1912.

WESTERN AUSTRALIA.

REPORT

OF THE

DEPARTMENT OF MINES

FOR THE YEAR

1911.

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

PERTH:

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

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Hon. P. Collier M.L.A.
Minister for Mines

1911

MAP OF
WESTERN AUSTRALIA

Showing the Goldfields and other Mining Districts
also the distribution of useful Minerals.

Prepared in the Geological Survey Office.

Scale of English statute miles

REFERENCE

Towns ... shown thus ...	◉ EUCLA.
Railways	
Rabbit Proof Fences	
Goldfields	
Telegraph Lines & Stations	
Agricultural Areas	
Stock Routes	
Heights in feet	
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	
COAL	CC	GRAPHITE	CG
SILVER	Ag	COBALT	Co
ALUMINIUM	Al	BISMUTH	Bi
MANGANESE	Mn	DIATOM-EARTH	Si
OTHER GEMSTONES	Gm	TANTALUM	Ta
ZINC	Z	TUNGSTEN	W
SALT	Na	NICKEL & COBALT	Ni Co

Longitude 121° East of Greenwich

H. J. Pether, Government Lithographer, Perth, W.A.

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ANNUAL REPORT OF THE DEPARTMENT OF MINES, WESTERN AUSTRALIA, 1911.

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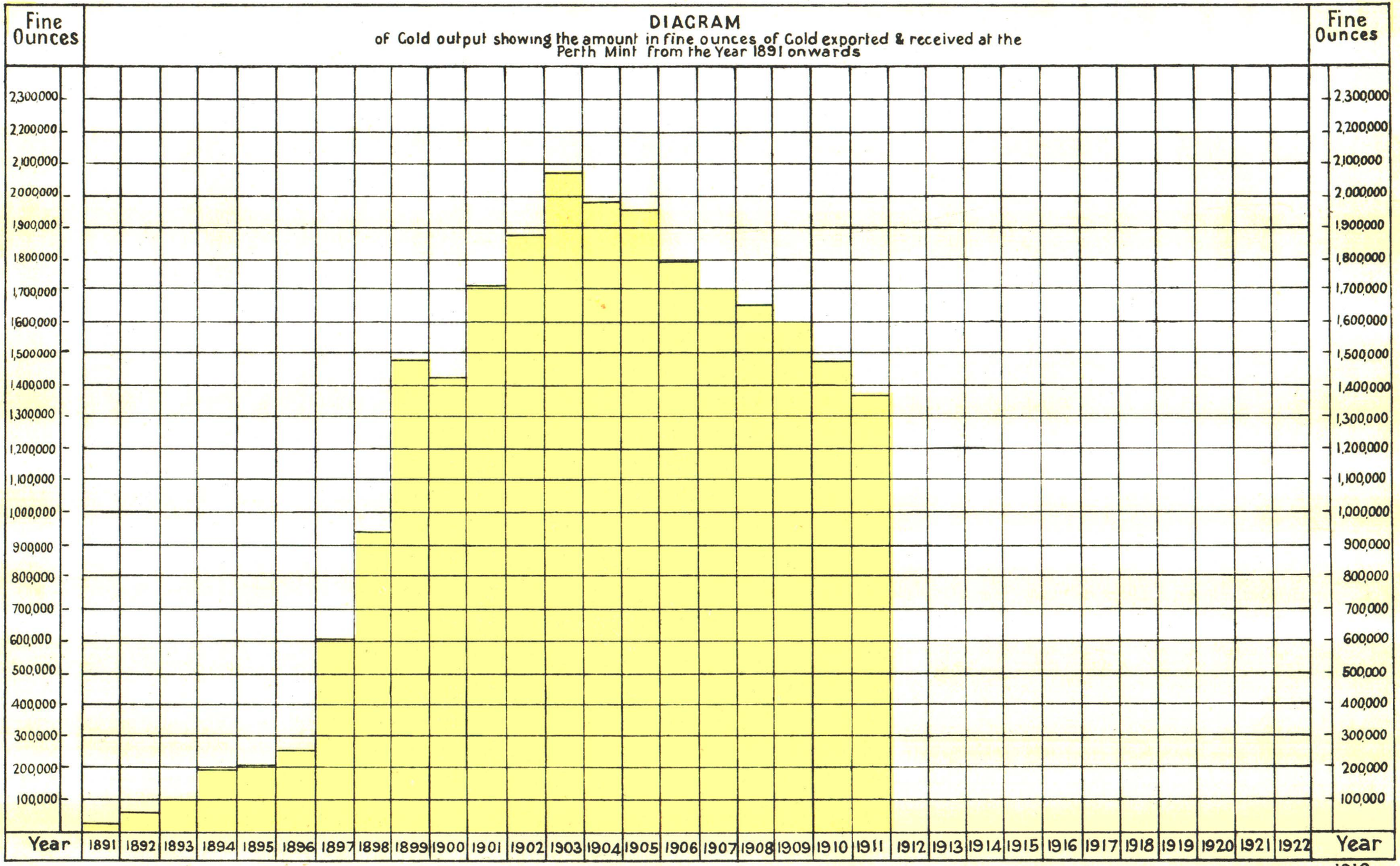
of Gold output showing the amount in fine ounces of Gold exported & received at the Perth Mint from the Year 1891 onwards



1912.

STATE OF WESTERN AUSTRALIA.

Report of the Department of Mines for the State of Western Australia for the Year 1911.

To the Hon. the Minister for Mines.

Sir,

I have the honour to submit the Annual Report of the Department for the year 1911, 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, 1912.

