14.37	336.00	38.56
..	336.00	38.56	..	..	30.00	12.24
..	..	50.00	17.96	..	..	..	..	..	..	83.00	42.57
..	1,780.00	1,485.86
..	19.12	10.00	1.77
..	..	73.00	17.28	..	..	..	..	..	..	15.00	4.45
..	..	8,603.00	5,343.61	..	..	7,521.50	3,961.19	..	..	73.00	17.28
..	59,892.00	45,011.37
..	176.00	38.62	..	..	176.00	38.62
..	44,958.00	19,702.85
..	20.54	22.00	36.63	..	20.54	22.00	36.63
..	..	194.00	196.94	..	..	594.00	268.88	..	..	30.00	7.22
..	..	1,854.00	393.85	..	..	..	..	..	..	788.00	465.82
..	151,771.00	67,870.33
..	43,747.68	18,433.55
..	48,233.00	20,013.23
..	94.00	20.38
..	..	45.00	5.95	..	..	..	..	..	..	15.00	2.57
..	45.00	5.95
..	..	4,395.00	667.23	..	..	1,348.00	532.64	..	..	680.00	145.01
..	..	6,583.00	1,889.09	..	..	18.00	9.45	..	..	7,178.00	1,896.90
..	..	214.00	47.48	..	..	..	..	..	..	6,601.00	1,898.54
..	..	248.00	45.86	..	..	104.00	22.25	..	..	214.00	47.48
..	913.00	232.93
..	112.00	36.43
..	..	35.00	7.24	..	..	..	..	..	..	35.00	7.24
..	..	139.00	22.51	..	..	..	..	..	..	25.00	5.22
..	139.00	22.51
..	172.24	2,300.00	1,492.24
..	..	10.00	3.43	..	..	10.00	31.49	..	..	10.00	31.49
..	10.00	3.43
..	53.00	6.41
..	16.00	13.79
..	60.00	8.29
..	27.00	5.04
..	..	1,718.00	279.07	..	..	..	..	..	..	2,268.00	345.87
..	..	900.00	192.64	..	..	2,300.00	523.26	..	..	3,200.00	715.90
..	19,191.70	7,613.04
..	..	35.00	8.69	..	..	161.50	38.43	3.73	592.81	691.25	172.22
..
..	169.91
..	..	23.00	3.54	..	..	..	..	..	..	23.00	3.54
..	21.28	464.10	..	..	21.28	464.10
..	cy. 132.38	..	..	..	..	..	..	..	412.84
..	1,820.61
..	64.12
..	cy. 369.52	..	..	..	cy. 64.12	..	..	..	386.85
..	36.00	1,665.88
7.06	16.67	..	..	..
7.06	..	47,965.00	19,284.36	31.99	50.21	64,763.28	23,464.55	70.23	863.40	623,677.61	267,128.16

TABLE IV.—Production of Gold

Dundas

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Buldania	969	Ajax North	18				
Do.	965	Pathway	18				
Do.		Voided leases					
Do.		Sundry claims					
Dundas	958	Middlerise	Surr.				
Do.		Voided leases					
Do.		Sundry claims					
Killaloe		Voided leases					
Norseman	882	Ajax	Surr.				
Do.	39, 97	(All Nations G.Ms., Ltd.)					
Do.	940	Alma	Ftd.				
Do.	904	Alphadar	6				
Do.	917	Amy Castles	Ftd.				
Do.	920	Battler	Surr.				
Do.	939	Bethnal Green	Ftd.				
Do.	942	Bobby Dazzler	Surr.				
Do.	571	Break-o'-Day	Ftd.				
Do.	921	Break-o'-Day	Ftd.				
Do.	954	Break-o'-Day Extended	Ftd.				
Do.	896	Cumberland East	Ftd.				
Do.	934	Cumberland Extended	Surr.				
Do.	42, 43, 53, 579, 690, (700), 889, 898	Cumberland G.M. Co., N.L.	a. r. p. 86 1 8				
Do.	897	Cumberland West	6				
Do.	848	(Desirable)	Surr.				
Do.	963	Desirable	12				
Do.	941	Esperanza	Surr.				
Do.	966	Esperanza No. 2	12				
Do.	802	Federation	Ftd.				
Do.	877	Four Jolly Smiths	Ftd.				
Do.	863	Hit or Miss	3				
Do.	908	Iris	12				
Do.	53	(John Bull)	Ftd.				
Do.	871	King William	4				
Do.	956	Kirkpatrick West	12				
Do.	757	Lady Jean					
Do.	757, (800)	(Lady Jean leases)					
Do.	(49, 99, 635/6, 793), 864, 938, 945, 961, 988	Lady Mary G.M. Co., N.L.	87				
Do.	49, 99, 635/6	(Lady Mary leases)	Surr.				
Do.	876	Lady Miller Extended	Surr.				
Do.	945	(Lady Miller South)					
Do.	978	Little Gladys	5				
Do.	858	(Lord Hopetoun)	Ftd.				
Do.	858, 919, 924	Lord Hopetoun leases	Ftd.				
Do.	856	Lucky Call	Surr.				
Do.	984	Lucky Call No. 2	12				
Do.	852	Mararos	12				
Do.	929	Mary Eileen	Ftd.				
Do.	53	(Midas G.M. Co., N.L.)					
Do.	911	Morrell	Ftd.				
Do.	42, 43, 53, (681)	(Mt. Benson G.M. Co., N.L.)					
Do.	873	Nellie May	Ftd.				
Do.	964	New Moon	18				
Do.	18, 19, 20, 21, 22, 24, 25, 26, 48, 116, 138, 611	Norseman G.Ms., Ltd.	Ftd.				
Do.	16	Norseman No. 1 North	Ftd.				
Do.	916	Norseman Rose	Wdn.				
Do.	16, (482, 685)	(No. 1 North Norseman G.M. Co., N.L.)	Ftd.				
Do.	821	Northern Star	12				
Do.	903	O.K.	6				
Do.	935	O.K. East	9				
Do.	914	Oversight	12				
Do.	106, 187, 587	Princess Royal G.M. Co., N.L.	a. r. p. 51 3 12				
Do.	634, (653), 687, (744), 745, (834, 848, 870, 915)	Princess Royal North G.M. Co., N.L.	26 2 22				
Do.	187	(Princess Royal South)					
Do.	923	Queen Alexandra	Surr.				
Do.	901	Record	Ftd.				
Do.	681	Recoupe	Surr.				
Do.	913	Recovery	Ftd.				
Do.	955	Sign of Four	Surr.				
Do.	905	Star of Erin	Ftd.				
Do.	946	Star of Erin	Surr.				
Do.	849	St. Patrick	6				
Do.	989	Surprise	12				
Do.	906	Tarpeena	Surr.				
Do.	910	Two Japs	Ftd.				
Do.	881	Two Williams	Surr.				
Do.	22, 24	(United Scotchman G.M. Co., N.L.)					
Do.	838	Vale	Ftd.				
Do.	831	(Valkyrie)	Surr.				
Do.	936	Valkyrie Consolidated	18				
Do.	(831), 853, 880, 886	Valkyrie leases	Surr.				
Do.	887	Venture	Surr.				
Do.	949	Venture No. 2	10				
Do.	990	Viking No. 1	18				
Do.	986	Veni Vidi Vici	9				
Do.	907	Ziegler's Find	12				
Do.	944	Ziegler's No. 2	Ftd.				
Do.		Voided leases					
Do.		Sundry claims					
Do.		Voided leases					
Peninsula							
Carried forward							
				8.59	1,127.68	33,431.50	29,516.33

from all sources, etc.—continued.

Goldfield.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
						26.50	22.52			26.50	22.5
						31.00	7.06			31.00	7.06
										440.05	475.37
										88.00	74.05
						105.50	68.39			105.50	68.39
										4,425.73	2,133.82
						42.00	25.61		385.37	64.00	37.80
										20.65	6.88
									32.93	203.50	170.55
										200.00	47.74
						34.50	4.66			177.50	76.95
	101.04	143.00	72.29						101.04		
	2.75								20.90		
	3.38								6.83		
		107.00	24.35							107.00	24.35
		93.50	63.11						3.38	118.50	97.41
						25.00	34.30			7,805.00	11,553.36
										84.00	30.95
		69.00	9.87			15.00	21.08			24.00	1.92
		24.00	1.92							238.00	207.35
	37.67	127.00	104.28			10.00	2.90		43.47	95.00	80.01
		78.50	63.58			18.50	16.43				
		6,168.00	7,059.08			7,210.00	7,295.50			20,788.10	23,813.14
		10.50	3.91								
						11.00	6.75			21.50	10.66
										154.50	65.76
						354.00	148.82			354.00	148.82
						41.00	66.29			41.00	66.29
						178.50	351.28			178.50	351.28
										242.00	393.15
										23.50	4.65
		22.50	10.73		18.53	11.00	41.07		18.53	98.00	73.70
		21.00	4.73			49.00	18.41			70.00	23.14
										314.00	281.93
										30.00	42.50
	1.57	11.50	20.52			82.50	134.78		1.57	94.00	155.30
						122.50	72.04			122.50	72.04
		57.00	59.40						5.14	1,597.00	2,226.15
		3,063.00	1,115.55			2,454.00	897.10			6,553.00	2,739.61
										17,946.50	18,878.39
										110.50	51.88
		17.00	4.36							17.00	4.36
					46.85	5.50	22.50		46.85	5.50	2.50
										539.00	309.94
		106.00	17.71						3.22	228.50	85.89
	147.72	44.50	125.65		47.57	39.50	222.52		1,271.11	185.25	795.33
						59.50	26.40			59.50	26.40
		1,377.00	691.03			1,760.00	1,116.84			5,097.00	2,759.15
										16.50	7.04
										416.00	204.15
									19.78		
										4,797.40	4,181.00
	11.80	33.00	18.39						80.11	133.50	1,331.46
						370.00	334.65			370.00	334.65
		460.50	574.83			630.50	506.66			77,078.00	39,365.24
		41.00	9.20						8.73	1,058.50	696.55
									16.70		
										2,574.00	1,217.13
	16.54	36.50	93.23			27.50	83.17		355.36	603.50	907.62
		281.25	394.75		18.01	153.00	178.26		18.01	460.25	762.62
		218.00	167.15			258.00	338.69			476.00	505.84
		108.00	197.98			73.00	98.76			209.00	362.5
		16,823.00	12,174.93			7,513.00	5,108.41			136,365.50	130,064.71
		522.00	198.31							894.00	309.28
										358.00	568.05
		14.00	8.94							22.50	24.67
										8.50	7.04
										150.00	292.49
									6.30		
									24.24		
									25.22	31.50	9.32
		31.50	9.32		25.22				10.83	52.50	35.30
		22.00	24.03							70.50	104.63
		33.00	56.28			37.50	48.35			710.50	1,796.24
		129.00	526.69			130.00	308.36		160.91	16.50	18.68
						16.50	18.68			89.50	57.13
									1.86		
									20.19		
										33.00	13.77
										3,322.00	2,834.93
										253.00	236.16
										158.00	350.91
		108.50	277.81			67.00	63.42			175.50	341.23
									93.71	621.00	721.00
		120.50	98.83						6.95	508.00	409.32
		34.00	18.23			194.00	215.05			228.00	233.28
						28.50	91.99			28.50	91.99
						3.00	13.73			61.03	13.73
	49.95	7.00	94.42		61.03	7.00	51.63			82.16	480.88
		147.50	79.98			223.50	77.75			371.00	157.73
									4.23	22,047.60	17,197.71
4.29	43.87	1,009.75	515.41	7.74	53.83	912.55	540.06	992.11	235.14	5,891.40	3,145.31
									17.61	7,764.00	4,705.10
4.29	416.29	31,778.00	24,989.88	7.74	271.04	23,335.55	18,700.87	996.34	3,779.80	337,783.43	282,617.88

TABLE IV.—Production of Gold

Dundas

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward	8.59	1,127.68	33,431.50	29,516.33	
		<i>From Goldfield generally:—</i>					
		Sundry parcels treated at:—					
		Amalgamated Tailings Syndicate Works				cy. 578.65	
		Central Wealth Consolidated Goldfields, Ltd., Battery				cy. 183.98	
		Liquid Gem Cyaniding Works				cy. 171.12	
		Mararoa Crushing and Cyanide Works					
		Middleton's Cyanide Works					
		Royal Tailing Syndicate Works				cy. 184.01	
		State Battery, Norseman					
		Various Works					
		Reported by Banks and Gold Dealers	109.91				
		Total	118.50	1,127.68	33,431.50	30,584.09	

Phillips River

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Kundip (late Harbour View)	99	Alice Mary	5				
Do.	107	Ard Patrick	18				
Do.	M.L. 149	Australia	Ftd.				150
Do.	M.L. 184	Christmas Gift	15			217.00	146.66
Do.	57	Gem	Surr.				
Do.	65	Gem	24			17.50	6.63
Do.	58	Gladstone Proprietary	Ftd.				
Do.	69	Gladstone Proprietary	Ftd.		61.32		
Do.	M.L. 52, 94	(Harbour View leases)				1,254.50	516.38
Do.	81	Harbour View North	12				
Do.	67	Hill End	Ftd.			12.00	9.83
Do.	98	Hillsborough	10				
Do.	78	Kundip	20				
Do.	104	Lilly	15				
Do.	M.L. 242	Eone Star	10				
Do.	66	Medic	5			11.00	7.30
Do.	M.L. 179	Mosaic	Ftd.				9.69
Do.	M.L. 237	Mosaic	40				
Do.	73	Omaha	5				
Do.	M.L. 132	Omaha	Ftd.				5.50
Do.	85	Persic	6				
Do.	95	Persic Extended	4				
Do.	M.L. 52, 94	Ravensthorpe G.M. Syndicate, N.L.	a.r. p.				
Do.	M.L. 60	Red, White, and Blue	70 2 25			508.10	342.90
Do.	114	Third Call	5				
Do.	120	Try Again	6				
Do.	74	Two Boys	20				
Do.	80	Western Gem	8				
Do.		Voided leases					
Do.		Sundry claims					
Mt. Desmond	M.L. 174	British Flag	Ftd.	21.19	7.50		10.52
Do.	M.L. 203	British Flag	20				
Do.	M.L. 186	C.D.C.	Ftd.				3.17
Do.	M.L. 185	Desmond	Ftd.				71
Do.	M.L. 208	Desmond	12				
Do.	M.L. 95	Elverdton: Phillips River Options Syndicate, N.L.	40				2.43
Do.	M.L. 154	Great Oversight	Ftd.				45
Do.	M.L. 109	(Mt. Desmond)					14.75
Do.	M.L. 109	Mt. Desmond: Phillips River Gold and Copper Co., Ltd.	52				
Do.	M.L. 108	Mt. Stennett	39				18.07
Do.	M.L. 199	P.L.P.	12				74
Do.	M.L. 234	Resurrection	Wdn.				
Do.	M.L. 158	Rio Tinto	Ftd.				32
Do.		Voided leases					
Mt. Purchas (late Iron-caps)	37	Agnes Reward	Ftd.				
Do.	121	Eleanor Frances	24				
Do.	89	Mt. Agnes Reward	24				
Do.	92	Mt. Mary	12				
Do.		Sundry claims					
Ravensthorpe	M.L. 215	Birthday	Ftd.				
Do.	M.L. 176	Blue Ribbon	Ftd.				4.22
Do.	115	Bobby Dazzler	12				
Do.	M.L. 26	Ellendale	Ftd.			20.00	4.58
Do.	93	Ellen Tommy	24				
		Carried forward		21.19	68.82	2,040.10	1,106.78

from all sources, etc.—continued.