DIVISION I.

Summary by the Under Secretary for Mines.

PART I.—GENERAL REMARKS.

The value of the mineral output of the State for the year 1911 was £6,105,853, being £416,410 less than that for the previous year.

The principal decreases were in gold and copper. Gold fell off to the extent of £423,773, and copper £17,810.

The principal increases were in lead ore, £13,569, and tin £10,091.

The value of the gold yield was £5,823,075, being 95.36 per cent. of the total output.

The value of the copper output was £78,118, and of tin £55,220. The price of the latter remained high throughout the year.

The dividends paid by Mining Companies amounted to £826,376, a decrease of £202,017 as compared with the preceding year. The total paid in dividends to the end of 1911 is £22,177,659. To the same date the value of the total mineral production was £107,566,303, and the total gold production £103,850,487.

GOLD.

The gold yield, as in the previous year, again shows a decrease, the output being 99,764 fine ozs. less than that for 1910; while the output for that year was 124,637 fine ozs. less than that for 1909.

The average value per ton of ore treated in the State as a whole has fallen from 41.48 shillings in 1910 to 41.19 shillings in 1911, and in the East Coolgardie goldfield, from which comes over 50 per cent. of the State's yield, from 40.32 shillings to 38.14 shillings.

Comparing the tonnages of ore treated in 1910 and 1911 there is a decrease of 148,355 tons in the latter year, during which 2,735,943 tons were treated. The largest decreases were in East Murchison, Coolgardie, Mt. Margaret, Broad Arrow, and Dundas fields, the tonnages being 94,506.95, 22,305.54, 21,739.02, 19,587.17, and 17,218.73 tons respectively less than in the preceding year. The only fields showing larger tonnages were East Coolgardie and Pilbara, the increases being 90,452.83 and 477.45 tons respectively. Working costs show a slight reduction, due doubtless to managers and their staffs concentrating their energies upon the problem of how to reduce costs so as in some measure to compensate for the falling off of the ore grade. The efforts in this direction have been successful, as in many districts it is now possible to treat at a profit ore of a grade which a few years ago would have been impossible.

The average working costs per ton as published by the Chamber of Mines were:—In 1908, 19s. 3d.; in 1909, 19s. 11.5d.; in 1910, 20s. 1d.; and in 1911, 20s.

The ore value per ton in 1903 was 77.1 shillings, in 1910 it had dropped to 41.9 shillings, and in 1911, 41.6 shillings.

The profits per ton in these years were respectively 18.7 shillings, 7.1 shillings, and 6 shillings.

Nearly half the fall in the gold production is attributable to the East Murchison field, and this is due to the closing down of the Vivien, the Northern Mines, Ltd., and Gwalia Consolidated Mines, and to a large drop in the production of the Black Range and Oroya Black Range Mines. In the Yilgarn field it is accounted for by there being no production from the "Bullfinch," which contributed largely in the previous year. In all the other fields, with the single exception of Ashburton, there have been decreases, the largest being Broad Arrow, North Coolgardie, Mt. Margaret, Murchison, and Coolgardie.

The area held under mining lease for all minerals is 65,268 acres, being a decrease of 843 acres when compared with 1910. The area leased for gold mining is lesser by 325 acres, and for minerals by 518 acres. The acreage held under Prospecting Area is 48,528 acres, including 38,500 acres for coal and oil. This shows a decrease on the area held in 1910 of 11,789 acres. The number of men engaged in all classes of mining is 16,596, a decrease of 1,115 as compared with the previous year. The number of men engaged in mining for minerals other than gold decreased by 264, due principally to copper and coal, the former having decreased by 242 and the latter by 58. In mining for pyritic ore and lead there were small increases. In gold mining there was a decrease of 851.

The average value of gold produced per man employed on gold mines has decreased from £386.63 in 1910 to £380.77 in 1911.

The average tonnage raised per man was 184.94 tons, and in the preceding year 186.43 tons.

Throughout the East Murchison field there has been a falling off. In the Lawlers district the closing down of the Northern Mines has caused a depression, but promising discoveries were reported from Mt. Keith, a locality about half way between Lawlers and Wiluna, and from a spot about 10 miles East of

Lawlers. In the Wiluna district there has not been any improvement.

In the Black Range district the Youanmi Gold Mines, Ltd., on which a plant has just been erected, is expected to add materially to the output. The latter shows a decrease, attributable to the cessation of operations on three mines and a decreased output in two others.

In the Murchison goldfield the Cue district shows an improvement, attributable to the increased output from the "Hidden Treasure" mine, which more than compensated for reductions in others. A new development was reported from a property called the "Bob Bell" about a mile from Cue, and a good crushing was put through. Other centres were quiet.

The Day Dawn district shows a decrease owing to a lesser production by the Great Fingall in which, however, developments at depth are encouraging.

In the Nannine district there was an increase, attributable to activity at Meekatharra and Quinns. The former is a most promising centre and Quinn's is also improving. Nothing of note transpired in any of the other centres.

In the Mt. Magnet district there was a decrease, but many of the mines show steady progress, and one or two finds made during the year give much promise. The production of the Mt. Margaret field shows a decrease, and in the Mt. Morgans district matters have been exceedingly quiet. The Mt. Margaret district recorded an increase, and towards the end of the year there was a decided all-round improvement.

In the Mt. Malcolm district, although there was a decrease, steady progress has been made, and the mines are developing as well as hitherto.

The Coolgardie field shows a decrease, but development in a couple of outlying centres promised an improvement in the future. The amblygonite find referred to in last year's report has been abandoned, it not having come up to expectations.

The North Coolgardie field records a decreased output, but in the Menzies centre two or three locally owned shows give much promise. The various centres have altered very little excepting Comet Vale, where there have been excellent developments, and which promises to prove a splendid mining field.

The Niagara district also seems to have a good mine in the Lubra Queen, which has been opening up satisfactorily.

The North-East Coolgardie goldfield again records a decreased output, and mining throughout it has remained quiet. The construction of the Trans-Australian Railway, it is hoped, may give an impetus to prospecting in its eastern portions.

The Broad Arrow goldfield shows a decrease, and mining throughout the different centres has been exceedingly quiet excepting in the Siberia district where there are several promising mines, particularly at Ora Banda. The lack of crushing facilities and shortage of water have retarded development, but both these difficulties will be overcome in the coming year when it is expected the output will be considerably increased.

In the East Coolgardie goldfield the number of men engaged in mining was 5,836, and in 1910, 5,729, an increase of 107. This goldfield gave employment to about 37 per cent. of the number of men employed in gold mining in the State, and produced during the year 776,494 fine ozs. of gold, about 56 per cent. of the total gold yield. The tonnage treated during the year was 1,726,998 tons, being greater than in 1910 by 90,453 tons. The average grade of the ore fell from 40.32 shillings in 1910 to 38.14 shillings in 1911. The output shows a slight decrease, but the field is looking well, and the excellent developments at depth in the Golden Horseshoe mine are most encouraging.

The Yilgarn goldfield shows a decrease, due in a great measure to the absence of any output from the "Bullfinch" mine on which plant is in course of erection. The prospecting which followed on the "Bullfinch" discovery has resulted in the opening up of promising shows in some of the outlying centres. The discovery of a new find known as "Weston's" about 40 miles west of Southern Cross, has resulted in some promising mines being opened up. The outlook for the field is good.

The Dundas field shows a decrease, due in a great measure to a serious shortage of water, which considerably hampered operations. The mines on the whole are looking well, and a development which took place on the Lady Miller Leases is very promising.

The Phillips River field, unlike in previous years, shows a decrease due to the closing down of the mines controlled by the Phillips River Gold and Copper Company. This, it is hoped, is only temporary, although operations may not be resumed until late in the new year. The difficulties caused by shortage of water in the previous year were overcome by a good downpour which replenished the dams. The smaller mines in the field have been opening up satisfactorily.

In the Northern goldfields, Kimberley, Pilbara, West Pilbara, and Gascoyne, there has been little change. The railway from Port Hedland to Marble Bar has not so far caused any great revival in mining, which seems to languish for want of the capital necessary to properly develop various promising mines which are known to exist. It is proposed to despatch a properly qualified officer early in the year to make a special report on the best means to adopt for the purpose of pushing ahead the industry in these remote fields.

TIN.

The quantity of tin exported was less than in 1910 by 5 tons, but the total value was greater by £10,091, due to the improved prices ruling. The Greenbushes tinfield produced 411.12 tons, valued at £44,638, being an improvement on the previous year, and the Pilbara field 148.65 tons, valued at £16,064, being a slight decrease in tonnage, but an increase in value. The former field shows increased activity, but the latter is stagnating for the want of necessary capital.

TANTALITE.

None of this mineral was reported or exported, consequent on the absence of any market.

COPPER.

The value of copper exported was £78,118, being £17,810 less than for 1910.

The quantity raised in the West Pilbara field was 9,082.02 tons, valued at £69,140, an increase in tonnage of 602.22 tons, and in value of £4,279.

In the Pilbara field 30.10 tons, valued at £316, were raised, but none in 1910.

In the Phillips River field the production was 13,563.68 tons, valued at £46,862, a decrease in tonnage of 12,307.97 tons, and in value of £49,883. This is entirely owing to the closing down of the mines of the Phillips River Gold and Copper Company, which, however, is not expected to be permanent. None of the other fields produced any.

The average number of men engaged in copper mining was 317, and in 1910, 559.

COAL.

Six coal mines are working on the Collie field, and the output for the year was 249,890 tons, being 12,276 tons less than in 1910. The principal cause of this decrease was an unfortunate fire which broke out in the Collie Proprietary mine at the end of 1910, and which necessitated sealing up the old workings and opening up in another portion of the mine. A new mine, the Newcastle, commenced to raise coal in July, and contributed over 6,000 tons to the total output. All the mines are working and the district is flourishing. The number of men employed, 463, is less by 58 than in 1910, and the output per man was, in 1910, 503 tons, and in 1911, 539 tons.

OTHER MINERALS.

The quantity of silver obtained as a by-product and exported was 169,043ozs., valued at £18,333, and for the preceding year 176,139ozs., valued at £18,777.

Lead ore to the extent of 1,549 tons, valued at £15,002, was exported, and 9,939 tons of pyritic ore, valued at £3,529, and 194 tons of wolfram, valued at £877, were reported to the Department.

No asbestos or mica was reported or exported.

MINING GENERALLY.