Goldfield—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
4.29	416.29	31,718.00	24,989.88	7.74	271.04	23,335.55	18,700.87	996.34	3,779.80	337,783.43	282,617.88
..	..	..	cy. 84.84	..	..	68.00	385.80	..	..	68.00	385.80
..	..	..	..	..	..	..	cy. 136.24	..	..	..	663.49
..	..	..	..	..	..	..	..	..	..	152.50	136.24
..	..	..	cy. 131.33	..	..	..	..	..	..	..	2,133.89
..	..	..	15.00	..	..	..	..	..	..	..	307.45
..	..	36.50	292.60	..	..	..	cy. 187.12	..	..	225.50	187.12
36.72	..	..	..	76.89	..	..	cy. 669.14	..	54.52	35.00	3,217.43
41.01	416.29	31,754.50	25,503.65	84.63	271.04	23,403.55	20,079.17	1,788.37	3,834.32	338,264.43	289,996.09

Goldfield.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..52	..	..	..	.52
..	10.00	14.48	..	..	10.00	14.48
..	..	62.00	46.43	..	..	..	1.25	..	..	279.00	194.37
..	..	146.00	145.72	..	..	524.00	460.99	..	..	8.00	24.30
..	29.80	687.50	613.34
..	61.32	..	..
..	..	576.00	292.39	..	..	..	..	..	379.86	3,619.25	1,560.86
..	..	25.00	13.70	..	..	31.00	20.75	..	..	31.00	20.75
..	61.00	99.10	..	..	37.00	23.53
..	50.00	20.74	..	..	61.00	99.10
..	50.00	31.96	..	..	50.00	20.74
..	50.00	31.96
..	6.85	253.00	241.78	..	..	113.90	75.41	..	6.85	377.90	324.49
..	4.06	..	..	..	..	..	..	..	13.75
..	..	43.50	154.28	..	..	50.44	106.56	..	..	..	1.19
..	93.94	260.84
..	16.00	7.13	..	..	241.00	81.71
..	20.50	19.28	..	..	16.00	7.13
..	..	701.00	367.59	..	..	..	..	..	..	20.50	19.28
..	..	250.00	460.40	..	..	423.00	64.45	..	..	1,124.00	432.04
..	62.00	48.71	..	..	1,005.60	892.54
..	8.75	10.10	..	..	8.75	10.10
..	3.90	40.00	70.77	..	..	9.50	7.10	..	3.90	9.50	7.10
..	340.00	889.18	..	..	380.00	959.95
18.00	8.00	..	..	..	..	70.00	58.33	..	8.00	70.00	58.33
..	45.54	58.86	39.19	15.50	161.00	94.92
..	45.54	58.86
..	10.52
..	7.76	..	..	..	7.76
..	3.85
..71
..77
..	9.63
..	1.45
..	36.97
..	1.40	..	63.42
..	19.07
..	3.74	..	7.28
..06
..32
..	9.00	.70
..	4.38	..	..
..	..	24.00	26.55	..	..	.05	18.56	..	..	.05	18.56
..	60.00	61.47	..	..	84.00	88.02
..	17.00	11.89	..	..	17.00	11.89
..	4.75	4.68
..	3.12
..	4.22
..	9.00	25.99	..	..	9.00	25.99
..	34.00	14.26	..	..	70.00	36.80
18.00	18.75	2,120.50	1,861.25	..	..	2,005.68	2,203.17	39.19	506.75	8,614.28	6,196.85

TABLE IV.—Production of Gold

Phillips River

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		Brought forward		21.19	68.82	2,040.10	1,106.78
Ravensthorpe	64	Eureka: Gilbert G.M., Ltd.	Ftd.			29.00	33.38
Do.	29, 30, 43, 44	Floater: Gilbert G.M., Ltd.	Surr.			3,135.00	1,628.99
Do.	82	Gilbert Gold Mine, Ltd.	12				
Do.	63	Golden Link	Ftd.				
Do.	17	Grafter	Surr.			36.50	44.94
Do.	M.L. 202	Grafter	24				
Do.	26	James Henry	Ftd.			75.00	90.14
Do.	75	Jubilee	6				
Do.	M.L. 116	Last Chance	20				4.36
Do.	21	Lucy	Ftd.			50.00	25.60
Do.	M.L. 16	(Marion Martin)	50				8.26
Do.	M.L. 7	Mary	35				7.46
Do.	M.L. 175	(Mount Benson)					111.89
Do.	M.L. 175	Mt. Benson: Phillips River Gold and Copper Co., Ltd.	40				
Do.	M.L. 15	(Mt. Cattlin)					19.64
Do.	M.L. 15	Mt. Cattlin: Phillips River Gold and Copper Co., Ltd.	50				
Do.	88, (62)	Mount Eliza	20				
Do.	M.L. 195	Mt. Benson Extended	10				
Do.	1	(Phillips River G.M. Co., N.L.)	Ftd.			600.00	770.76
Do.	76	Planet	12				
Do.	50	(Plantagenet)	Ftd.			282.00	48.79
Do.	50	Plantagenet G.Ms., N.L.	Ftd.				
Do.	52	Princess Royal	Ftd.				
Do.		Voided leases					
Do.		Sundry claims				22.00	20.87
		<i>From Goldfield generally:—</i>					
		Sundry parcels treated at Government Smelter					4.76
		Reported by Banks and Gold Dealers					
		Total		21.19	68.82	6,269.60	3,926.62

Donnybrook

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
Donnybrook	6	Ark of Gold: Donnybrook Goldfields, Ltd.	Surr.				
Do.	P.P.L. 9	Blackwood Venture: Donnybrook Goldfields, Ltd.	Surr.				
Do.	P.P.L. 10	Bullington: Donnybrook Goldfields, Ltd.	Surr.				
Do.	P.P.L. 2	Donnybrook: Donnybrook Goldfields, Ltd.	Surr.				
Do.	P.P.L. 1	Donnybrook No. 1 South: Donnybrook Goldfields, Ltd.	Surr.				
Do.	P.P.L. 11	Hunter's Venture: Donnybrook Goldfields, Ltd.	Surr.				
Do.	2	Perseverance: Donnybrook Goldfields, Ltd.	Surr.				
Do.	5	Queen of the South: Donnybrook Goldfields, Ltd.	Surr.				
Do.		Voided leases					
Do.		Sundry claims					
		Total					

State

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	Area in Acres.	TOTAL FOR 1904.			
				Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
				Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
		<i>From State generally:—</i>					
		Sundry parcels treated at:—					
		Eureka Battery, Blackboy Hill (Toodyay)					
		Fremantle Smelter, Ltd.					
		Northam Milling and Mining Works					
		Orotava Works, Kalgoorlie					
		Picadilly Ore Reduction Works, Kalgoorlie					
		Rasmussen's Works, Kalgoorlie					
		State Battery Coolgardie					
		Reported by Banks and Gold Dealers					
		Total					

from all sources, etc.—continued

Goldfield—continued.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
18.00	18.75	2,120.50	1,861.25	..	..	2,005.68	2,203.17	39.19	506.75	8,614.28	6,196.85
..	..	151.00	62.89	..	..	96.00	88.87	..	..	29.00	33.38
..	12,584.00	10,661.48
..	96.00	88.87
..	22.00	15.27
..	cy. 20.03	..	..	..	..	..	..	227.50	356.46
..	406.00	1.76
..	..	64.00	32.66	..	..	..	..	..	..	64.00	514.67
..	32.66
..	5.31
..	269.00	174.78
..	20.09
..	9.47
..	287.88
..	40.90
..	..	200.00	65.86	..	..	..	..	..	..	200.00	85.50
..	387.33
..	..	30.00	20.44	..	..	50.00	47.23	..	..	80.00	67.67
..	1.28
..	5,070.00	4,048.94
..	..	90.00	240.25	..	..	..	..	..	..	87.00	13.46
..	..	87.00	13.46	..	..	..	..	..	..	..	13.46
..	4.85	442.00
..	..	27.00	9.07	..	..	..	..	..	..	..	27.00
..	59.00
..	109.50	623.00
..	50.00	9.68	134.79	..	103.00	332.02
..	75.43
..	4.76
..	111.90	..	..	..
13.00	13.75	2,761.50	2,526.51	..	..	2,201.63	2,779.89	235.88	621.59	29,012.78	23,646.89

* From Copper Ore.

Goldfield.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	7.50	13.10
..	207.50	16.62
..	187.00	38.86
..	23.17	..	51.25	173.86
..	26.50	28.59
..	793.00	116.39
..	4.00	.09
..	322.05	426.31
..07	..	14.50	2.41
..	40.00	2.29
..	23.24	..	1,653.30	818.52

Generally.

TOTAL FOR 1905.				TOTAL FOR 1906.				TOTAL GOLD PRODUCTION.			
Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.
..	50.23
..	777.40
..	1,111.38
..	62.69
..	7.59
..	412.84
..	10.00	4.96
..	10.00	1,315.71	124.89	153.03	10.00	2,427.09

† Tonnage not known.

* From Wagon.

TABLE V.

Return of SILVER yielded by Gold Mines, as reported to the Mines Department during the Years 1904, 1905, and 1906, and Total Yield to date.

Goldfield.	District.	Mining Centre.	No. of Lease.	Registered Name of Company or Lease.	SILVER YIELD.			
					1904.	1905.	1906.	Total Silver Yield.
Kimberley .. ..	.. ..	.. ..	.. ..	.. ..	fine ozs.	fine ozs.	fine ozs.	fine ozs.
Pilbara	Marble Bar ..	Lallarookh ..	608, R.C. 112 ..	British Exploration of Australasia, Ltd.	253.57	320.44	..	574.01
				Total	253.57	320.44	..	574.01
Do.	Nulagine .. ..	.. ..	.. ..	.. ..	..	..	..	..
West Pilbara .. ..	.. ..	.. ..	.. ..	.. ..	..	..	..	..
Ashburton .. ..	.. ..	.. ..	.. ..	.. ..	..	..	..	..
Gascoyne .. ..	.. ..	.. ..	.. ..	.. ..	..	..	..	..
Peak Hill .. ..	.. ..	Horseshoe	44P	(Horseshoe (Peak Hill) Goldfield, Ltd.)	2.00	..	..	2.00
Do. .. ..	.. ..	Peak Hill	1r, etc.	Peak Hill Goldfield, Ltd.	526.19	526.19	15.40	1,067.78
				Total	528.19	526.19	15.40	1,069.78
East Murchison ..	Lawlers	Lawlers	37, etc.	(East Murchison United, Ltd.)	900.48	..	..	900.48
Do.	Do	Do	15	Leinster	55.55	32.58	1.20	89.33
Do.	Do	Do	37, etc.	London and Western Australian Exploration Co., Ltd. ..	..	1,057.97	1,141.96	2,199.93
Do.	Do	Do	408, etc.	Vivian G.M.L. Co., Ltd.	160.75	201.97	250.71	613.43
Do.	Do	Sir Samuel	21, etc.	Bellevue Proprietary, Ltd.	2,494.84	2,854.15	2,163.51	7,512.00
Do.	Do	Wiluna	149, etc.	Gwalia Consolidated, Ltd.	4.80	44.23	20.00	69.03
Do.	Do	Do	326	Weelona .. ..	..	124.00	..	124.00
Do.	Do .. ..	.. ..	.. ..	<i>From Sundry parcels treated at—</i>	..	..	..	..
Do.	Do .. ..	.. ..	.. ..	British King Cyanide Works	135.00	..	..	135.00
Do.	Do .. ..	.. ..	.. ..	Cinderella Works .. ..	..	26.00	..	26.00
Do.	Do .. ..	.. ..	.. ..	Condor Cyanide Works	190.98	38.85	2.00	231.83
Do.	Do .. ..	.. ..	.. ..	Fremantle Smelter, Ltd. .. ..	..	..	139.90	139.90
Do.	Do .. ..	.. ..	.. ..	State Battery, Wiluna .. ..	..	20.00	..	20.00
Do.	Do .. ..	.. ..	.. ..	Urquhart and Hayes Cyanide Works .. ..	..	151.00	49.00	200.00
				Total	3,941.90	4,550.75	3,768.28	12,260.93
Do.	Black Range ..	Nunngarra	19B	Fingall .. ..	..	2.33	..	2.33
Do.	Do	Do	121B	Squib .. ..	..	1.22	..	1.22
Do.	Do	Sandstone	5B	(Black Range)	5.60	..	..	5.60
				Total	5.60	3.55	..	9.15
Murchison	Cue	Cuddingwarra ..	595, etc.	Victory United G.M. Co., N.L. .. ..	..	..	15.42	15.42
Do.	Do	Cue	1374, etc.	Salisbury leases .. ..	..	..	43.35	43.35
Do.	Do	Tuckanarra	1432	Union Jack .. ..	..	..	69.04	69.04
				Total .. ..	..	..	127.81	127.81

Do	Nannine	Burnakura	581N	Dunbeacon	7.91		7.91
Do	Do	Chesterfield	361N	Margueritta	.80		.80
Do	Do	Gabanintha	379N	(Mountain View)	73.17		73.17
Do	Do	Do	32N, etc.	Nannine Goldfields, Ltd.	354.54	26.15	406.49
Do	Do	Meekatharra	475N	Ingliston Consols Extended	.30		.30
Do	Do	Nannine	10N, etc.	Champion Reef (Nannine W.A.) G.M. Co., Ltd.	33.55		33.55
Do	Do	Do	16N, etc.	Mt. Hall, Royalist Consolidated and Nannine leases	127.60		127.60
Do	Do	Do	249N	Mt. Varahong G.M. and Exploration Co., Ltd.	6.30		6.30
				Total	589.96	40.36	656.12
Do	Day Dawn	Day Dawn	350D	Caledonian	.24		.24
Do	Do	Do	1D, etc.	Great Fingall Consolidated, Ltd.	35,329.90	26,627.52	82,302.02
				Total	35,330.14	26,627.52	82,302.26
Do	Mt. Magnet	Lennonville	103M, etc.	(Wheel of Fortune North leases)	458.82		458.82
Do	Do	Mt. Magnet	490M, etc.	Cushie Doo leases		3.05	3.05
Do	Do	Do	717M	Monarch	13.83		13.83
Do	Do	Do	314M, etc.	Morning Star Quartz Co., N.L.	158.57	151.76	447.42
Do	Do	Do		From Sundry parcels treated at— New Chum Cyanide Works		1.00	1.00
				Total	631.22	155.81	924.12
Yalgoo		Carlaminda	478, etc.	Murchison Reliance G.M., Ltd.		3.30	3.30
				Total		3.30	3.30
Mt. Margaret	Mt. Morgans	Mt. Margaret	66F	Mt. Morven	12.55		12.55
Do	Do	Mt. Morgans	126F, etc.	V's United leases	2.10		2.10
Do	Do	Do	5F, etc.	Westralia Mt. Morgans G.Ms. Co., Ltd.	4,475.60	1,021.74	5,552.63
Do	Do	Murrin Murrin	(959c), 200F	(Princess Alix)		20.00	20.00
Do	Do	Do	193F, etc.	Proprietary Extended leases		6.00	6.00
Do	Do	Do		From Sundry parcels treated at— Guest's Battery	50.22	33.81	84.03
				Total	4,540.47	1,075.55	5,677.31
Do	Mt. Malcolm	Leonora	190c, etc.	Sons of Gwalia, Ltd.	2,763.72	4,850.05	11,821.17
Do	Do	Mertondale	638c, etc.	Merton's Reward G.M. Co., Ltd.	77.00	385.28	877.83
Do	Do	Pig Wall	1089c	Gambier Lass		.80	.80
Do	Do	Do	969c	Harriston	37.28		37.28
Do	Do	Wilson's Patch	1116c, etc.	Lorna's Luck, Ltd.	1.05		1.05
Do	Do	Do		From Sundry parcels treated at— State Battery, Leonora	14.93	57.97	72.90
				Total	2,893.98	5,294.10	12,811.03
Do	Mt. Margaret	Burtville	1010T	Karridale	200.00		200.00
Do	Do	Do	943T, etc.	Mikado G.M. Co., Ltd.		8.30	8.30
Do	Do	Laverton	829T, etc.	Ida H. G.M. Co., Ltd.	614.23	878.46	2,433.48
Do	Do	Do	715T, etc.	Lancefield G.M. Co., Ltd.		430.81	649.93
				Total	814.23	1,317.57	3,291.71

TABLE V.—Return of Silver yielded by Gold Mines, as reported by the Mines Department, etc.—continued.