Again, as formerly, Western Australia is not alone in its decreased output, the unpleasant experience being shared by the other States of Australasia, excepting South Australia and Northern Territory, where the combined output is greater, also Papua and New Zealand, which each have increases. In spite of the falling output it is hoped that the new discoveries made during the year, together with judicious assistance in the way of advances for machinery, provision of crushing and other facilities will cause an improvement ere long. At the same time it is to be feared that, unless capital is more easily obtainable to carry properties beyond the prospecting stage, any very marked increase in the gold yield is on present prospects unlikely. The discoveries at Payne's Find, in the Yalgoo Goldfield, at Mt. Egerton, in the Peak Hill Goldfield, and Weston's, in the Yilgarn Field, all separated from each other by considerable distances, are very encouraging and promise to come up to expectations. It has also to be remembered that the existence of a most severe drought over the whole of the fields has doubtless tended to retard operations and has, unquestionably, militated against prospecting, particularly in remote localities. Another contributing factor to the falling output is the general diminution of the ore grade as greater depth is reached. There has been also an undoubted shortage of labour, due possibly to the phenomenal amount of land settlement taking place in the State, and in which, doubtless, the miner took part. A most important development of the year was the location by diamond drilling, at a depth of 2,600ft. in the Golden Horseshoe mine, of a lode 15ft. in width, assaying 30dwts. to the ton. Subsequently another drill hole located what is believed to be the same lode, but with a width of 27ft., assaying 18dwts. to the ton. This will undoubtedly lead to other mining companies going in for deeper sinking to locate similar ore bodies at depth. The Government continues to render assistance to *bona fide* prospectors by the loans of equipment, and means of transport, and the whole of the Department's plant is in constant demand. The area held as Prospecting Areas for gold and minerals, viz., 10,028 acres, although less than for the preceding years, is still an indication that the prospector is not idle.

The assistance rendered under the provisions of the Mining Development Act, details of which are given in the report of the State Mining Engineer, and which is intended to assist in the development of partly opened up mines, principally by their equipment with machinery, is proof of the anxiety of the Government to assist the industry. It is also intended in the near future to carry out a good deal of systematic searching by means of diamond drilling in localities recommended by expert officers of the Department.

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 1911.

Fig. 1

Output of Gold from various Goldfields as reported to Mines Dept.

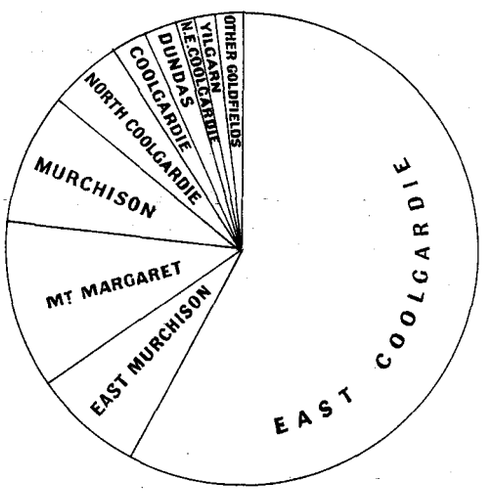


Fig. 2

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

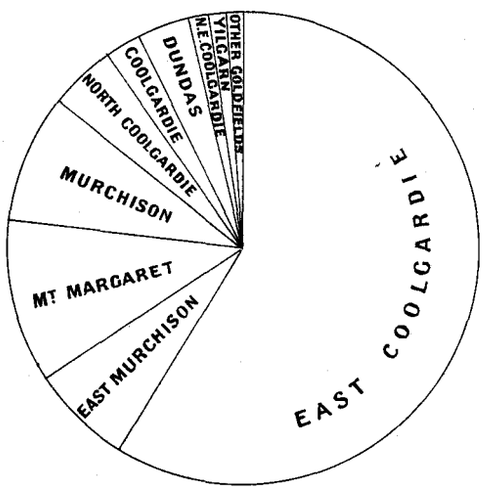


Fig. 3

Value of Gold and other Minerals.

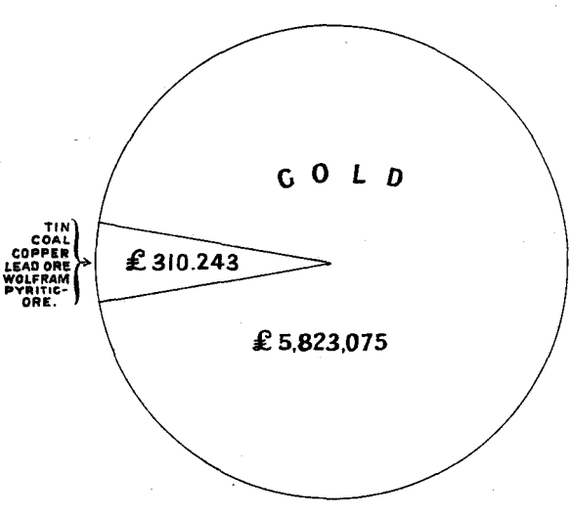


Fig. 4

Value of Minerals other than Gold.

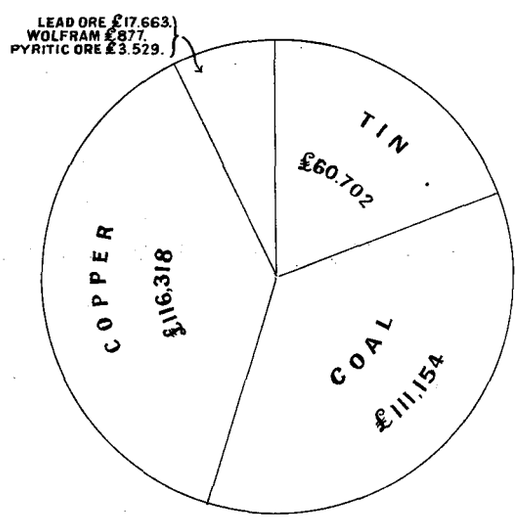


Fig. 5

Areas of Land leased for Goldmining on various Goldfields.

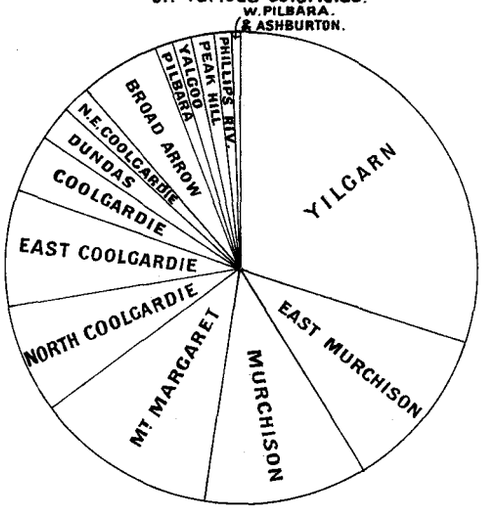
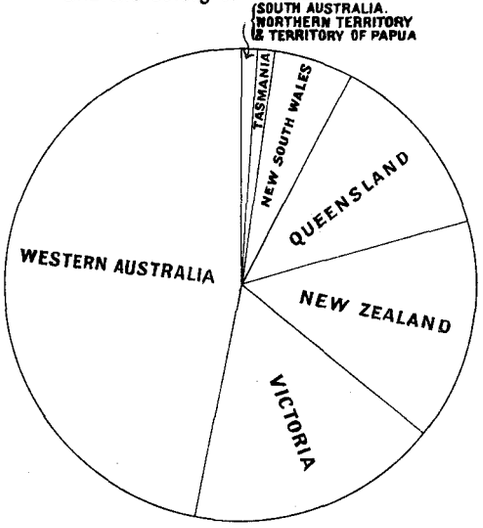


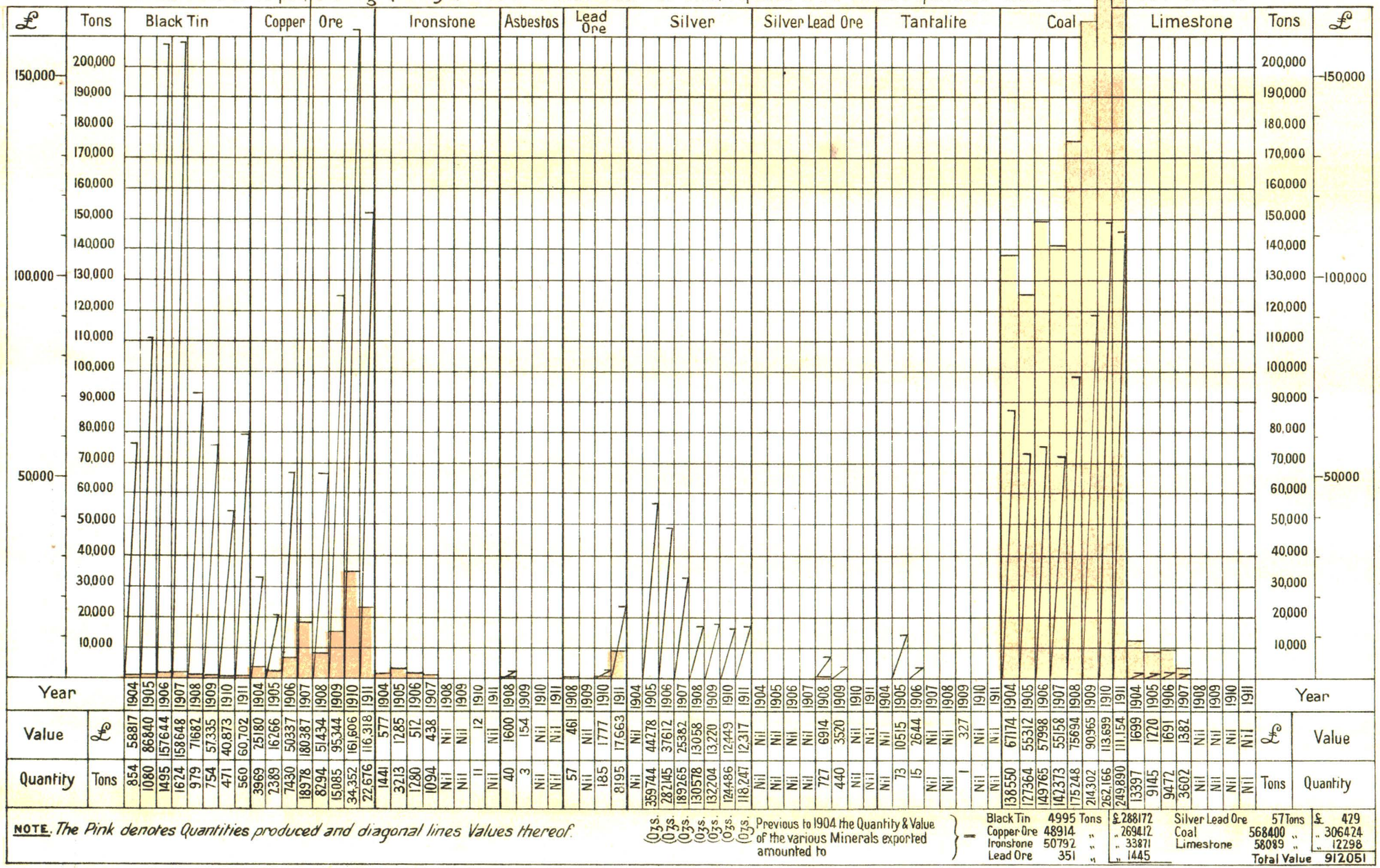
Fig. 6

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



DIAGRAM

of the Mineral Output, showing Quantity & Value of Minerals other than Gold, reported to the Mines Department from the Year 1904 onwards