Goldfield.	District.	Mining Centre.	No. of Lease.	Registered Name of Company of Lease.	SILVER YIELD.			
					1904.	1905.	1906.	Total Silver Yield.
North Coolgardie	Menzies	Comet Vale	5217z	Gladstone				3.11
Do.	Do.	Do.	5162z	Irene	2.00	3.11		2.00
Do.	Do.	Menzies	4912z, etc.	Crown Cross leases	2.41			2.41
Do.	Do.	Do.	2823z, etc.	Crusoe Gold Claims, Ltd.			426.40	426.40
Do.	Do.	Do.	2821z, etc.	Florence G.M., Ltd.			4.01	4.01
Do.	Do.	Do.	4855z, etc.	(Goodenough leases)		25.71		25.71
Do.	Do.	Do.	2835z	(Lady Sherry leases)	3.11			3.11
Do.	Do.	Do.	5189z	Little Wonder	24.00			24.00
Do.	Do.	Do.	4931z, etc.	Menzies Consolidated G.Ms., Ltd.			78.67	78.67
Do.	Do.	Do.	2820z, etc.	Menzies Gold Mine leases			106.65	106.65
Do.	Do.	Do.	5140z	Menzies Proprietary		3.77		3.77
Do.	Do.	Do.	2836z, etc.	Queensland Menzies G.M. Co., N.L.	845.38	2,672.76	2,552.34	6,070.48
Do.	Do.	Do.	5068z	Victory North			3.80	3.80
Do.	Do.	Do.	3048z	Warrior		2.00	3.00	5.00
Do.	Do.	Mt. Ida	4525z, etc.	Mt. Ida Consols, Ltd.	23.74			23.74
Do.	Do.			From Sundry parcels treated at— Fremantle Smelter, Ltd.			19.13	19.13
				Total	900.64	2,707.35	3,194.00	6,801.99
Do.	Ularring	Davyhurst	438U	(Westralia Waihi G.Ms., N.L.)	58.90			58.90
Do.	Do.	Do.	438U, etc.	Westralia Waihi G.Ms., N.L.		2,151.05	2,032.30	4,183.35
Do.	Do.	Mulline	2U, etc.	Mulline leases		.78		.78
Do.	Do.	Mulwarrie	494U	Mulwarrie Main Reef	20.81			20.81
Do.	Do.	Do.	644U	Toleado.	3.80			3.80
Do.	Do.	Do.	738U	Ularring Westralia	1.69			1.69
				Total	85.20	2,151.83	2,032.30	4,269.33
Do.	Niagara	Kookynie	320G	(Champion Proprietary, Ltd.)	425.32			425.32
Do.	Do.	Do.	26G	Englishman: Cosmopolitan Proprietary, Ltd.	441.83	2,012.57	1,752.85	4,207.25
				Total	867.15	2,012.57	1,752.85	4,632.57
Do.	Yerilla	Edjudina	401R, etc.	Neta leases		34.58		34.58
Do.	Do.	Do.	715R	Never Can Tell	1.00			1.00
Do.	Do.	Do.	841R	Turn of the Tide			2.21	2.21
Do.	Do.	Yerilla	682R	(Melba Consols G.M. Co., N.L.)	8.54			8.54
Do.	Do.	Do.	752R	Viola		2.82		2.82
Do.	Do.			From Sundry parcels treated at— State Battery, Yarric			3.50	3.50
				Total	9.54	37.40	5.71	52.65
Broad Arrow		Bardoc	959w, etc.	(Slug Hill (Pride of the Hill) G.M. Co., Ltd.)	98.24			98.24
Do.		Broad Arrow	3w, etc.	Golden Arrow Mine, Ltd.	15.85			15.85
Do.		Paddington	53w, etc.	New Standard Exploration Co., Ltd.	18.96			18.96
Do.				From Sundry parcels treated at— Fremantle Smelter, Ltd.			7.09	7.09
				Total	133.05	..	7.09	140.1

N.E. Coolgardie	Kanowna	Gambier	946x	Gen	.07			.07
Do.	Do.	Kanowna	35x, etc.	Ballarat and Prince Oscar Co., Ltd.		116.31	64.96	181.27
Do.	Do.	Do.	1062x	Gentle Polly		13.00	103.00	121.00
Do.	Do.	Do.	52x, etc.	Lake View South G.M. (W.A.), Ltd.			24.33	24.33
Do.	Do.	Do.	3x, etc.	North White Feather G.Ms., Ltd.			159.19	159.19
Do.	Do.	Do.	12x, etc.	White Feather Main Reefs, Ltd.	737.03	938.65		1,675.68
Do.	Do.	Do.	9x, etc.	White Feather Reward, Ltd.		14.80		14.80
				Total	737.10	1,082.76	353.48	2,176.34
Do.	Bulong							
Do.	Kurnalpi	Kurnalpi	280k	Billy Billy		5.00		5.00
Do.	Do	Do	314k	Lady of the Lake			1.27	1.27
				Total		5.00	1.27	6.27
East Coolgardie		Boulder	38E, etc.	Associated G.Ms., of W.A., Ltd.	14,172.56	5,703.30	2,439.20	22,315.06
Do.		Do.	682E, etc.	Boulder Deep Levels, Ltd.	26.71			26.71
Do.		Do.	352E	(Chaffers G.M. Co., Ltd.)	161.50			161.50
Do.		Do.	351E, etc.	Golden Horseshoe Estates Co., Ltd.	13,287.68	24,661.90	28,564.74	66,514.32
Do.		Do.	873E	Great Boulder Main Reef, Ltd.	573.50	127.50	32.88	733.88
Do.		Do.	66E	Great Boulder Perseverance G.M. Co., Ltd.	19,230.96	20,862.16	10,812.68	50,905.80
Do.		Do.	16E, etc.	Great Boulder Proprietary G.Ms., Ltd.	11,789.50	23,153.63	17,092.00	52,035.13
Do.		Do.	15E, etc.	(Hannan's Star G.Ms., Ltd.)	1,435.74	706.85		2,142.59
Do.		Do.	15E, etc.	Hannan's Star, Ltd.			142.47	142.47
Do.		Do.	31E, etc.	Ivanhoe Gold Corporation, Ltd.	35,047.00	34,783.00	33,874.68	103,704.68
Do.		Do.	25E, etc.	Lake View Consols, Ltd.		3,630.56	5,236.92	8,867.48
Do.		Do.	33E, etc.	North Boulder G.Ms., Ltd.		.63		.63
Do.		Do.	281E, etc.	North Kalgurli Co., Ltd.	3,583.10	3,187.52	376.61	7,147.23
Do.		Do.	410E, etc.	Oroya Brownhill Co., Ltd.	15,458.09	10,656.43	15,544.00	41,658.52
Do.		Do.	1208E, etc.	South Kalgurli G.Ms., Ltd.	4,289.31	768.69	1,449.63	6,507.63
Do.		Kalgoorlie	1101E, etc.	A.W.A. United leases			8.57	8.57
Do.		Do.	552E, etc.	Brown Hill Consols leases			370.07	370.07
Do.		Do.	943E, etc.	(Hannan's Proprietary Development Co., Ltd.)	208.00			208.00
Do.		Do.	4001E, etc.	Hidden Secret leases	4,516.24	37,206.87	593.17	42,316.28
Do.		Do.	4037E, etc.	(North End G.Ms., Ltd.)		4.00		4.00
				<i>From Sundry parcels treated at—</i>				
				Venture Syndicate's Works			24.33	24.33
				Total	123,779.89	165,453.04	116,561.95	405,794.88
Coolgardie	Coolgardie	Burbanks	134, etc.	Burbanks Birthday G.Ms., Ltd.			15.78	15.78
Do.	Do.	Do.	4225	Gold Reef			80.73	80.73
Do.	Do.	Widgiemooltha	4105	Clarendon	.17			.17
				<i>From Sundry parcels treated at—</i>				
Do.	Do.			Fremantle Smelter, Ltd.			108.89	108.89
				Total	.17		205.40	205.57
Do.	Kunanaling	Balgarrrie	565s	Zuleiku	1.38			1.38
Do.	Do.	25-Mile	79s	Premier G.M. Co., N.L.	6.50		12.34	18.84
				Total	7.88		12.34	20.22
Yilgarn		Greenmount	503, etc.	Greenmount Mines, N.L.		40.17	25.90	66.07
Do.		Do.	536	Transvaal	304.08		54.00	358.08
Do.		Kennyville	582	Yilgarn Perseverance	.09			.09
Do.		Mt. Jackson	212, etc.	(Mt. Jackson G.Ms., Ltd.)	998.00	997.50	50.00	2,045.50
Do.		Southern Cross	613	Lord Cardigan	.06			.06
				<i>From Sundry parcels treated at—</i>				
Do.				Fremantle Smelter, Ltd.			11.46	11.46
				Total	1,302.23	1,037.67	141.36	2,481.26

TABLE V.—Return of Silver yielded by Gold Mines, as reported by the Mines Department, etc.—continued.

Goldfield.	District.	Mining Centre.	No. of Lease.	Registered Name of Company or Lease.	SILVER YIELD.			
					1904.	1905.	1906.	Total Silver Yield.
Dundas		Norseman	882	Ajax	fine ozs. 3.90	fine ozs.	fine ozs.	fine ozs. 3.90
Do.		Do.	757	(Lady Jean leases)	17.66			17.66
Do.		Do.	864, etc.	Lady Mary G.M. Co., N.L.	10.00			10.00
Do.		Do.	18, etc.	Norseman G.Ms., Ltd.	33.42	18.20		51.62
Do.		Do.	106, etc.	Princess Royal G.M. Co., N.L.	2,690.75	3,397.63	2,010.13	8,098.51
Do.		Do.	853, etc.	Valkyrie leases	18.40			18.40
				<i>From Sundry parcels treated at—</i>				
				Mararoa Crushing and Cyanide Works	38.75			38.75
				Middleton's Cyanide Works	266.00	141.70		407.70
				State Battery, Norseman	84.00	11.02	104.45	199.47
				Total	3,162.88	3,568.55	2,114.58	8,846.01
Phillips River		Kundip	M.Ls. 52, 94	(Harbour View leases)		*61.41		61.41
Do.		Do.	M.L. 179	(Mosaic)	*1,100.35	*347.16		1,447.51
Do.		Do.	M.L. 237	Mosaic			*69.94	69.94
Do.		Do.	M.L. 180	Mt. Pleasant	*9.79			9.79
Do.		Do.	M.Ls. 52, 94	Ravensthorpe G.M. Syndicate, N.L.		*34.41	*130.57	164.98
Do.		Do.	M.L. 60	Red, White, and Blue		*107.29		107.29
Do.		Ravensthorpe		Sundry Claims		*4.15		4.15
				Total	1,110.14	554.42	200.51	1,865.07
Donnybrook								
State generally				<i>From Sundry parcels treated at—</i>				
				Fremantle Smelter, Ltd.			361.72	361.72
				Total			361.72	361.72

* From Copper ore.

TABLE VI.

Return of Gold Bullion received at the Perth Branch of the ROYAL MINT from May, 1899, to the 31st December, 1906, showing in gross ounces the Quantity obtained from the respective Goldfields and other Countries, and the Actual Value thereof.

Year.	Kimberley.	Pilbara.	West Pilbara.	Ashburton.	Gascoyne.	Peak Hill.	East Murchison.	Murchison.	Yalgoo.	Mt. Margaret.	North Coolgardie.	Broad Arrow.	North-East Coolgardie.
1899 ...	308'45	529'80	...	281'80	85'65	16,274'00	3,758'07	24,675'64	5,190'05	16,911'54	44,779'38	8,503'50	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	135,498'31	18,829'13	43,055'63
1902 ...	439'93	10,706'03	3,284'37	...	124'86	32,637'17	62,357'98	47,628'18	5,116'94	144,663'12	182,543'06	15,903'42	53,901'58
1903 ...	511'75	14,217'53	6,481'58	135'30	36'29	34,684'27	77,089'29	64,127'18	1,687'99	148,006'49	197,229'08	21,528'20	42,649'25
1904 ...	37'69	8,293'58	5,170'06	150'73	13'10	20,909'99	77,237'31	63,037'71	3,345'82	143,453'51	166,939'82	24,721'53	39,799'55
1905 ...	656'34	16,053'42	1,400'46	50'54	25'65	16,075'36	107,295'17	111,493'34	5,469'06	184,178'87	175,057'14	18,394'17	48,352'22
1906 ...	785'23	6,007'79	915'63	168'30	95'43	2,471'21	115,363'22	133,264'79	5,919'37	166,097'63	130,784'60	20,415'48	37,509'91
Total ...	4,046'78	74,581'96	17,783'81	1,316'35	485'64	162,422'75	519,897'66	535,791'61	44,771'76	997,763'52	1,121,514'53	142,671'48	322,472'16

Year.	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 ...	33,051'33	27,611'24	9,070'70	473'63	...	196'17	904'39	209,306'24	762,546 11 6	103'46	336 18 3	209,409'70	762,883 9 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	860,230'69	3,033,311 0 4	92'25	297 5 8	860,372'94	3,033,608 6 0		
1902 ...	636,536'52	94,134'17	25,873'68	31,088'91	5,146'80	67'08	2,461'98	1,354,615'78	4,791,303 18 1	16'27	38 10 2	1,354,632'05	4,791,342 8 3		
1903 ...	685,289'82	82,218'79	26,856'28	40,006'39	6,420'79	97'52	3,350'32	1,452,624'11	5,139,852 11 9	294'78	703 14 10	1,452,918'89	5,140,556 6 7		
1904 ...	699,475'35	73,076'66	35,854'87	37,508'11	2,450'03	...	1,608'47	1,403,063'89	4,955,870 9 0	263'05	614 11 9	1,403,346'94	4,956,485 0 9		
1905 ...	737,065'14	74,615'36	30,404'65	32,953'56	1,753'32	...	1,821'99	1,563,115'76	5,475,841 2 10	525'80	1,491 0 7	1,563,641'56	5,477,332 3 5		
1906 ...	742,525'99	73,307'24	30,996'76	24,484'65	1,744'38	...	925'10	1,493,782'66	5,330,245 12 1	413'86	974 16 0	1,494,196'52	5,331,220 8 1		
Total	3,937,304'50	554,596'79	217,139'29	230,924'20	17,515'32	630'96	14,360'97	8,917,992'04	31,585,183 19 9	1,726'96	4,501 12 10	8,919,719'00	31,589,685 12 7		

* Prior to 1902 included in Goldfields generally.

VII.

the ROYAL MINT, from 1st January, 1886, to 31st December, 1906, showing in respective Goldfields, and the Total Annual Value.

Year.	b GASCOYNE.			c PEAK HILL.			c EAST MURCHISON.			MURCHISON.		
	Export.	Mint.	Total.	Export.	Mint.	Total.	Export.	Mint.	Total.	Export.	Mint.	Total.
	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.
1886
1887
1888
1889
1890
1891
1892
1893	1,846'83	1,846'83
1894	21,789'19	21,789'19
1895	18,974'77	18,974'77
1896	47,365'54	47,365'54
1897	58,575'66	58,575'66
1898	4,571'38	...	4,571'38	8,457'34	...	8,457'34	...	63,769'17	63,769'17
1899	12,288'93	...	12,288'93	35,393'19	...	35,393'19	...	74,154'67	74,154'67
1900	297'96	76'63	374'59	14,064'24	14,558'64	28,622'88	33,826'08	3,361'95	37,188'03	61,556'09	22,074'71	83,794'22
1901	...	77'02	77'02	9,528'14	16,119'79	25,647'93	23,545'54	28,671'55	52,217'09	53,815'70	45,423'77	97,239'47
1902	6'59	16'82	23'41	231'85	19,352'44	19,584'29	29,780'63	40,557'07	70,337'70	92,149'56	38,986'10	131,145'66
1903	...	107'29	107'29	85'93	28,044'55	28,130'48	25,450'63	53,583'10	79,033'73	141,731'91	40,926'03	182,657'99
1904	...	30'76	30'76	203'60	29,995'32	29,598'92	21,878'06	65,334'05	87,212'11	154,012'88	54,348'53	208,361'41
1905	...	10'95	10'95	...	17,475'33	17,475'33	21,296'85	64,550'36	85,847'21	165,232'67	52,683'16	217,915'83
1906	...	21'34	21'34	125'01	13,371'75	13,496'76	1,361'68	89,249'93	90,611'61	131,656'36	92,742'05	224,398'41
Total	304'55	340'81	645'36	41,099'08	138,317'82	179,416'90	200,990'00	345,308'01	546,298'01	1,170,455'22	345,194'40	1,515,649'62
1906	...	78'73	78'73	...	2,038'62	2,038'62	140'68	95,168'89	95,309'57	79,172'69	109,936'80	189,109'49
Total	304'55	419'54	724'09	41,099'08	140,356'44	181,455'52	201,130'68	440,476'90	641,607'58	1,249,627'91	455,131'20	1,704,759'11

Year.	e NORTH-EAST COOLGARDIE.			e EAST COOLGARDIE.			g COOLGARDIE.			YILGARN.		
	Export.	Mint.	Total.	Export.	Mint.	Total.	Export.	Mint.	Total.	Export.	Mint.	Total.
	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.
1886	...	...	...	...	...	...	...	...	...	...	...	...
1887	...	...	...	...	...	...	...	...	...	...	...	...
1888	...	...	...	...	...	...	...	...	...	...	...	...
1889	...	...	...	...	...	...	...	...	...	...	...	...
1890	...	...	...	...	...	...	...	...	...	...	...	...
1891	...	...	...	...	...	...	...	...	...	...	...	...
1892	...	...	...	...	...	...	...	...	...	...	...	...
1893	...	...	...	...	...	...	...	...	...	...	...	...
1894	...	...	...	...	...	...	...	...	...	...	1,662'61	1,662'61
1895	...	...	...	...	...	...	...	...	...	...	2,036'99	2,036'99
1896	3,679'63	...	3,679'63	76,297'42	...	76,297'42	61,848'03	...	61,848'03	...	11,480'61	11,480'61
1897	29,437'40	...	29,437'40	268,411'95	...	268,411'95	93,312'00	...	93,312'00	...	18,973'91	18,973'91
1898	112,039'58	...	112,039'58	402,847'31	...	402,847'31	113,816'75	...	113,816'75	...	67,760'73	67,760'73
1899	57,674'62	14,940'55	72,615'37	796,696'63	29,567'58	826,264'21	101,539'22	24,700'89	126,290'11	6,919'11	28,178'81	28,178'81
1900	10,400'57	36,233'90	46,634'47	600,328'29	125,105'24	725,433'53	60,988'33	46,167'62	107,155'95	6,884'47	15,033'71	15,033'71
1901	6,798'56	39,024'18	45,822'74	693,042'56	238,840'93	936,883'49	9,584'35	70,720'21	80,304'56	49'15	26,677'85	26,677'85
1902	549'07	46,316'67	46,865'74	460,462'26	546,964'68	1,007,426'94	2,872'61	80,887'85	83,760'46	3'81	22,232'80	22,232'80
1903	4,308'99	36,145'75	40,454'74	570,447'27	580,790'97	1,151,238'24	7,318'63	69,631'38	77,000'01	...	22,761'00	22,761'00
1904	55'09	33,262'10	33,317'19	555,016'48	584,579'88	1,139,596'36	1,100'07	61,073'11	62,173'18	28'87	29,965'37	29,965'37
1905	2,187'11	40,220'19	42,407'30	479,254'37	613,103'20	1,092,357'57	177'80	62,066'34	62,244'14	...	25,291'11	25,291'11
Total	227,130'82	246,143'34	473,274'16	4,907,804'54	2,718,952'43	7,626,757'02	658,754'58	415,297'40	1,074,051'98	196,828'65	160,671'56	357,500'21
1906	1,590'31	30,943'82	32,534'13	454,645'84	612,546'81	1,067,192'65	103'78	60,474'81	60,578'59	...	25,570'77	25,570'77
Total	228,721'13	277,087'16	505,808'29	5,362,450'38	3,331,499'29	8,693,949'67	658,858'36	475,772'21	1,134,630'57	196,828'65	186,242'33	383,070'98

Year.	GRAND TOTAL.					
	Export.		Mint.		Total.	Value.
	fine ozs.		fine ozs.			
1886	270'17	...	270'17	...	270'17	£ 1,147 12 2½
1887	4,359'37	...	4,359'37	...	4,359'37	18,517 8 6½
1888	3,124'82	...	3,124'82	...	3,124'82	13,273 7 10
1889	13,859'52	...	13,859'52	...	13,859'52	58,871 9 11½
1890	20,402'42	...	20,402'42	...	20,402'42	86,663 19 5½
1891	27,116'14	...	27,116'14	...	27,116'14	115,182 0 10
1892	53,271'65	...	53,271'65	...	53,271'65	226,283 11 8½
1893	99,202'50	...	99,202'50	...	99,202'50	421,395 8 8½
1894	185,298'73	...	185,298'73	...	185,298'73	879,748 4 2½
1895	207,110'20	...	207,110'20	...	207,110'20	787,098 19 6
1896	251,618'69	...	251,618'69	...	251,618'69	1,068,808 5 2
1897	603,846'44	...	603,846'44	...	603,846'44	2,564,976 12 9½
1898	939,489'49	...	939,489'49	...	939,489'49	3,990,697 13 10
1899	1,283,380'25	187,244'41	1,470,624'66	...	1,470,624'66	6,246,731 10 7½
1900	894,387'27	519,923'59	1,414,310'86	...	1,414,310'86	6,007,610 13 4½
1901	923,686'96	779,729'56	1,703,416'52	...	1,703,416'52	7,235,653 9 1
1902	707,039'75	1,163,997'60	1,871,037'35	...	1,871,037'35	7,947,661 9 7½
1903	833,685'78	1,231,115'62	2,064,801'40	...	2,064,801'40	8,770,718 17 0½
1904	810,616'04	1,173,614'03	1,983,230'07	...	1,983,230'07	8,424,225 17 3½
1905	655,089'88	1,300,226'00	1,955,315'88	...	1,955,315'88	8,305,653 18 5½
Total	8,516,836'07	6,354,850'81	14,871,686'88	...	14,871,686'88	63,170,910 10 2½
1906	562,250'59	1,232,296'01	1,794,546'60	...	1,794,546'60	7,622,749 8 7
TOTAL	9,079,086'66	7,587,146'82	16,666,233'48	...	16,666,233'48	70,793,659 18 9½

b. Prior to March, 1899, included with Ashburton. c. From 1st August, 1897.
 a. Prior to 1st May, 1896, included with Coolgardie. g. Declared 5th April, 1894, to which date included with Yilgarn.

TABLE VIII.

COMPARATIVE RETURN OF GOLD BULLION ENTERED FOR EXPORT AND RECEIVED AT THE PERTH BRANCH OF THE ROYAL MINT, FROM 1ST JANUARY, 1904, TO 31ST DECEMBER, 1906, SHOWING IN FINE OUNCES THE QUANTITY RECORDED EACH MONTH, AND ITS VALUE.

MONTHS AND QUARTERS.	1904.				1905.				1906.			
	Export.	Mint.	Total.	Value.	Export.	Mint.	Total.	Value.	Export.	Mint.	Total.	Value.
JANUARY	fine ozs. 77,217·72	fine ozs. 99,435·55	fine ozs. 176,653·27	£ s. d. 750,375 7 10½	fine ozs. 67,945·50	fine ozs. 97,506·90	fine ozs. 165,452·40	£ s. d. 702,797 2 5½	fine ozs. 40,909·09	fine ozs. 113,455·95	fine ozs. 154,365·04	£ s. d. 655,701 0 2½
FEBRUARY	69,738·89	92,662·78	162,401·67	689,838 8 11	57,212·61	96,820·25	154,032·86	654,290 0 0	49,456·20	92,970·40	142,426·60	604,989 14 10
MARCH	44,191·93	92,642·68	136,834·61	581,236 9 6½	52,275·84	108,641·80	160,917·64	683,534 13 8½	59,373·43	96,201·19	155,574·62	660,838 19 7½
<i>1st January to 31st March...</i>	191,148·54	284,741·01	475,889·55	2,021,450 6 4½	177,433·95	302,968·95	480,402·90	2,040,621 16 2½	149,738·72	302,627·54	452,366·26	1,921,529 14 8
APRIL	88,396·06	92,603·28	180,999·34	768,836 6 6½	64,553·14	107,583·01	172,136·15	731,187 17 9½	47,759·22	104,457·26	152,216·48	646,574 10 2
MAY	58,680·69	101,599·36	160,280·05	680,826 7 6½	47,413·38	110,271·90	157,685·28	669,804 9 10½	47,621·59	109,399·52	157,021·11	666,983 5 7
JUNE	70,173·95	97,272·36	167,446·31	711,266 14 3½	48,850·54	106,299·29	155,149·83	659,034 11 9	39,893·26	103,366·30	143,259·56	608,527 18 7½
<i>1st January to 30th June ...</i>	408,399·24	576,216·01	984,615·25	4,182,379 14 8½	338,251·01	627,123·15	965,374·16	4,100,648 15 7½	285,012·79	619,850·62	904,863·41	3,843,615 9 0½
JULY	69,317·58	91,400·76	160,718·34	682,688 2 3½	57,415·76	108,585·09	166,000·85	705,126 15 9½	43,764·18	106,098·07	149,862·25	636,574 7 6
AUGUST	71,063·11	97,369·28	168,432·39	715,455 6 3½	55,370·49	119,310·65	174,681·14	741,998 6 4½	64,657·27	92,253·07	156,910·34	666,512 15 2
SEPTEMBER	67,058·42	98,793·28	165,851·70	704,493 4 10	52,589·55	110,707·86	163,297·41	693,643 6 1½	50,893·24	83,127·13	134,020·37	569,282 6 11½
<i>1st January to 30th September</i>	615,838·35	863,779·33	1,479,617·68	6,285,016 8 2	503,626·81	965,726·75	1,469,353·56	6,241,417 3 11½	444,327·48	901,328·89	1,345,656·37	5,715,984 18 7½
OCTOBER	76,517·54	98,090·10	174,607·64	741,686 2 2½	47,313·32	113,309·36	160,622·68	682,281 15 6½	45,208·56	111,326·85	156,535·41	664,920 3 1½
NOVEMBER	60,005·52	103,927·46	163,932·98	696,343 0 9	57,745·00	105,503·80	163,248·80	693,436 16 6	36,244·52	109,913·58	146,158·10	620,840 2 11
DECEMBER	58,254·63	106,817·14	165,071·77	701,180 6 2½	46,404·75	115,686·09	162,090·84	688,518 2 5½	36,470·03	109,726·69	146,196·72	621,004 3 10½
Total	810,616·04	1,172,614·03	1,983,230·07	8,424,225 17 3½	655,089·88	1,300,226·00	1,955,315·88	8,305,653 18 5½	562,250·59	1,232,296·01	1,794,546·60	7,622,749 8 7

TABLE IX.

Monthly Return of GOLD BULLION and GOLD ORES entered for EXPORT during 1906.

MONTH.	NEW SOUTH WALES.		VICTORIA.		SOUTH AUSTRALIA.		UNITED KINGDOM.		OTHER COUNTRIES.		TOTALS OF BULLION AND ORE.			Minted Gold Exported.*
	Bullion.	Ore.	Bullion.	Ore.	Bullion.	Ore.	Bullion.	Ore.	Bullion.	Ore.	Bullion.	Ore.	Total.	
1906.	Fine ozs.	Estimated fine ozs.	Fine ozs.	Estimated fine ozs.	Fine ozs.	Estimated fine ozs.	Fine ozs.	Estimated fine ozs.	Fine ozs.	Estimated fine ozs.	Fine ozs.	Estimated fine ozs.	Fine ozs.	Fine ozs.
January	1,154·03	...	...	2·35	39,319·77	432·94	...	...	40,473·80	435·29	40,909·09	18,980·67
February	47·08	1,033·96	...	...	...	48,283·04	92·12	...	...	49,317·00	139·20	49,456·20	11,857·89
March	796·90	...	...	...	58,576·53	...	...	...	59,373·43	...	59,373·43	13,042·03
April	47·08	1,851·11	...	...	...	45,844·55	...	...	1† 16·48	47,695·66	63·56	47,759·22	4,745·24
May	141·25	1,265·38	...	...	...	46,206·48	8·48	...	...	47,471·86	149·73	47,621·59	14,224·21
June	840·45	...	...	...	38,996·31	...	...	1† 56·50	39,836·76	56·50	39,893·26	{ 2† 82·87 7,117·16
July	1,439·78	...	...	...	42,322·14	...	...	1† 2·26	43,761·92	2·26	43,764·18	4,735·68
August	1,306·71	...	...	...	63,347·26	...	...	1† 3·30	64,653·97	3·30	64,657·27	18,358·10
September	739·69	...	...	...	50,151·13	2·42	...	...	50,890·82	2·42	50,893·24	9,482·56
October	1,608·36	...	...	...	43,597·68	...	...	1† 2·02	45,206·54	2·02	45,208·56	11,852·01
November	1,883·36	...	...	...	34,361·16	...	...	...	36,244·52	...	36,244·52	11,866·61
December	1,781·64	...	...	...	34,517·71	...	1† 170·68	...	36,470·03	...	36,470·03	5,916·01
TOTALS	235·41	15,701·87	...	...	2·35	545,523·76	535·96	170·68	80·56	561,396·31	854·28	562,250·59	132,261·04

1† To Germany. 2† To United Kingdom. All the other amounts in this column were fine bars of minted gold exported to India.
* When considering the total production for the State, these amounts must be disregarded, having already been recorded in the total receipts of gold at the Mint.

PART II.—MINERALS OTHER THAN GOLD.

TABLE X.

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 and Mineral Fields, during 1906 and previous years.

Period.	BLACK TIN.											
	GREENBUSHES MF.				MARBLE BAR D.				TOTAL.			
	Quantity.			Value.	Quantity.			Value.	Quantity.			Value.
	Lode.	Stream.	Total.		Lode.	Stream.	Total.		Lode.	Stream.	Total.	
Previous to 1899 ...	tons.	tons.	tons.	£	tons.	tons.	tons.	£	tons.	tons.	tons.	£
1899 ...	...	...	1,590·33	66,108	...	...	75·45	4,419	...	...	1,665·78	70,527
1899 ...	...	...	277·32	21,658	...	...	57·50	3,612	...	...	334·82	25,270
1900 ...	...	...	435·62	29,528	...	...	387·87	27,174	...	...	823·49	56,702
1901 ...	...	...	321·34	18,852	...	...	412·98	21,148	...	...	734·32	40,000
1902 ...	...	...	403·21	24,680	...	...	216·35	15,103	...	...	619·56	39,783
1903 ...	...	...	524·94	34,362	...	...	292·11	21,528	...	...	817·05	55,890
1904 ...	...	...	533·64	34,462	...	...	320·86	24,353	...	...	854·50	58,817
1905 ...	...	...	643·52	52,960	...	...	435·74	33,880	...	...	1,079·26	86,840
1906 ...	26·18	757·10	783·28	79,195	36·59	675·06	711·65	78,449	62·77	1,432·16	1,494·93	157,644
Total ...	26·18	757·10	5,513·20	361,805	36·59	675·06	2,910·51	229,668	62·77	1,432·16	8,423·71	591,473

Period.	TANTALITE.											
	GREENBUSHES MF.				MARBLE BAR D.				TOTAL.			
	Quantity.			Value.	Quantity.			Value.	Quantity.			Value.
	Lode.	Stream.	Total.		Lode.	Stream.	Total.		Lode.	Stream.	Total.	
Previous to 1899 ...	tons.	tons.	tons.	£	tons.	tons.	tons.	£	tons.	tons.	tons.	£
1899
1900
1901
1902
1903
1904
1905	2·34	1,590	...	...	70·95	8,925	...	...	73·29	10,515
1906	1·80	12·85	14·65	2,644	1·80	12·85	14·65	2,644
Total	2·34	1,590	1·80	12·85	85·60	11,569	1·80	12·85	87·94	13,159

Period.	COPPER ORE.									
	Day Dawn D.		Menzies.		Mt. Morgans D.		Nannine D.		Northampton Mf.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Previous to 1899 ...	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£
1899
1900	273·00	4,338	...	...	136·00	2,122
1900	5·15	91	...	...	4,539·00	30,718	...	...
1901	10·50	76	...	...	7,660·00	40,738	...	...
1902	1,954·00	6,852	...	...
1903	18,965·00	45,557	...	...
1904	500·00	900	...	...
1905	60·00	674	...	...
1906	4·70	33	4,361·05	21,934	133·50	2,816
Total	15·65	167	4·70	33	38,312·05	151,711	133·50	2,816
									174·50	2,399

MINERALS OTHER THAN GOLD, ETC.—continued.

Copper Ore—continued.

Period.	Phillips River Gf.		West Pilbara Gf.		Yalgoo Goldfield.		State Generally.		Total.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Previous to 1899 ...	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£
1899 ...	...	...	7,018·00	55,270	...	...	...	...	7,018·00	55,270
1900 ...	...	...	2,555·00	29,478	...	...	...	...	2,964·00	35,938
1901 ...	34·00	725	1,605·00	12,139	...	...	...	...	6,183·15	43,673
1902 ...	1,089·14	12,918	1,162·00	15,891	...	...	...	...	9,960·14	69,900
1903 ...	308·25	1,238	...	...	...	...	...	...	2,262·25	8,090
1904 ...	1,561·33	10,984	...	...	...	...	...	...	20,526·33	56,541
1905 ...	3,468·89	24,280	...	...	...	...	...	...	3,968·89	25,180
1906 ...	2,329·04	15,592	...	...	...	...	...	...	2,389·04	16,266
1906 ...	2,885·00	25,270	...	...	31·91	91	13·50	193	7,429·66	50,337
Total ...	11,675·65	91,007	12,340·00	112,778	31·91	91	13·50	193	62,701·46	361,195

Period.	IRONSTONE.						LEAD ORE.		SILVER LEAD ORE.		COAL.	
	West Pilbara Gf.		State generally.		Total.		Northampton Mf.		Ashburton Gf.		Collie River Coal Mf.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Previous to 1899 ...	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£
1899 ...	100·00	300	...	...	100·00	300	...	...	...	...	3,508·00	1,761
1900 ...	...	...	12,852·00	8,939	12,852·00	8,939	82·75	912	...	...	54,336·00	25,951
1901 ...	...	...	12,251·00	9,258	12,251·00	9,258	268·00	533	...	...	118,410·10	54,835
1902 ...	...	...	20,569·00	13,246	20,569·00	13,246	...	...	21·05	152	117,835·80	68,561
1903 ...	...	...	4,800·60	2,040	4,800·00	2,040	...	...	35·85	277	140,883·90	86,188
1904 ...	...	...	220·00	88	220·00	88	...	...	...	...	133,426·62	69,128
1905 ...	...	...	1,441·50	577	1,441·50	577	...	...	...	...	138,550·04	67,174
1906 ...	...	...	3,212·60	1,285	3,212·60	1,285	...	...	...	...	127,364·06	55,312
1906 ...	...	...	1,279·87	512	1,279·87	512	...	...	...	...	149,755·27	57,998
Total ...	100·00	300	56,625·97	35,945	56,725·97	36,245	350·75	1,445	56·90	429	984,069·79	486,908

Period.	LIMESTONE.						DIAMONDS.	
	Yilgarn Gf.		State generally.		Total.		Nullagine D.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Previous to 1899 ...	tons.	£	tons.	£	tons.	£	carats.	£
1899 ...	...	...	...	...	...	...	...	...
1900 ...	...	...	17,593·00	2,838	17,593·00	2,838	*	24
1901 ...	269·85	273	15,657·00	3,321	15,926·85	3,594	...	...
1902 ...	1,642·00	919	16,568·00	3,429	18,210·00	4,348	...	...
1903 ...	535·00	340	4,545·35	1,000	5,080·35	1,340	...	...
1904 ...	102·00	75	1,177·50	103	1,279·50	178	...	...
1905 ...	...	...	13,397·20	1,699	13,397·20	1,699	...	...
1906 ...	...	...	9,144·60	1,220	9,144·60	1,220	...	...
1906 ...	...	...	9,472·28	1,691	9,472·28	1,691	...	...
Total ...	2,548·85	1,607	87,554·93	15,301	90,103·78	16,908	...	24

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, the latest available returns of which are to be found in Table XX., pages 310-13 of the Annual Mining Statistics of the Department of Mines for the year 1906. * Weight unknown.