Year		1904	1905	1906	1907	1908	1909	1910	1911
Black Tin	Value £	58817	86840	157644	158648	71682	57335	40,873	60,702
	Quantity Tons	854	1080	1495	1624	979	754	471	560
Copper Ore	Value £	25180	16266	50337	180387	51434	95,344	161,606	116,318
	Quantity Tons	3969	2389	7430	18978	8294	15085	34,352	22,676
Ironstone	Value £	577	1285	512	438	Nil	Nil	12	Nil
	Quantity Tons	1441	3213	1280	1094	Nil	Nil	11	Nil
Asbestos	Value £	1600	154	Nil	Nil				
	Quantity Tons	40	3	Nil	Nil				
Lead Ore	Value £	461	Nil	1777	17,663				
	Quantity Tons	57	Nil	185	2195				
Silver	Value £	Nil	44278	37612	25382	13058	13220	12449	12,317
	Quantity Tons	Nil	359744	282145	189265	130578	132204	124486	118,247
Silver Lead Ore	Value £	Nil	Nil	Nil	Nil	6914	3520	Nil	Nil
	Quantity Tons	Nil	Nil	Nil	Nil	727	440	Nil	Nil
Tantalite	Value £	Nil	10515	2644	Nil	Nil	Nil	Nil	Nil
	Quantity Tons	Nil	73	15	Nil	Nil	1	Nil	Nil
Coal	Value £	67174	55312	57998	55158	75694	90,965	113,699	111,154
	Quantity Tons	138550	127364	149765	142373	175248	214,302	262,166	249,890
Limestone	Value £	1699	1220	1691	1382	Nil	Nil	Nil	Nil
	Quantity Tons	13397	9145	9472	3602	Nil	Nil	Nil	Nil

NOTE. *The Pink denotes Quantities produced and diagonal lines Values thereof.*

(0Zs. (0Zs. (0Zs. (0Zs. (0Zs. (0Zs. Previous to 1904 the Quantity & Value of the various Minerals exported amounted to =

Black Tin	4995 Tons	£ 288172	
Copper Ore	48914	" 269412	
Ironstone	50792	" 33871	
Lead Ore	351	" 1445	
Silver Lead Ore	57 Tons	£ 429	
Coal	568400	" 306424	
Limestone	58089	" 12298	
		Total Value	912051

1912.

PART II.—MINERALS RAISED.

TABLE 1.

Quantity and Value of all the Minerals produced during 1910 and 1911.

Description of Minerals.	1910.		1911.		Increase or Decrease for Year compared with 1910.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		£		£		£
1. Coal (raised), statute tons	262,166	113,699	249,890	111,154	− 12,276	− 2,545
2. Copper { Ore (exported), statute tons ...	6,309	27,271	9,825	33,709	+ 3,516	+ 6,438
2. Copper { Ingot, Matte, etc. (exported), statute tons	1,281	68,657	828	44,409	− 453	− 24,248
3. Gold (exported and minted), fine ounces...	1,470,632	6,246,848	1,370,868	5,823,075	− 99,764	− 423,773
4. Ironstone (reported), statute tons ...	10	12	...	...	− 10	− 12
5. Lead Ore (exported), statute tons ...	248	1,433	1,549	15,002	+ 1,301	+ 13,569
6. Pyritic Ore (reported), statute tons ...	...	...	9,939	3,529	+ 9,939	+ 3,529
7. Silver (exported), fine ounces	176,139	18,777	169,043	18,333	− 7,096	− 444
8. Tin, Ore and Ingot (exported), statute tons	500	45,129	495	55,220	− 5	+ 10,091
9. Wolfram (exported), statute tons ...	2	190	9	826	+ 7	+ 636
10. Zinc, Spelter, etc. (exported), statute tons	12	147	12	189	=	+ 42
Unenumerated (exported)	...	100	...	407	...	+ 307
Total Values ... £	...	6,522,263	...	6,105,853	...	− 416,410

TABLE 2.

Value and Percentage of Mineral Exports in relation to the value of Total Exports from Western Australia.

Year.	Total Exports.	Mineral Exports (exclusive of Coal).	Percentage.
	£	£	
1901	8,515,623	6,920,118	81·27
1902	9,051,358	7,530,319	83·20
1903	10,324,732	8,727,060	84·53
1904	10,271,489	8,625,676	83·98
1905	9,871,019	7,731,954	78·33
1906	9,832,679	7,570,305	76·99
1907	9,904,860	7,544,992	76·17
1908	9,518,020	7,151,317	75·13
1909	8,860,494	5,906,673	66·66
1910	8,299,781	4,795,654	57·78
1911	10,606,863	7,171,638	67·61
11 Years Total	105,056,918	79,675,706	75·84

TABLE 3.