TABLE XI.

Quantity and Value of BLACK TIN reported to the Mines Department during 1906, and the Total Output to date.

GOLDFIELD, DISTRICT OR MINERAL FIELD.	LOCALITY.	NUMBER OF LEASE OR CLAIM.	REGISTERED NAME OF COMPANY, MINE, OR HOLDER.	1906.				TOTAL TO DATE.			
				Quantity.			Value.	Quantity.			Value.
				Lode.	Stream.	Total.		Lode.	Stream.	Total.	
Greenbushes Mf.	Greenbushes	35	(Horan's) ...	tons.	tons.	tons.	£	tons.	tons.	tons.	£
Do.	do.	35, 169, 195, 218, 221, 228, 272, 287, 293, 295, 299, 310, 375	(Westralian Stannaries, Ltd.)	...	30.63	30.63	2,965	...	188.35	188.35	11,605
Do.	do.	35, 169, 195, 218, 221, 228, 272, 287, 293, 295, 299, 310, 331, 375	Greenbushes Development Co., Ltd.	...	7.29	7.29	792	...	7.29	7.29	792
Do.	do.	73	(Nelson) ...	...	...	...	...	...	22.40	22.40	1,675
Do.	do.	73, 233	(Nelson leases) ...	...	6.17	6.17	534	...	61.01	61.01	4,164
Do.	do.	73, 233, 271	King Tin leases ...	...	2.25	2.25	255	...	2.25	2.25	255
Do.	do.	147	Haphazard ...	0.8	0.56	0.64	64	0.8	8.34	8.42	532
Do.	do.	169	(Horan's No. 1 North)	...	...	...	...	...	9.50	9.50	684
Do.	do.	208	(W.A. Mt. Bischoff)	...	...	...	...	...	5.38	5.38	342
Do.	do.	244	Mount Pleasant ...	...	7.85	7.85	800	...	44.30	44.30	3,795
Do.	do.	271	(Pioneer) ...	...	...	...	...	...	1.84	1.84	117
Do.	do.	296	Central ...	...	57.01	57.01	6,155	...	100.16	100.16	9,728
Do.	do.	300 (315)	South Cornwall leases	4.25	...	4.25	442	4.25	14.84	19.09	1,513
Do.	do.	331	(Lady Esther) ...	...	...	...	...	...	10.00	10.00	744
Do.	do.	337, 706c	Gladstone ...	...	8.08	8.08	821	...	32.21	32.21	2,733
Do.	do.	356	Cornwall ...	5.38	...	5.38	616	5.38	13.63	19.01	1,653
Do.	do.	357	(Greenbushes Sluicing Co., Ltd.)	...	4.00	4.00	408	...	25.33	25.33	2,234
Do.	do.	357	Consolidated Tin Sluicing and Mining Co., N.L.	...	36.40	6.40	3,394	...	36.40	36.40	3,394
Do.	do.	361	Boronia ...	...	6.37	6.37	638	...	11.42	11.42	1,044
Do.	do.	369	Enterprise ...	...	2.50	2.50	177	...	2.50	2.50	177
Do.	do.	374	Lost and Found ...	5.55	1.0	5.65	632	5.55	0.85	6.40	702
Do.	do.	375	(Glasgow) ...	0.93	0.46	1.39	136	0.93	0.61	1.54	150
Do.	do.	382	Dreamland ...	0.85	0.40	1.25	131	0.85	1.72	2.57	270
Do.	do.	(383)	(Great Wonder) ...	...	0.15	0.15	12	...	0.15	0.15	12
Do.	do.	387	Stanhope ...	...	6.53	6.53	704	...	6.53	6.53	704
Do.	do.	388	Dixie ...	1.92	0.20	2.12	247	1.92	0.72	2.64	289
Do.	do.	389	Esperance Hill ...	0.15	...	0.15	15	0.15	...	0.15	15
Do.	do.	393	Lost and Found North	0.73	...	0.73	85	0.73	...	0.73	85
Do.	do.	394	North Junction ...	0.10	0.05	0.15	17	0.10	0.05	0.15	17
Do.	do.	400	Old Sport ...	0.55	0.05	0.60	60	0.55	0.05	0.60	60
Do.	do.	401	Nil Desperandum ...	0.98	...	0.98	104	0.98	...	0.98	104
Do.	do.	410	Tairua ...	1.49	...	1.49	165	1.49	...	1.49	165
Do.	do.	422	Cornwall Extended	0.25	...	0.25	25	0.25	...	0.25	25
Do.	do.	Locs. 289, 290	Freehold ground (Clarth and others)	...	108.75	108.75	11,080	...	220.61	220.61	20,235
Do.	do.	...	Voided leases ...	...	...	...	...	...	151.64	151.64	9,623
Do.	do.	...	Sundry claims	2.97	471.30	474.27	47,721	2.97	4,397.61	4,400.58	273,997
			Total	26.18	757.10	783.28	79,195	26.18	5,487.02	5,513.20	361,805
Marble Bar D.	Cooglegong	...	Sundry claims ...	...	147.09	147.09	16,284	...	907.44	907.44	68,463
Do.	Mills Find ...	...	Sundry claims ...	...	0.85	0.85	69	...	0.85	0.85	69
Do.	Moolyella ...	...	Voided leases ...	...	...	...	...	...	330.53	330.53	21,340
Do.	do.	...	Sundry claims ...	...	518.92	518.92	57,133	...	1,374.66	1,374.66	117,422
Do.	Old Shaw ...	...	Voided leases ...	...	...	...	...	...	6.75	6.75	424
Do.	do.	...	Sundry claims ...	...	...	...	...	...	214.04	214.04	14,525
Do.	Wodgina ...	77	Stanum ...	...	1.75	1.75	206	...	6.10	6.10	461
Do.	do.	84	Mount Cassiterite	23.42	...	23.42	2,678	23.42	13.85	37.27	3,810
Do.	do.	85	Commonwealth ...	2.95	...	2.95	348	2.95	...	2.95	348
Do.	do.	88	Chamberlain ...	0.35	...	0.35	60	0.35	...	0.35	60
Do.	do.	89	Tinstone ...	3.60	...	3.60	360	3.60	...	3.60	360
Do.	do.	93	Mount Cassiterite North	6.12	...	6.12	643	6.12	...	6.12	643
Do.	do.	...	Sundry claims ...	0.15	6.45	6.60	668	0.15	19.70	19.85	1,743
			Total	36.59	675.06	711.65	78,449	36.59	2,873.92	2,910.51	229,668
			Grand Total	62.77	1,432.16	1,494.93	157,644	62.77	8,360.94	8,423.71	591,473

† Revised.

TABLE XII.

Quantity and Value of TANTALITE reported to the Mines Department during 1906, and the Total Output to date.

GOLDFIELD, DISTRICT, OR MINERAL FIELD.	LOCALITY.	NUMBER OF LEASE OR CLAIM.	REGISTERED NAME OF COMPANY, MINE OR HOLDER.	1906.				TOTAL TO DATE.			
				Quantity.			Value.	Quantity.			Value.
				Lode.	Stream.	Total.		Lode.	Stream.	Total.	
Greenbushes M. F.	Greenbushes	369	Enterprise ...	tons. ...	tons. ...	tons. ...	£ ...	tons. ...	tons. 2·34	tons. 2·34	£ 1,590
Marble Bar D.	Wodgina ...	86, 87	H.M. and Anchorite	1·80	6·30	8·10	2,020	1·80	32·30	34·10	5,445
Do. ...	do. ...	...	Sundry Claims ...	...	5·65	5·65	530	...	50·60	50·60	6,030
Do. ...	do. ...	...	From District generally	...	·90	·90	94	...	·90	·90	94
			Total ...	1·80	12·85	14·65	2,644	1·80	86·14	87·94	13,159

TABLE XIV.

Quantity and Value of IRONSTONE reported to the Mines Department during 1906, and the Total Output to date.

GOLDFIELD, DISTRICT, OR MINERAL FIELD.	LOCALITY.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR MINE.	1906.		TOTAL TO DATE.		REMARKS.
				Quantity.	Value.	Quantity.	Value.	
West Pilbara Gf.	Whim Creek	...	Voided leases ...	tons.	£	tons.	£	
East Coolgardie Gf.	Boulder	...	Voided leases ...	...	...	100'00	300	
						450'00	247	
	* From State generally—							
	Avon	...	...	...	...	22,223'00	16,241	
	Clackline	...	...	1,279'87	512	17,159'97	8,351	
	Coates' Paddock	...	...	...	...	4,712'00	3,277	
	Greenbushes	...	...	...	...	7,481'00	4,629	
	Werribee	...	...	...	...	4,600'00	3,200	
			Total ...	1,279'87	512	56,725'97	36,245	

* Ore flux received by the Fremantle Smelter, Ltd.

TABLE XV.

Quantity and Value of LEAD ORE reported to the Mines Department during 1906, and the Total Output to date.

GOLDFIELD, DISTRICT, OR MINERAL FIELD.	LOCALITY.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR MINE.	1906.		TOTAL TO DATE.		REMARKS.
				Quantity.	Value.	Quantity.	Value.	
Northampton Mf.	Narra Tarra	...	From locality generally ...	tons.	£	tons.	£	
Do.	Northampton	...	Voided leases ...	...	...	225'00	185	
Do.	Victoria	...	Voided leases ...	...	...	106'75	1,048	
						19'00	212	
			Total ...	...	...	350'75	1,445	

TABLE XVI.

Quantity and Value of SILVER-LEAD ORE reported to the Mines Department during 1906, and the Total Output to date.

GOLDFIELD, DISTRICT, OR MINERAL FIELD.	LOCALITY.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR MINE.	1906.		TOTAL TO DATE.		REMARKS.
				Quantity.	Value.	Quantity.	Value.	
Ashburton Gf. ...	Ashburton ...	...	Voided leases ...	tons.	£	tons.	£	
				...	...	56'90	429	
			Total ...	...	...	56'90	429	

TABLE XVII.

Quantity and Value of COAL reported to the Mines Department during 1906, and the Total Output to date.

GOLDFIELD, DISTRICT, OR MINERAL FIELD.	LOCALITY.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR MINE.	1906.		TOTAL TO DATE.		REMARKS.
				Quantity.	Value.	Quantity.	Value.	
Collie River Mf. ...	Collie ...	197, etc.	Cardiff Coal Mining Co., Ltd.	tons. 27,488·35	£ 9,940	tons. 128,309·50	£ 56,559	
Do. ...	do. ...	151, etc.	Collie - Boulder Coal Co., Ltd.	36,089·34	12,709	71,512·70	26,139	
Do. ...	do. ...	244, etc.	Collie Co-operative Collieries	28,221·58	10,936	47,412·79	19,934	
Do. ...	do. ...	85-100	Collie Proprietary Coalfields of W.A., Ltd. (No. 2 Pit)	50,746·00	21,365	326,867·40	173,070	
Do. ...	do. ...	88	Collie Proprietary Coalfields of W.A., Ltd. (No. 1 Pit)	7,210·00	3,048	384,397·55	198,276	
Do. ...	do. ...	...	late Westralian Wallsend Colliery	...	...	25,569·85	12,930	
			Voided leases ... ..	...	...	...	...
			Total	149,755·27	57,998	984,069·79	486,908	

TABLE XVIII.

Quantity and Value of LIMESTONE reported to the Mines Department during 1906, and the Total Output to date.

GOLDFIELD, DISTRICT, OR MINERAL FIELD.	LOCALITY.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR MINE.	1906.		TOTAL TO DATE.		REMARKS.
				Quantity.	Value.	Quantity.	Value.	
Yilgarn Gf. ...	Southern Cross	...	Voided leases	tons. ...	£ ...	tons. 2,548·85	£ 1,607	
			* From State generally— Fremantle	9,472·28	1,691	87,554·93	15,301	
			Total	9,472·28	1,691	90,103·78	16,908	

* Ore flux received by the Fremantle Smelter, Ltd.

TABLE XIX.

Quantity and Value of DIAMONDS reported to the Mines Department during 1906, and the Total Output to date.

GOLDFIELD, DISTRICT, OR MINERAL FIELD.	LOCALITY.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR MINE.	1906.		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 77·70ozs. gold.
			Total ... ..	...	...	...	24	

TABLE XVII.

Quantity and Value of COAL reported to the Mines Department during 1906, and the Total Output to date.

GOLDFIELD, DISTRICT, OR MINERAL FIELD.	LOCALITY.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR MINE.	1906.		TOTAL TO DATE.		REMARKS.
				Quantity.	Value.	Quantity.	Value.	
Collie River Mf. ...	Collie ...	197, etc.	Cardiff Coal Mining Co., Ltd.	tons. 27,488·35	£ 9,940	tons. 128,309·50	£ 56,559	
Do. ...	do. ...	151, etc.	Collie - Boulder Coal Co., Ltd.	36,089·34	12,709	71,512·70	26,139	
Do. ...	do. ...	244, etc.	Collie Co-operative Collieries of W.A., Ltd. (No. 2 Pit)	28,221·58	10,936	47,412·79	19,934	
Do. ...	do. ...	85-100	Collie Proprietary Coalfields of W.A., Ltd. (No. 1 Pit)	50,746·00	21,365	326,867·40	173,070	
Do. ...	do. ...	88	late Westralian Wallsend Colliery	7,210·00	3,048	384,397·55	198,276	
Do. ...	do. ...	...	Voided leases ... ..	...	...	25,569·85	12,930	
Total				149,755·27	57,998	984,069·79	486,908	

TABLE XVIII.

Quantity and Value of LIMESTONE reported to the Mines Department during 1906, and the Total Output to date.

GOLDFIELD, DISTRICT, OR MINERAL FIELD.	LOCALITY.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR MINE.	1906.		TOTAL TO DATE.		REMARKS.
				Quantity.	Value.	Quantity.	Value.	
Yilgarn Gf. ...	Southern Cross	...	Voided leases	tons. ...	£ ...	tons. 2,548·85	£ 1,607	
* From State generally—								
	Fremantle ... ..	...	...	9,472·28	1,691	87,554·93	15,301	
Total				9,472·28	1,691	90,103·73	16,908	

* Ore flux received by the Fremantle Smelter, Ltd.

TABLE XIX.

Quantity and Value of DIAMONDS reported to the Mines Department during 1906, and the Total Output to date.

GOLDFIELD, DISTRICT, OR MINERAL FIELD.	LOCALITY.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR MINE.	1906.		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 77·70ozs. gold.
Total ... ..				...	...	...	24	

TABLE

Return of Ore and Minerals other than Gold entered for EXPORT from 1850-1906, inclusive, showing

YEAR.	METALLIC									
	COPPER ORE.									
	West Pilbara Gf.		Northampton Mf.		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	...	...	†	7.50	...	...	...	...	...	7.50
4	...	...	...	...	...	...	...	...	...	...
5	...	...	2.05	26.45	...	...	...	...	2.05	26.45
6	...	...	57.00	1,017.90	...	...	...	...	57.00	1,017.90
7	...	...	80.00	1,920.00	...	...	...	...	80.00	1,920.00
8	...	...	433.25	9,531.50	...	...	...	...	433.25	9,531.50
9	...	...	941.50	14,122.50	...	...	...	...	941.50	14,122.50
1860	...	...	517.50	8,021.25	...	...	...	...	517.50	8,021.25
1	...	...	409.00	6,339.50	...	...	...	...	409.00	6,339.50
2	...	...	783.50	12,536.00	...	...	...	...	783.50	12,536.00
3	...	...	763.00	12,208.00	...	...	...	...	763.00	12,208.00
4	...	...	1,076.00	17,216.00	...	...	...	...	1,076.00	17,216.00
5	...	...	886.00	13,290.00	...	...	...	...	886.00	13,290.00
6	...	...	557.50	8,362.50	...	...	...	...	557.50	8,362.50
7	...	...	337.00	5,055.00	...	...	...	...	337.00	5,055.00
8	...	...	83.00	1,245.00	...	...	...	...	83.00	1,245.00
9	...	...	155.00	2,325.00	...	...	...	...	155.00	2,325.00
1870	...	...	6.00	90.00	...	...	...	...	6.00	90.00
1	...	...	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...	...	...
3	...	...	56.50	847.50	...	...	...	...	56.50	847.50
4	...	...	66.50	997.50	...	...	...	...	66.50	997.50
5	...	...	204.75	3,071.25	...	...	...	...	204.75	3,071.25
6	...	...	279.00	4,185.00	...	...	...	...	279.00	4,185.00
7	...	...	53.50	802.50	...	...	...	...	53.50	802.50
8	...	...	9.00	135.00	...	...	...	...	9.00	135.00
9	...	...	...	...	...	...	...	...	...	...
1880	...	...	8.00	120.00	...	...	...	...	8.00	120.00
1	...	...	...	...	...	...	...	...	...	...
2	...	...	1.50	22.50	...	...	...	...	1.50	22.50
3	...	...	5.00	75.00	...	...	...	...	5.00	75.00
4	...	...	118.00	1,770.00	...	...	...	...	118.00	1,770.00
5	...	...	119.50	1,792.50	...	...	...	...	119.50	1,792.50
6	...	...	249.00	3,735.00	...	...	...	...	249.00	3,735.00
7	...	...	23.00	345.00	...	...	...	...	23.00	345.00
8	...	...	87.50	1,487.50	...	...	...	...	87.50	1,487.50
9	...	...	112.00	1,904.00	...	...	...	...	112.00	1,904.00
1890	...	...	8.00	136.00	...	...	...	...	8.00	136.00
1	262.50	4,462.50	...	...	...	...	...	...	262.50	4,462.50
2	† 412.00	6,318.80	155.00	2,377.20	...	...	...	...	567.00	8,696.00
3	50.00	606.00	...	...	...	...	...	...	50.00	606.00
4	...	...	...	...	...	...	...	...	...	...
5	802.00	12,832.00	24.00	120.00	...	...	...	...	826.00	12,952.00
6	6.30	100.00	...	...	...	...	...	...	6.30	100.00
7	64.85	731.25	21.15	302.00	...	...	...	...	86.00	1,033.25
8	280.87	3,334.00	74.53	931.50	...	...	...	...	355.40	4,265.50
9	1,404.50	31,978.50	586.55	9,473.25	...	...	...	...	1,991.05	41,451.75
1900	543.55	10,696.00	...	...	105.15	2,411.00	197.41	3,355.00	846.11	16,462.00
1	1,058.00	26,464.00	.50	10.00	1,205.00	22,107.00	396.75	6,322.00	2,660.25	54,903.00
2	68.50	1,698.00	20.00	330.00	162.00	2,469.00	33.00	489.00	283.50	4,986.00
3	3.60	180.00	25.05	460.00	301.70	3,538.00	15.45	349.00	345.80	4,527.00
† 4	50.00	500.00	...	...	11.00	154.00	72.00	1,589.00	133.00	2,243.00
† 5	...	...	...	...	80.00	2,808.00	4.00	206.00	84.00	3,014.00
† 6	111.60	3,232.00	...	...	...	...	...	...	111.60	3,232.00
Total	5,118.27	103,133.05	9,394.83	148,744.30	1,864.85	33,487.00	718.61	12,310.00	17,096.56	297,674.35

† These figures are liable to revision, as they refer to Countries beyond the Commonwealth only.

The interstate export figures of Western not stated.

‡ Probably the produce of the Greenbushes Tinfield.

XX.

the quantity obtained from certain Goldfields and Mineral Fields, and the declared value thereof.

MINERALS.								YEAR.
LEAD ORE.		BLACK TIN (Dressed Tin).						
Northampton Mf.		Pilbara Gf.		Greenbushes Mf.		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
230·00	2,300·00	...	...	...	...	...	...	3
80·00	800·00	...	...	...	...	...	...	4
703·00	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	...	...	...	...	...	...	1890
25·00	250·00	...	...	204·00	10,200·00	...	...	1
29·75	150·00	...	...	265·49	13,843·00	...	...	2
...	...	56·45	3,470·00	171·50	7,664·00	227·95	11,134·00	3
...	...	19·00	949·00	371·25	14,325·00	390·25	15,274·00	4
...	...	...	...	277·15	9,703·00	277·15	9,703·00	5
...	...	...	...	137·25	4,338·00	137·25	4,338·00	6
2†	4·00	...	...	95·55	3,275·00	95·55	3,275·00	7
5·00	33·00	...	...	68·14	2,760·00	68·14	2,760·00	8
16·00	96·00	29·55	2,025·00	278·41	21,138·00	307·96	23,163·00	9
26·85	242·00	368·34	30,146·00	101·94	8,032·00	470·28	38,178·00	1900
...	...	439·00	34,600·00	67·50	4,895·00	506·50	39,495·00	1
...	...	248·00	19,698·00	31·00	2,870·00	279·00	22,568·00	2
...	...	267·00	20,988·00	24·70	1,868·00	291·70	22,856·00	3
...	...	64·00	4,932·00	24·00	1,339·00	88·00	6,321·00	†4
...	...	188·00	16,853·00	119·00	8,177·00	307·00	25,030·00	†5
...	...	328·70	28,375·00	444·50	46,254·00	773·20	74,629·00	†6
33,643 85	364,756 00	2,008 04	162,036 00	2,681 38	160,731 00	4,761 92	328,467 00	

Australia for these years are not yet available.

†See Woodward's Mining Handbook, Perth: By Authority, 1895; page 123.

†Declared; weight.

TABLE XX.—Return of Ore and Minerals, other than Gold,

YEAR.	NON-METALLIC MINERALS.						ORES NOT OTHERWISE ENUMERATED.		COPPER INGOT.	
	ASBESTOS.		COAL.		MICA.				State generally.	
	State generally.		Collie River Coal Mf.		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	2†	25 00	...	...	...	...
3	2†	4 00	...	...	...	...
4
5	2†	3 00	...	...	...	...
6
7	2†	209 00	...	...	...	...
8	1 00	1 00	...	...	...	...	...	...
9	2†	1 00	798 00	772 00	4†	50 00	...	...	...	...
1900	355 00	350 00	2†	3 00	5 00	85 00	248 90	17,475 00
1	970 75	969 00	...	...	2†	4 00	439 40	31,062 00
2	12 00	12 00	...	...	7† 3 00	47 00	\$ 441 10	24,804 00
3	20	10 00	...	...	...	...	8† 22 00	230 00	\$ 175 00	7,918 00
4	11 00	7 00	...	...	9† 05	2 00	51 45	3,371 00
5	108 00	87 00	...	...	10† 18 00	5,729 00	\$ 1,023 80	29,917 00
6	2 00	3 00	...	...	11† 7 00	178 00	99 00	3,676 00
7	12† 7 70	994 00	\$ 791 00	53,806 00
8	\$ 325 70	28,919 00
9
Total	20	11 00	2,257 75	2,201 00	...	294 00	62 75	7,269 00	3,595 35	200,948 00

2† Declared; weight not stated.
 9† 1 cwt. plumbago ore.

4† 13 packages; weight not stated.
 10† Unenumerated; principally tantalite.

5† Estimated; no tonnage given.
 11† Spelter, concentrates, dross, and ashes.
 12† Lead table to show in detail the quantity of Commercial Unenumerated.

6† No tonnage given.

entered for EXPORT from 1850-1906, inclusive—continued.

COMMERCIAL PRODUCTS. ||						PRECIOUS STONES.		YEAR.
SILVER.		TIN INGOT. (White Tin.)		PIG LEAD.		State generally.		
State generally.		Greenbushes Mf.		State generally.		State generally.		
Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
ozs.	£	tons	£	tons.	£	carats.	£	
...	1850
...	1
...	2
...	55'00	1,200'00	...	...	3
...	122'00	2,440'00	...	...	4
...	133'75	2,675'00	...	...	5
...	60'00	1,200'00	...	...	6
...	120'50	2,410'00	...	...	7
...	61'00	1,220'00	...	...	8
...	24'75	495'00	...	...	9
...	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
...	6'50	11'00	...	...	7
...	8
...	77'00	1,077'00	...	...	9
28,749'00	3,594'00	142'35	18,872'00	...	...	...	...	1900
60,869'00	7,609'00	96'50	12,607'00	...	...	...	...	1
83,293'00	9,190'00	141'00	16,380'00	...	...	...	...	2
168,113'00	19,153'00	235'35	29,277'00	...	...	...	...	3
399,190'00	45,912'00	129'00	16,155'00	5,352'00	63,170'00	...	...	†4
359,744'00	44,278'00	...	...	12+2,730'00	34,471'00	...	...	†5
282,145'00	37,612'00	44'90	8,653'00	12+2,681'00	44,460'00	...	...	†6
1,382,103'00	167,348'00	789'10	101,944'00	11,446'75	155,407'25	...	...	...

6 packages estimated at 10 cwts. 7+2 tons cobalt ore, value £41: 1 ton plumbago ore, value £6. 8+22 tons antimony ore, value £230, contained in bullion from the Fremantle Smelters, Ltd. || Advantage has been taken of the series of years covered by this Products exported. § Copper matte.

PART III.—ALL MINES.

TABLE XXI.

MILLING and CYANIDING PLANTS erected in the respective Goldfields, Districts, and Mineral Fields on the 31st December, 1906, and the Total Value of Mining Machinery.

Lease or Area on which erected.	NAME OF MINE, COMPANY, OR WORKS.	MILLING.										CYANIDING.			Total Value of Mining Machinery.		
		Batteries.	Other Mills.									Leaching Vats.	Agitating Vats.	Filter Presses.			
			Number of Heads of Stampers.	Prospecting.	Ball.	Krupp.	Griffin.	Huntington.	Salford.	Tremain.	Flint.					Other Crushers.	Fudd, lars.
KIMBERLEY GOLDFIELD.																	
M.A. 15	Mary River Works	5															£
141 A.C., M.A. 8	Mt. Bradley Tunnelling Claim	25				1											
61 M.A. 9	Ruby Queen	20															
	Total ...	50				1											7,500
PILBARA GOLDFIELD.																	
<i>Marble Bar District.</i>																	
505	British Exploration of Australasia, Ltd., Bow Bells	10															
T.A. 8 R.C. 112	British Exploration of Australasia, Ltd., Lalla Rookh											10					
615	British Exploration of Australasia, Ltd., Stray Shot	5				1											
161	Bulletin	10											3				
625	Elsie Abandoned		1														
T.A. 9	Ironclad Cyanide Works												3		1		
M.A. 18	Klondyke Battery	5															
M.A. 26	Lady Adelaide Battery	10												4			
M.A. 27	Salgash Public Crushing Co.	15															
	Total ...	55	1			1							20		1		19,718
<i>Nullagine District.</i>																	
106L	Barton Syndicate	10											4				
95L	Bell Exploration Co., Ltd.	10											4				
M.A. 6L	Royer's Public Crushing Syndicate	10															
Λ9718	20-Mile Sandy: State Battery	10											3				
	Total ...	40											11				16,161
WEST PILBARA GOLDFIELD.																	
106, etc. 117	Ninety-nine leases		1														
	Pilgrim's Rest	20															
	Total ...	20	1														2,200
PEAK HILL GOLDFIELD.																	
M.A. 4P Battery Reserve on 110P	Peak Hill Goldfield, Ltd.	40										2	8		9		
	Ravelstone State Battery	10											4				
	Total ...	50										2	12		9		103,324
EAST MURCHISON GOLDFIELD.																	
<i>Lawlers District.</i>																	
(797)	(Auckland)		1														
24, etc.	Bellevue Proprietary, Ltd.	40															
170	Black Swan: Gwalia Consolidated, Ltd.	20											4				
532, etc.	Brilliant leases	5											6				
(714)	(British-American Alliance)	5															
M.A. 24	Cinderella Battery	5											7				
M.A. 17	Condor Cyanide Works												8				
	Carried forward ...	75	1										25				

TABLE XXI.—Milling and Cyaniding Plants erected in the respective Goldfields, Districts, etc.—continued.

Lease or Area on which erected.	NAME OF MINE, COMPANY, OR WORKS.	MILLING.										CYANIDING.			Total Value of Mining Machinery.
		Batter-ies.	Other Mills.									Leaching Vats.	Agitating Vats.	Filter Presses.	
			Number of Heads of Stampers.	Prospecting.	Ball.	Krupp.	Griffin.	Huntington.	Salford.	Tremain.	Flint.					Other Crushers.	Puddlers.
£															
EAST MURCHISON GOLDFIELD—continued.															
<i>Lawlers District—continued.</i>															
	Brought forward ...	75	1	...	...	...	...	...	...	...	...	25	...	...	...
Λ7864 (557)	Darlôt State Battery (Enterprise) ...	10	...	...	...	...	...	...	...	...	...	4	...	...	...
140 (674)	Golden Age (Highland Mary) ...	20	1	...	...	...	...	...	...	...	...	5	...	...	...
(837)	(Lady Wiluna) ...	5	...	...	...	...	...	...	...	...	...	2	1	...	...
542	Gwalia Consolidated, Ltd. ...	10	...	...	...	...	...	...	...	...	...	13	...	4	...
161, M.A. 23	Lake Way Goldfield (1899), Ltd. ...	10	...	...	...	...	...	...	...	...	...	4	...	...	...
M.A. 11	Lawlers Public Battery ...	10	...	...	...	...	...	...	...	...	...	8	...	...	...
15, etc.	Leinster leases ...	10	...	...	...	...	...	...	...	...	...	8	...	...	...
37, etc.	London and Western Australian Exploration Company, Ltd. ...	40	...	1	...	...	...	...	...	...	...	8	...	...	...
137	Monarch of the East ...	10	...	...	...	...	...	...	...	...	...	3	...	...	...
113, etc.	Nil Desperandum leases ...	10	...	...	...	...	...	...	...	...	...	2	...	...	...
	Westralian Gold Recovery Syndicate ...	...	...	...	...	...	...	...	...	...	...	6	...	...	...
	Urquhart and Hayes' Cyanide Plant ...	...	...	...	...	...	...	...	...	...	...	5	...	...	...
339	Vanguard: Condor United ...	5	...	...	...	...	...	...	...	...	...	8	...	1	...
521, etc.	Vivien G.M. Co., Ltd. ...	20	...	...	...	...	...	...	...	...	...	4	...	...	...
Λ9909	Wiluna State Battery ...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
533, etc.	Zanzibar leases ...	10	...	...	...	...	...	...	...	...	...	4	...	...	...
382, etc.	Yellow Aster G.M. Co., N.L. ...	10	...	...	...	...	...	...	...	...	...	4	...	...	...
	Total ...	270	2	1	...	...	...	...	...	...	...	97	1	5	252,138
												98			
<i>Black Range District.</i>															
5B	Black Range ...	10	...	...	...	...	...	...	...	...	...	6	...	...	...
M.A. 5B	El'Dorado Custom's Mill ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
203B, etc.	Havilah ...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
53B, etc.	Maninga Marley leases ...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
133B	Reply Public Battery ...	5	...	...	...	...	...	...	...	...	...	4	...	...	...
Λ9768	State Battery ...	11	...	...	...	...	...	...	...	...	...	6	...	...	...
	Total ...	46	...	...	...	...	...	...	...	...	...	16	...	...	30,350
MURCHISON GOLDFIELD.															
<i>Cue District.</i>															
1458	Barrambie Ranges G.M. Co., N.L. ...	10	...	...	...	...	...	...	...	...	...	4	...	...	...
M.A. 22	Blue Bell (Scott's) ...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
1583	Cable ...	...	...	...	...	...	...	...	...	...	...	2	...	...	...
203	Cue No. 1 ...	20	...	...	...	...	...	...	...	...	...	8	...	...	...
1174	Cue Victory ...	10	...	...	...	...	...	...	...	...	...	4	...	...	...
1020	Gem of Cue Extended ...	10	...	...	...	...	...	...	...	...	...	5	...	...	...
P.A. 695	Golden Gate (Ryan and party) ...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
1435	Havelock G.M. Co., N.L. ...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
1531	Legacy ...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
1374, etc.	Salisbury leases ...	10	...	...	...	...	...	...	...	...	...	8	...	...	...
Λ10256	Tuckanarra State Battery ...	10	...	...	...	...	...	...	...	...	...	4	...	...	...
595, etc.	Victory United Gold Mining Co., N.L. ...	10	...	...	...	...	...	...	...	...	...	4	...	...	...
	Total ...	100	1	...	...	...	...	...	...	...	...	39	...	...	65,057
<i>Nannine District.</i>															
171N	Mt. Vranizan ...	10	...	...	...	...	...	...	...	...	...	3	...	...	...
238N	Alliance ...	5	...	...	...	...	...	...	...	...	...	4	...	...	...
		4	...	...	...	...	...	...	...	...	...	...	...	...	...
M.A. 7N	Caucus Syndicate ...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
684N	Champion: Mt. Yagahong Exploration and Finance Co., Ltd. ...	30	...	...	...	...	...	...	...	...	...	8	...	...	...
	Carried forward ...	54	...	...	...	...	...	...	...	...	...	15	...	...	...

TABLE XXI.—Milling and Cyaniding Plants erected in the respective Goldfields, Districts, etc.—continued.