Summary of Gold Exported and received at the Perth Branch of the Royal Mint during 1910 *and* 1911 *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.					
	1910.	1911.	1910.	1911.	Percentage for each Goldfield.		Average Value of Gold per ton of Ore treated.	
					1910.	1911.	1910.	1911.
	fine ozs.	fine ozs.	fine ozs.	fine ozs.			shillings.	shillings.
1. Kimberley	487	149	265	171	·02	·01	...	...
2. Pilbara	5,894	4,874	5,370	4,608	·38	·34	119·32	94·33
3. West Pilbara	1,451	877	1,484	983	·10	·07	248·42	165·58
4. Ashburton	173	271	248	256	·02	·02	...	...
5. Gascoyne	26	8	26	8	...	...	...	...
6. Peak Hill	3,057	134	4,327	1,747	·30	·13	19·48	...
7. East Murchison	138,748	96,455	130,371	102,391	9·17	7·65	37·42	86·30
8. Murchison	130,983	123,365	124,351	119,653	8·74	8·94	45·16	42·49
9. Yalgoo	726	295	1,333	1,162	·09	·09	59·30	101·65
10. Mt. Margaret	160,483	152,583	160,281	152,474	11·27	11·39	40·41	41·25
11. North Coolgardie	62,776	60,480	72,748	64,760	5·11	4·84	50·01	56·08
12. Broad Arrow	322	457	15,482	7,153	1·09	·53	43·25	64·11
13. North-East Coolgardie ...	19,082	18,529	23,027	19,555	1·62	1·46	32·12	31·19
14. East Coolgardie	832,274	809,547	778,480	776,494	54·74	57·99	40·32	38·14
15. Coolgardie	38,264	33,841	37,911	33,754	2·67	2·52	37·46	45·19
16. Yilgarn	24,049	14,688	27,858	18,811	1·96	1·40	69·19	82·96
17. Dundas	43,261	48,361	29,627	28,990	2·08	2·17	44·94	64·01
18. Phillips River	8,304	5,616	8,195	5,657	·58	·42	81·70	67·84
State generally	272	338	847	360	·06	·03	...	...
Totals and averages ...	1,470,632	1,370,868	1,422,231	1,338,987	100·00	100·00	41·48	41·19

Throughout this report, when dealing with the total gold yield of the State, the total compiled from he export and Royal Mint figures is used, as alluvial and other gold not reported to the Department is embraced in this return.

The Ashburton, Broad Arrow, and Dundas Fields each show an increase in the export and Mint figures, and Ashburton in the reported.

TABLE 4.

Number of Gold-producing Mines in the several Goldfields and Districts during 1910 and 1911.

Goldfield.	District.	1910.		1911.		Increase or Decrease.
		District.	Goldfield.	District.	Goldfield.	
Kimberley	... ...	...	...	...	...	...
Pilbara	Marble Bar ...	16	27	18	28	+ 1
	Nullagine	11		10		
West Pilbara	... ...	...	5	...	5	=
Ashburton	... ...	...	...	...	...	...
Gascoyne	... ...	...	...	...	...	...
Peak Hill	... ...	...	8	...	5	− 3
East Murchison ...	Lawlers	40	123	27	94	− 29
	Wiluna	26		25		
	Black Range ...	57		42		
Murchison	Cue	61	186	37	152	− 34
	Nannine	78		71		
	Day Dawn ...	8		14		
	Mt. Magnet ...	39		30		
Yalgoo	... ...	...	12	...	8	− 4
Mt. Margaret ...	Mt. Morgans ...	15	91	11	85	− 6
	Mt. Malcolm ...	43		42		
	Mt. Margaret ...	33		32		
North Coolgardie ...	Menzies	46	140	43	129	− 11
	Ularring	33		29		
	Niagara	28		20		
	Yerilla	33		37		
Broad Arrow	... ...	...	48	...	42	− 6
North-East Coolgardie	Kanowna	34	38	35	39	+ 1
	Kurnalpi	4		4		
East Coolgardie ...	East Coolgardie ...	79	85	62	68	− 17
	Bulong	6		6		
Coolgardie	Coolgardie	58	83	44	66	− 17
	Kunanalling ...	25		22		
Yilgarn	... ...	...	58	...	98	+ 40
Dundas	... ...	...	39	...	41	+ 2
Phillips River	... ...	...	24	...	24	=
Totals		...	967	...	884	− 83

Table 5.

Gold Yield from Registered Gold Mining Companies and Gold Mining Leases for the Years 1908, 1909, 1910, *and* 1911.