Lease or Area on which erected.	NAME OF MINE, COMPANY, OR WORKS.	MILLING.										CYANIDING.			Total Value of Mining Machinery.
		Batteries.	Other Mills.									Leaching Vats.	Agitating Vats.	Filter Presses.	
			Number of Heads of Stampers.	Prospecting.	Ball.	Krupp.	Griffin.	Huntington.	Saiford.	Tremain.	Flint.					Other Crushers.	Puddlers.
MURCHISON GOLDFIELD—continued.														£	
<i>Nannine District—continued.</i>															
	Brought forward ...	54	...	...	...	...	...	...	...	...	...	15	...	...	...
685N	Champion Extended: Mt. Yagahong Exploration and Finance Co., Ltd. ...	20	...	...	...	...	...	...	...	...	...	...	...	...	...
509N	Federal City ...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
398N	Ingliston Extended G.Ms., Ltd. ...	10	...	...	...	...	...	...	...	...	...	2	...	1	...
455N	Jillawarra ...	5	...	...	...	...	...	...	...	...	...	5	...	...	...
593N	Koh-i-Noor South ...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
361N	Margueritta ...	10	...	...	...	...	...	...	...	...	...	4	...	...	...
533N	Marmont ...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
^9142	Meekatharra State Battery	10	...	...	...	...	...	...	...	...	...	4	...	...	...
16N, 25N	Mt. Hall, Royalist Consolidated and	...	...	...	...	...	...	...	...	...	...	...	...	...	...
166N	Nannine leases ...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
379N	Mountain View leases ...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
32N	Nannine Goldfields, Ltd. ...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
408N	New Alliance ...	5	...	...	...	...	...	...	...	...	...	5	...	...	...
172N	New Murchison King G.Ms. ...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
622N	Phoenix ...	5	...	...	...	...	...	...	...	...	...	4	...	...	...
(478N)	(Princess Dagmar) ...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
174N	Star of the East, Ltd. ...	20	...	...	...	...	...	...	...	...	...	6	...	...	...
	Total ...	209	...	...	...	...	...	...	...	...	...	2	43	1	103,008
<i>Day Dawn District.</i>															
389D	Crème D'Or ...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
M.A. 6D	Day Dawn Public Battery ...	...	...	...	...	...	...	...	...	...	...	3	...	...	...
26D	East Fingall G.Ms., Ltd. ...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
1D, etc.	Great Fingall Consolidated, Ltd. ...	100	...	...	...	...	...	...	...	...	...	24	...	6	...
370D	Hill End ...	5	...	...	...	...	...	...	...	...	...	1	...	...	...
9D, etc.	Island Queen Leases ...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
179D, etc.	Kinsella Leases ...	20	...	...	...	...	...	...	...	...	...	...	...	...	...
320D	Mount Fingall ...	5	...	...	...	...	...	...	...	...	...	4	...	...	...
138D, etc.	Murchison Associated G.Ms., Ltd. ...	10	...	...	...	...	...	...	...	...	...	4	...	...	...
355D, etc.	Mainland Consols, Ltd. ...	...	...	...	...	...	...	...	...	...	...	5	...	...	...
388D, etc.	Trenton G.M. Co., N.L. ...	10	...	...	...	...	...	...	...	...	...	3	...	...	...
	Total ...	165	...	...	...	...	...	...	...	...	...	44	...	6	273,832
<i>Mount Magnet District.</i>															
^9769	Boogardie State Battery ...	10	...	...	...	...	...	...	...	...	...	5	...	...	...
^7499	Lennonville State Battery ...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
30M	Long Reef ...	20	...	...	...	...	...	...	...	...	...	10	...	...	...
314M	Morning Star Quartz Co., N.L. ...	10	...	...	...	...	...	...	...	...	...	7	...	...	...
784M	New Chum ...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
M.A. 2M	New Chum Cyanide Works ...	...	...	...	...	...	...	...	...	...	...	12	...	...	...
766M	Ophir ...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
776M	Paris ...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
(693M)	(Piedmont) ...	20	...	...	...	...	...	...	...	...	...	...	...	...	...
(57M)	(Welcome) ...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
	Total ...	85	...	...	...	...	1	...	...	1	...	...	34	...	31,610
YALGOO GOLDFIELD.															
441, etc.	Field's Reward G.Ms., Ltd. ...	20	...	...	...	...	...	...	...	...	...	...	...	...	...
P.A. 119	(Gloster, A.B.) ...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
392	Golden Eagle ...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
495	Ivanhoe G.M. Co., N.L., Yalgoo	5	...	...	...	...	...	...	...	...	...	...	...	...	...
170/1	Monarch Leases ...	10	...	...	...	...	...	...	...	...	...	3	...	...	...
34, etc.	Phoenix G.Ms., Ltd. ...	10	...	...	...	...	...	...	...	...	...	4	...	...	...
409, etc.	Royal Standard Leases ...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
(192, etc.	(Woodley's G.Ms., Ltd.) ...	20	...	...	...	...	...	...	...	...	...	4	...	...	...
R.C. 4)		...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	80	1	...	...	...	...	...	...	...	...	11	...	...	25,730

TABLE XXI.—Milling and Cyaniding Plants erected in the respective Goldfields, Districts, etc.—continued.

Lease or Area on which erected.	NAME OF MINE, COMPANY, OR WORKS.	MILLING.										CYANIDING.			Total Value of Mining Machinery.
		Batteries.	Other Mills.									Leaching Vats.	Agitating Vats.	Filter Presses.	
			Number of Heads of Stampers.	Prospecting.	Ball.	Krupp.	Griffin.	Huntington.	Salford.	Tremain.	Flint.					Other Crushers.	Puddlers.
MT. MARGARET GOLDFIELD.														£	
<i>Mt. Morgans District.</i>															
M.A. 3F	Hamblin's Battery	5										6			
189F	Malcolm Mines, Ltd.	30										4			
8F	Millionaire, Ltd.	5										6			
66F	Mt. Morven											2			
P.A. 166F	Parry's Works											4			
200F	Princess Alix	5										7			
1F	Princess Iris	20										10			
193F	Proprietary Extended leases	10										7			
97F	Ramornie	5										4			
5F, etc.	Westralia Mt. Morgans G.Ms. Co., Ltd.	60										36		2	
7F	Westralia Mt. Morgans G.Ms. Co., Ltd. (Guest's Battery)	20										3			
	Total	160										89		2	206,010
<i>Mt. Malcolm District.</i>															
(987c)	(Anglo-Saxon)	5													
...	Davies Cyanide Works											2			
1104c	Great Gwalia North	5													
218/9c	Great Tower Hill G.Ms., Ltd.	40										12			
1120c	Great Western	10										6			
W.R. 84c	Hill and party														
1083c	Katie											3			
1179c	King of the Hills	5										2			
T.A. 4c	Lang's Cyanide Works											14			
195/6c	Leonora Gold Blocks	10										5			
210c, etc.	Leonora Main Reefs, Ltd.	10										5			
^ 7121	Leonora State Battery	10										5			
638c, etc.	Merton's Reward G.M. Co., Ltd.	30										14		1	
M.A. 9c	Mt. Clifford Battery	10										2			
65c, etc.	Perseverance Gold Mines, Ltd.	15										7			
^ 9681	Pig Well State Battery	10										4			
978c	Randwick	10										4			
991c	Richmond Gem	10										4			
190c, etc.	Sons of Gwalia, Ltd.	50										16		1	
263c	Trump	10										4			
(1040c)	(Workman)	10													
	Total	250								1		1	109	2	139,357
<i>Mt. Margaret District.</i>															
371T	Augusta	10										6			
1041T	Away from Home	1													
^ 8914	Burtville State Battery	10										3			
(725T)	(Baneygo North)	5										2			
(1300T, etc.)	(Caledonia leases)		1									4			
592T	Craigiemore Proprietary, Ltd.	10										6			
^ 10165	Duketon State Battery	10										3			
1546T	Euro	10										4			
1509T	Famous Blue	5													
(1398T)	(Golden Orbit)	1													
1046T	Golden Spinnifex	5										4			
1602T	Great Bedford							1							
829T	Ida H. G.M. Co., Ltd.	10										7			
1657T	Just in Time											5			
806T	Lancefield G.M. Co., Ltd.	50		3								16		6	
^ 8336	Laverton State Battery	10										3			
771T	Little Doris	5										4			
943T	Mikado G.M. Co., Ltd.	5										2			
1414T	Mistake	10										3			
1517T	Mulga Queen	10										4			
781T	Sailor Prince	5										4			
934T	Sons of Westralia	5													
1726T	Sunrise	8													
	Total	185	1	3				1				80		6	185,818

TABLE XXI.—Milling and Cyaniding Plants erected in the respective Goldfields, Districts, etc.—continued.

Lease or Area on which erected.	NAME OF MINE, COMPANY, OR WORKS.	MILLING.										CYANIDING.			Total Value of Mining Machinery.	
		Batteries. Number of Heads of Stampers.	Other Mills.								Leaching Vats.	Agitating Vats.	Filter Presses.			
			Prospecting.	Ball.	Krupp.	Griffin.	Huntington.	Salford.	Tremain.	Flint.				Other Crushers.		Puddlers.
NORTH COOLGARDIE GOLDFIELD.																
<i>Menzies District.</i>																
2728z, 3480z	Boddington leases	20											3			
5148z	Coonoga G.M. Co., Ltd.	10											8			
2823z, } 5017z, etc. }	Crusoe Gold Claims, Ltd.	30											3		1	
2821z, etc. }	Florence leases	10											3			
P.A. 203z	(Lady Isabel)	3											3			
4895z	Maranoa leases	5											3			
4931z, etc.	Menzies Consolidated G.Ms., Ltd.	20											17			
2820z, 3006z	Menzies Gold Mine leases	10											4			
2832z, etc.	Menzies Mining and Exploration Corporation, Ltd.	10											7		1	
Λ 10253	Menzies State Battery	10											3			
5218z	Midas	5														
4525, etc.	Mt. Ida Consols, Ltd.	5														
Λ 10173	Mt. Ida State Battery	10														
5265z	Primrose	5														
2836z	Queensland Menzies G.M. Co., N.L.															1
4855z, etc.	Queensland Menzies G.M. Co., N.L.	15											6			
P.A. 292z	Seddon	5														
	Total	173											57		3	82,586
<i>Ularring District.</i>																
459u, etc.	Golden Pole G.Ms., Ltd.	20											13		1	
613u, etc.	Great Ophir Gold Corporation, Ltd.												14			
Λ 7250	Mulline State Battery	20											5		1	
Λ 8045	Mulwarrie State Battery	10											6			
123u	Riverina	10											6			
324u	Riverena South	5														
438u	Westralia Waihi G.Ms., N.L.	10											6			
	Total	75											50		2	41,547
<i>Niagara District.</i>																
666g	Britisher															
W.R. 72g	Brittannia												7			
T.A. 43g	Challenge Cyanide Works												5			
320g, etc.	Champion: Guthrie & Co., Ltd.												10			
518g, etc.	Eaglehawk Heather Co., N.L.	10											4			
26g, etc.	Englishman: Cosmopolitan Proprietary, Ltd.	50											18	4	2	
T.A. 46g.	Golden Hope												4			
349g	Grafter Leases	5											3			
20g, etc.	{ Kookynie: Cosmopolitan Proprietary, Ltd.	20														
	{ Cumberland Cyanide Works												5			
M.A. 44g	Mignonette Battery	10														
Λ 7494	Niagara State Battery	10											3			
419g, etc.	Opal: Hannan's Main Reef G.M. Co., Ltd.	10														
505g, etc.	W.E.G. leases	10														
	Total	125											59	4	2	80,433
												63				
<i>Yerilla District.</i>																
(406R)	{ (Great Carbine: Greenhills G.M. Co., Ltd.)		1													
401R, etc.	{ Neta leases	5											5			
	{ Weekley's Works												9			
M.A. 3R	Pauley & McCoy's Battery	10											4			
Λ 10190	Pinjin State Battery	5											3			
450R	Potosi Consolidated, Ltd.	20											12			
	Carried forward	40	1										33			

TABLE XXI.—Milling and Cyaniding Plants erected in the respective Goldfields, Districts, etc.—continued.

Lense or Area on which erected.	NAME OF MINE, COMPANY, OR WORKS.	MILLING.										CYANIDING.			Total Value of Mining Machinery.		
		Batter-ies.	Other Mills.									Leaching Vats.	Agitating Vats.	Filter Presses.			
			Number of Heads of Stampers.	Prospecting.	Ball.	Krupp.	Griffin.	Huntington.	Salford.	Tremain.	Flint.					Other Crushers.	Puddlers.
NORTH COOLGARDIE GOLDFIELD—continued.																	
<i>Yerilla District—continued.</i>																	
	Brought forward ...	40	1										33				
539R	Senate ...	5															
^10255	Yarri State Battery ...	10											4				
W.R. 28R	Yerilla State Battery ...	5											3				
^10204	Yundamindera State Battery ...						1						6				
	Total ...	60	1				1						46			34,535	
BROAD ARROW GOLDFIELD.																	
43w, etc.	Black Flag Proprietary Co., Ltd. ...	50											6				
56w, etc.	Broad Arrow Consols G.M. Co., N.L. ...	10											4				
W.R. 68w	Carter's Venture Mill ...	10					1						6				
1286w	Golden ...		1														
3w, etc.	Golden Arrow Mine, Ltd. ...	20											4				
1318w	Howden ...	5											3				
47w, etc.	Lady Bountiful G.M. Co., N.L. ...	10											4				
M.A. 19w	Milne's Battery ...	5															
45w	Mt. Corlic ...	10															
M.A. 14w	New Arrow Proprietary Battery ...	10											6				
1320w	New Mona ...												5				
959w, etc.	New Slug Hill G.M. Co., Ltd. ...	20											6				
53w, etc.	New Standard Exploration Co., Ltd. ...	10											12				
M.A. 23w	Orabanda Battery ...	15															
T.A. 13w	Paddington Cyanide Works ...												7				
1300w	Pole ...	5											6				
M.A. 22w	(Ryan and party, Carnage) ...	10											7				
Near W.R.	Siberia State Battery ...	5											3				
^4250																	
1272w	Zoroastrian, Ltd. ...	10											2				
	Total ...	205	1				1						1	81		89,109	
NORTH-EAST COOLGARDIE GOLDFIELD.																	
<i>Kanowna District.</i>																	
367x, etc.	Commonwealth G.Ms., Ltd. ...	10					1										
1047x	Eclipse ...	5															
1123x	Gindalbie ...	10															
(918x)	Government Well (Rollo's Puddler) ...	3											1				
149x	Hit or Miss South ...	10															
(434x)	Kalpini State Battery ...	10											5				
52x, etc.	{ Lake View South G.M. (W.A.), Ltd. ...	20											5				
	{ Venture Cyanide Syndicate ...												1	3	2		
187x, etc.	London and Coolgardie Explorers, Ltd. ...	20															
1127x	Monkland ...	5															
3x, etc.	North White Feather G.Ms., Ltd. ...	20											10				
153x	Q.E.D. ...												4				
392x, etc.	Queen Margaret G.M. Co., Ltd. ...	15											10				
1083x	Scotia ...													1			
12x, etc.	White Feather Main Reefs, Ltd. ...	20											7				
9x, etc.	White Feather Reward, Ltd. ...	20											11				
Q.C. 61x	Campbell's Works ...												1				
M.A. 45x	Donnan's Works ...		1														
E A.C. 342x	Irving's Works ...												1				
M.H. 39x	Mudlark Works ...												1				
Q.C. 57x	Reidel and Norton's Works ...	{ 16															
T.A. 10x	Middleton's Cyanide Works ...	{											5				
M.A. 19x	Old Cement Works (Martin's) ...	{ 10															
	Middleton's Cyanide Works ...	{											6				
	Total ...	194	1				1						5	63	4	2	83,415
														67			

TABLE XXI.—Milling and Cyaniding Plants erected in the respective Goldfields, Districts, etc.—continued.

Lease or Area on which erected.	NAME OF MINE, COMPANY, OR WORKS.	MILLING.											CYANIDING.			Total Value of Mining Machinery.		
		Batteries.	Other Mills.										Leaching Vats.	Agitating Vats.	Filter Presses.			
			Number of Heads of Stampers.	Prospecting.	Ball.	Krupp.	Griffin.	Huntington.	Salford.	Tremain.	Flint.	Other Crushers.					Puddlers.	
NORTH-EAST COOLGARDIE GOLDFIELD— continued.																		
<i>Bulong District.</i>																		
1029Y	Barton Leases					1												
W.R. 24	Berry's Public Battery	10											5					
862Y	Golden West	5																
835Y, etc.	Green Harp Leases					1												
9Y, etc.	Queen Margaret G.M. Co., Ltd.	20											2					
	Middleton's Cyanide Works													4				
^9535	Randall's State Battery	10											4					
	Total	45				2							15					19,440
<i>Kurnalpi District.</i>																		
(280K)	(Billy Billy)	5																
M.A. 3K	Glover's Works		1															
314K	Lady of the Lake											1						
	Total	5	1									1						875
EAST COOLGARDIE GOLDFIELD.																		
38E, etc.	Associated G.Ms. of W.A., Ltd.	10			10									13	7			
49E	Associated Northern Blocks (W.A.), Ltd.				3									6	4			
1101E, etc.	A.W.A. United leases	10											7					
796E	Bonnie Lass leases	5											3					
552E	Brown Hill Consols leases	20											16					
13E, etc.	Cresus South G.Ms., Ltd.	20											8					
	(Eureka Mining Co., Ltd.)													10	1			
4041E	Crown Jewel					1												
^880E, etc.	Devon Consols leases	25											12					
351E, etc.	Golden Horseshoe Estates Co., Ltd.	150										10	1	22	20			
750E, etc.	Golden Links, Ltd.	20			1								6					
2310E, etc.	Golden Ridge G.M. Co., N.L.	20											10					
873E	Great Boulder Main Reef, Ltd.				2								1		3			
50E	Great Boulder No. 1, Ltd.	10											15					
66E	Great Boulder Perseverance G.M. Co., Ltd.					16							1	24	13			
16E, etc.	Great Boulder Proprietary G.Ms., Ltd.				2								1	15	13			
3043E	Hainault G.Ms., Ltd.	30				12								18	2			
Block 48	Hampton Plains Estate, Ltd.	20											8					
Block 50	Hampton Properties, Ltd.	5																
M.L. 4	Hannan's Central	15											11					
12E, etc.	Hannan's North G.Ms., Ltd. (Weston's Cyanide Works)	10											3					
943E, etc.	Hannan's Proprietary, Ltd.					3							6					
97E, etc.	Hannan's Reward and Mt. Charlotte, Ltd.	20											18					
	Venture Syndicate Works														2			
15E, etc.	Hannan's Star, Ltd.				2									4	2			
4227E	Hill End Consols	5									1		1					
31E, etc.	Ivanhoe Gold Corporation, Ltd.	100											32		8			
6E, etc.	Kalgoorlie Amalgamated, Ltd.	5																
M.A. 2	Kalgoorlie Gold Recovery Co., Ltd.												17		2			
22E, etc.	Kalgurli G.Ms., Ltd.				9									20	7			
25E, etc.	Lake View Consols, Ltd.	75									6		8	14	13			
4209E	Lucey												1					
33E, etc.	North Boulder G.Ms., Ltd.												8					
4037E, etc.	North End Mines, Ltd.	15											5					
281E, etc.	North Kalgurli Co., Ltd.	10											7	3	1			
410E, etc.	Oroya Brownhill Co., Ltd.	50			2							6		13	6			
(64E)	(Red Hill Extended)	10																
1208E, etc.	South Kalgurli G.Ms., Ltd.				3										5	7		
4074E	Star of Abadare	5																
4187E	Trurant	10																
946E	West Queen of the West					2												
M.A. 11E, etc.	Hannan's Public Crushing, Condensing, and Sawmills Co. (W.A.), Ltd.	20											1	1	7	6	11	
	(Venture Syndicate Works)																	
S.L. 5+5/2	Boulder Puddling Works					1												
M.A. 25E	South Boulder Metallurgical Works													1				
E.A.C. 204E	(Bowden and party)																	
	Rasmussen's Works																	
	Total	695		2	32	28	7				23	1	13	253	155	122		1,972,847
														408				

TABLE XXI.—Milling and Cyaniding Plants erected in the respective Goldfields, Districts, etc.—continued.

Lease or Area on which erected.	NAME OF MINE, COMPANY, OR WORKS.	MILLING.										CYANIDING.			Total Value of Mining Machinery.
		Batteries.	Other Mills.									Leaching Vats.	Agitating Vats.	Filter Presses.	
			Number of Heads of Stampers.	Prospecting.	Ball.	Krupp.	Griffin.	Huntington.	Salford.	Tremain.	Flint.					Other Crushers.	Puddlers.
COOLGARDIE GOLDFIELD.														£	
<i>Coolgardie District.</i>															
133, etc.	Bayley's Mines, Ltd.	20	...	...	...	...	...	...	...	...	...	6	...	...	...
3847, etc. (4091)	Bendigo and Coolgardie Proprietary Co., N.L. (Big Blow: Greenmount Mines, N.L.)	15	...	...	...	...	...	...	...	...	...	6	...	...	...
134, etc.	Burbanks Birthday G.Ms., Ltd.	5	...	...	...	...	...	...	...	...	...	7	...	...	...
2985, etc.	Burbanks Main Lode (1904), Ltd.	60	...	...	...	...	...	...	...	...	...	6	...	...	...
3918	Coolgardie Redemption	20	...	...	...	...	...	...	...	...	...	6	...	...	...
Λ9435	Coolgardie State Battery	10	...	...	...	...	...	...	...	...	...	4	...	...	...
1865	Empress of Coolgardie	10	...	...	...	...	...	...	...	...	...	10	...	...	...
595, etc.	Gem Leases	20	...	...	...	...	...	...	...	...	...	6	...	...	...
1604 (1606)	Greenmount Mines, N.L.	10	...	...	...	...	...	...	...	...	...	...	...	...	...
73,1902, etc.	Griffith's leases	10	...	...	...	...	...	...	...	...	...	5	...	...	...
M.A. 63	Highgate Works	3	...	...	...	...	...	...	...	...	...	3	...	...	...
4221/2	King Solomon leases	20	...	...	...	...	...	...	...	...	...	3	...	...	...
2160	Lady Robinson G.M. Co., N.L.	10	...	...	...	...	...	...	...	...	...	9	...	...	...
T.A. 60 (3838)	Moss' Cyanide Works (Prince of Wales G.M. Co., Ltd.)	...	...	...	...	...	...	...	...	...	...	9	...	...	...
4152/3	Queen's Cross leases	10	...	...	...	...	...	...	...	...	...	3	...	...	...
4191, etc.	{ Red Hill Westralia G.Ms. Ltd., and Sons of Erin G.M. Co., N.L. ... }	11	...	...	...	...	...	...	...	...	...	6	...	...	...
4184/5	{ Sons of Erin G.M. Co., N.L. ... }	10	...	...	...	...	...	...	...	...	...	...	...	...	...
33, etc.	Tindal's Coolgardie G.M. Co. N.L.	10	...	...	...	...	...	...	...	...	...	8	...	...	...
1552, etc.	Vale of Coolgardie G.Ms., Ltd.	10	...	...	...	...	...	...	...	...	...	5	...	...	...
M.A. 62	Vale of Coolgardie Slimes Plant (Finney and Howells)	...	...	...	...	...	...	...	...	...	...	10	...	...	...
144, etc.	Westralia and East Extension Mines, Ltd.	40	...	...	...	...	...	...	...	...	...	28	4	2	...
Λ7497	Widgiemooltha State Battery	10	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	314	...	...	...	...	...	...	...	...	...	140	4	2	150,835
												144			
<i>Kunanalling District.</i>															
M.A. 14s	(Berliner and Besta)	5	...	...	...	...	...	...	...	...	...	...	...	...	...
696s, 727s (646s)	Blue Bell leases (Bow's No. 1)	5	...	...	...	...	...	...	...	...	...	...	...	...	...
33s	Carbine	10	...	...	...	...	...	...	...	...	...	...	...	...	...
734/5s	Great Cement Proprietary, Ltd.	20	...	...	...	...	...	...	...	...	...	8	...	...	...
369s	Jourdie Hills G.M. Co., Ltd.	10	...	...	...	...	...	...	...	...	...	10	...	...	...
17s	North Coolgardie G.Ms., Ltd.	10	...	...	...	...	...	...	...	...	...	6	...	...	...
79s	Premier G.M. Co., N.L.	...	...	...	...	...	...	...	...	...	...	14	...	...	...
514s	Pride of Jaudie North	5	...	...	...	...	...	...	...	...	...	...	...	...	...
586s	Shamrock	5	...	...	...	...	...	...	...	...	...	...	...	...	...
M.A. 13s	Stanley Battery (Hepburn's Cyaniding Works)	5	...	...	...	...	...	...	...	...	...	...	...	...	...
645s	Star of Fremantle	10	...	...	...	...	...	...	...	...	...	5	...	...	...
	Total	95	...	...	...	...	...	...	...	...	...	49	...	...	25,850
YILGARN GOLDFIELD.															
(T.A. 13)	André's Cyanide Works	...	...	...	...	...	...	...	...	...	...	6	...	...	...
508	Australia	5	...	...	...	...	...	...	...	...	...	...	...	...	...
520	Blue Hill	5	...	...	...	...	...	...	...	...	...	4	...	...	...
13, etc.	British and Foreign Development Syndicate, Ltd.	30	...	...	...	...	...	...	...	...	...	6	...	...	...
503, etc.	Greenmount Mines, N.L.	10	...	...	...	...	...	...	...	...	...	6	...	...	...
552, etc.	Haddon leases	10	...	...	...	...	...	...	...	...	...	10	...	...	...
T.A. 24	Hope's Hill Slimes Plant (Venture Syndicate)	...	...	...	...	...	...	...	...	...	...	2	...	1	...
490, etc.	Jacoletti G.Ms., Ltd.	10	...	...	...	...	...	...	...	...	...	4	...	...	...
212, etc.	Mt. Jackson G.Ms., Ltd.	10	...	...	...	...	...	...	...	...	...	7	...	...	...
665	Never Never	10	...	...	...	...	...	...	...	...	...	12	...	...	...
570, etc.	Northern Blocks Syndicate, Ltd.	10	...	...	...	...	...	...	...	...	...	...	...	...	...
550	Sunbeam	5	...	...	...	...	...	...	...	...	...	3	...	...	...
536	Transvaal	20	...	...	...	...	...	...	...	...	...	8	...	...	...
	Total	125	...	...	...	...	...	...	...	...	...	2	66	1	96,727

TABLE XXI.—Milling and Cyaniding Plants erected in the respective Goldfields, Districts, etc.—continued.

Lease or Area on which erected.	NAME OF MINE, COMPANY, OR WORKS.	MILLING.											Cyaniding.			Total Value of Mining Machinery.	
		Batteries.	Other Mills.										Leaching Vats.	Agitating Vats.	Filter Presses.		
			Number of Heads of Stampers.	Prospecting.	Ball.	Krupp.	Griffin.	Huntington.	Salford.	Tremain.	Flint.	Other Crushers.					Puddlers.
DUNDAS GOLDFIELD.																	
T.A. 20	Amalgamated Tailings Syndicate	...	...	...	...	...	...	...	...	...	...	...	1	6	...	...	...
M.A. 30	(Break-o'-Day Battery)	10	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...
42, etc.	Cumberland G.M. Co., N.L.	10	...	...	...	...	...	...	...	...	...	...	...	8	...	...	...
961, etc.	Lady Mary G.M. Co. (N.L.)	20	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...
M.A. 18	Mararoa Crushing and Cyaniding Works	10	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...
^10257	Norseman State Battery	10	...	...	...	...	...	...	...	...	...	...	...	5	1	1	...
M.A. 28	Pathway Battery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
106, etc.	Princess Royal G.M. Co., N.L.	30	...	...	...	...	1	...	...	...	...	...	...	10	3	2	...
634, etc.	Princess Royal North G.M. Co., N.L.	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
T.A.'s 22/3	(Royal Tailings Syndicate)	...	...	...	...	...	...	...	...	...	...	...	...	19	...	...	...
(88)	(Three Colonies)	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
	Total	100	...	...	...	...	1	...	...	...	1	1	61	4	3		70,815
														65			
PHILLIPS RIVER GOLDFIELD.																	
(43)	(Gilbert Gold Mine, Ltd.)	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
M.L. 202	Grafter	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
W.R. 18	Mount Purchas Prospecting Plant	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
119	New Maori Queen	10	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...
M.Ls. 52, 94	Ravensthorpe G.M. Syndicate, N.L.	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
M.L. 60	Red, White, and Blue	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(21)	(Lucy)	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	40	2	...	...	...	...	...	...	...	...	...	5	...	...	...	27,150
STATE GENERALLY.																	
	Fremantle Smelter, Ltd.	...	...	...	1	...	...	...	...	...	...	3	...	...	...	...	...
	Total	...	...	...	1	...	...	...	...	...	...	3	...	...	...	...	53,945
	Total Gold Mining Machinery	4,016	13	6	33	28	16	1	4	23	6	28	1550	172	169		4,291,922
GREENBUSHES TINFIELD.																	
Claim 762	Agent General	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
361	Boronia Gully	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
M.A. 21	Bonanza	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
M.A. 20	Floyd's Gully	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
M.A. 22	Greenbushes Co-operative	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
331, etc.	Greenbushes Development Co., Ltd.	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
M.A. 21,	Greenbushes Tin Mining and Water Supply	5	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...
Loc. 290	Co., Ltd.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
73, etc.	King Tin Leases	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Claim 730	Kreitmayer, Floyd's Gully	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...
M.A. 25	Michael Kramer Tin Mining Co.	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Claim 775	Old Bunbury	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
M.A. 24	Rattray's	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...
Claim 318	Spring Gully Syndicate	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
M.A. 27	Stanhope	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
	State Tin-dressing plant	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
	Total	15	...	...	...	...	...	...	...	...	...	3	14	...	...	...	42,840
COPPER.																	
PHILLIPS RIVER.																	
	Phillips River Mineral Field	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	23,950
	Total	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	23,950
COAL.																	
	Collie River Mineral Field	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	37,711
	Total Machinery (other than Gold-mining)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	104,501
	TOTAL ALL MINING MACHINERY	4,031	13	6	33	28	16	1	4	23	9	42	1550	172	169		4,396,423

ROYAL MINT, PERTH BRANCH.

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 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.

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.

Charges 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.
24	0 5 0	400	4 3 4	1,300	10 4 2
30	0 6 3	410	4 5 5	1,400	10 16 8
40	0 8 4	420	4 7 6	1,500	11 9 2
50	0 10 5	430	4 9 7	1,600	12 1 8
60	0 12 6	440	4 11 8	1,700	12 14 2
70	0 14 7	450	4 13 9	1,800	13 6 8
80	0 16 8	460	4 15 10	1,900	13 19 2
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 2
390	4 1 3	1,200	9 11 8	5,000	33 6 8

For every additional 100ozs. the charge is increased by 12s. 6d.

NOTE.—Additional charges (see Regulation No. 6) 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 case of gold of the value of £3 17s. 10½d. an ounce:—

Weight of Deposit.	Rate of Charge per ounce.	Amount of Charge.	Net Value of Deposit.
Ozs.	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	1·55	64 11 8	38,872 18 4

NOTE.—From 1st July, 1905, a proportion of silver in deposits of gold is paid for by the Mint as follows:—

In deposits under 1,000ozs. gross; all silver in excess of 8 per cent. of the weight of the deposit after melting.

“ from 1,000 “ to 5,000 “ “ 6 “ “ “ “

“ “ 5,000 “ “ 10,000 “ “ 5 “ “ “ “

“ “ 10,000 “ upwards “ “ 4 “ “ “ “

The rate at which payment for silver is made is liable to fluctuation. The present price is 2s. 6d. an oz. fine.

GOLD ESCORT SERVICE.

Table of Rates fixed by the Commissioner of Police.

From	To	Period.	Rate per ounce.	Remarks.
Abbotts	Nannine	Monthly ...	d.	
Australia United Mine	Malcolm	Do. ...	1	
Burbanks	Coolgardie	Fortnightly	1½	
Burtville	Malcolm	Monthly ...	0½	
Do.	Laverton	Every two months	0¼	Not less than 1,000ozs. Actual cost: 19s. 3d.
Coolgardie	Perth	Fortnightly	0¼	On all gold for the Mint.
Cork Tree	Lawlers	Monthly ...	1	Or if escort is specially provided, cost £4 6s. 6d.
Cosmopolitan Proprietary, Ltd. ...	Kalgoorlie	Do. ...	1	
Cue	Geraldton	Do. ...	1	
Field's Find	Yalgoo	Do. ...	2	
Geraldton	Perth	Do. ...	2	
Kalgoorlie	Do.	Fortnightly	0¼	Special for Mint only.
Kanowna	Kalgoorlie	Do. ...	0¼	
Kathleen Valley	Lawlers	Monthly ...	0½	
King of the Hills	Kalgoorlie	Do. ...	2	
Laverton	Malcolm	Do. ...	0¾	Not less than 2,900 ozs.
Lawlers	Leonora or Malcolm	Do. ...	1½	4,000ozs. to 4,500ozs.
Do.	Do. do.	Do. ...	1½	Exceeding 4,500ozs.
Leinster G.M. Co.	Lawlers	Do. ...	...	Actual cost: £2 10s. 4d.
Mt. Sir Samuel	Do.	Do. ...	0½	Not less than 1,600ozs.
Malcolm	Kalgoorlie	Do. ...	0½	Not less than 7,800ozs.
Morgans	Malcolm	Do. ...	0½	Not less than 4,300ozs.
Munara Gully	Nannine	Do. ...	0½	
Nannine	Cue	Do. ...	1	Under 2,000ozs.
Do.	Do.	Do. ...	0½	2,000ozs. to 3,000ozs.
Norseman	Coolgardie	Do. ...	2	
Peak Hill	Nannine	Do. ...	2½	2,000ozs. and not exceeding 2,500ozs.
Do.	Do.	Do. ...	2	2,500ozs. and not exceeding 3,000ozs.
Do.	Do.	Do. ...	1¾	Over 3,000ozs.
Ravensthorpe	Hopetoun	Do. ...	...	Under 500ozs.: Actual cost.
Do.	Do.	Do. ...	1¼	Not less than 500ozs.
Do.	Do.	Do. ...	0½	Not less than 1,000ozs.
Wiluna	Malcolm	Do. ...	3¾	Not less than 2,000ozs.
Yalgoo	Geraldton	Do. ...	0½	
Yerilla	Kalgoorlie	Do. ...	1½	

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, or part thereof.

NOTE.—A special reduction of 25 per cent. is made for all gold 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	47·41
Standard gold	38·19

The calculation would be as follows:—

4741)3819·0(·805	·805 × £3 17s. 10d. =
3792·8	·805 × £3·894
	805
26200	19470
23705	311520
2495	£3·134(670)
	20
	s. 2·680
	12
	d. 8·8160 = £3 2s. 8d., value per ounce of gold as produced from the mine.

J. F. CAMPBELL,
Deputy Master.

31st December, 1906.