Goldfield.	Registered Companies producing over 12,000ozs.								Registered Companies producing under 12,000ozs.								Leases, exclusive of Sundry Claims and Treatments.							
	1908.		1909.		1910.		1911.		1908.		1909.		1910.		1911.		1908.		1909.		1910.		1911.	
	No.	Fine ozs.	No.	Fine ozs.	No.	Fine ozs.	No.	Fine ozs.	No.	Fine ozs.	No.	Fine ozs.	No.	Fine ozs.	No.	Fine ozs.	No.	Fine ozs.	No.	Fine ozs.	No.	Fine ozs.	No.	Fine ozs.
Kimberley	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	59	...	...	...	...	...	...
Pilbara	...	...	...	...	...	...	...	...	1	31	4	128	2	133	...	...	24	4,164	26	3,095	25	3,209	28	2,796
West Pilbara ...	...	...	...	...	...	...	...	...	1	274	1	29	...	...	...	...	5	86	4	1,109	5	1,269	5	820
Peak Hill	...	...	...	...	...	...	...	...	2	7,200	2	7,136	2	3,189	1	1,134	8	582	6	664	6	883	4	330
East Murchison ...	5	99,324	4	97,632	3	70,628	3	69,573	10	19,619	8	33,986	9	35,717	12	15,319	88	21,419	109	19,670	110	16,397	79	11,406
Murchison	1	81,585	1	41,269	1	44,895	1	36,767	10	17,420	12	21,834	11	24,433	10	20,476	178	50,058	184	64,924	174	49,420	141	57,459
Yalgoo	...	...	...	...	...	...	...	...	...	...	2	629	3	808	2	39	10	544	12	1,175	9	403		547
Mt. Margaret ...	4	100,741	4	107,252	2	102,400	2	107,918	9	17,268	11	16,876	9	27,484	16	24,982	66	33,083	66	28,193	80	23,966	67	15,571
N. Coolgardie ...	...	...	...	...	...	...	...	...	21	42,572	18	35,657	19	26,083	20	22,803	143	42,785	149	37,592	121	31,524	109	32,258
Broad Arrow	...	...	...	...	...	...	...	...	5	5,296	3	2,352	2	1,078	...	...	46	13,133	45	14,770	46	9,307	42	5,205
N.E. Coolgardie ...	...	...	...	...	..	...	...	...	7	15,804	9	14,781	6	11,517	7	9,710	40	7,394	44	7,803	32	5,119	32	4,771
E. Coolgardie ...	13	802,220	13	811,789	15	703,705	11	678,903	30	30,449	31	31,120	18	25,180	17	49,994	70	28,776	69	36,673	52	33,163	40	27,909
Coolgardie	...	...	...	...	...	...	...	...	15	24,141	14	15,966	11	19,310	17	20,591	74	13,240	72	15,723	72	13,796	49	9,502
Yilgarn	...	...	...	...	...	...	...	...	5	9,744	5	10,526	5	9,782	15	10,679	34	9,779	40	8,312	53	16,449	83	6,472
Dundas	...	...	1	12,750	1	13,626	1	16,521	6	20,627	7	6,017	7	9,011	5	2,947	31	6,524	36	7,577	31	4,537	35	8,260
Phillips River ...	...	...	...	...	...	...	...	...	4	1,386	4	3,266	6	4,695	5	1,324	21	3,019	19	3,445	18	3,018	19	3,886
Total	23	1,083,870	23	1,070,692	22	935,254	18	909,682	126	211,831	131	200,303	110	198,420	127	179,998	839	234,645	881	250,725	834	212,460	739	187,192

Table 6.

Increase or Decrease in Output of certain producing Gold Mines in 1911, as compared with 1910.

Goldfield.	District.	Name of Mine.	Gold Production.		Increase or Decrease for Year, compared with 1910.
			1910.	1911.	
			Fine ozs.	Fine ozs.	Fine ozs.
Peak Hill ...	... ...	1. Peak Hill Goldfield, Ltd.	3,130·20	1,134·33	− 1,995·87
East Murchison ...	Lawlers ...	2. Northern Mines, Ltd.	23,467·71	21,014·20	− 2,453·51
Do.	do. ...	3. Bellevue, Ltd.	1,985·18	790·27	− 1,194·91
Do.	Wiluna	4. Gwalia Consolidated, Ltd.	7,311·49	1,513·10	− 5,798·39
Do.	Black Range ...	5. Black Range Kohinoor Mining Co., N.L. ...	1,389·81	765·22	− 624·59
Do.	do. ...	6. Havilah G.M. Co., N.L.	3,662·64	4,042·89	+ 380·25
Do.	do. ...	7. Black Range Mining Co., N.L.	21,600·82	23,048·13	+ 1,447·31
Do.	do. ...	8. Oroya Black Range, Ltd.	25,558·90	25,510·44	− 48·46
Do.	do. ...	9. Sandstone G.M. Co., N.L.	5,769·41	3,483·48	− 2,285·93
Murchison	Cue	10. Barrambie Ranges G.M. Co., N.L. ...	1,009·02	312·96	− 696·06
Do.	do. ...	11. Hidden Treasure	34·85	6,158·67	+ 6,123·82
Do.	Nannine ...	12. Fenian leases	14,954·38	15,945·59	+ 991·21
Do.	do. ...	13. Ingliston Consols Extended leases... ...	7,115·68	10,314·26	+ 3,198·58
Do.	do. ...	14. Ingliston Extended G.Ms., Ltd.	6,260·67	6,546·98	+ 286·31
Do.	do. ...	15. Marmont	4,179·24	5,551·65	+ 1,372·41
Do.	Day Dawn ...	16. Great Fingall Consolidated, Ltd.	44,895·33	36,767·41	− 8,127·92
Do.	Mt. Magnet ...	17. Great Boulder No. 1, Ltd.	7,693·64	6,766·20	− 927·44
Do.	do. ...	18. Morning Star Gold Mines, Ltd.	6,405·00	4,767·17	− 1,637·83
Mt. Margaret ...	Mt. Morgans ...	19. Westralia Mt. Morgans G.Ms. Co., Ltd. ..	3,099·08	1,269·72	− 1,829·36
Do.	do. ..	20. Hills Proprietary, Ltd.	5,331·02	3,552·94	− 1,778·08
Do.	Mt. Malcolm ...	21. Sons of Gwalia, Ltd.	67,099·67	70,412·34	+ 3,312·67
Do.	do. ...	22. Sons of Gwalia South G.Ms., Ltd.	10,555·68	9,806·79	− 748·89
Do.	do. ...	23. North Star: Malcolm Prospecting Co., N.L.	2,093·41	1,335·84	− 757·57
Do.	Mt. Margaret ...	24. Craiggiemore leases	1,800·65	1,457·87	− 342·78
Do.	do. ...	25. Ida H. G.M. Co., Ltd.	7,826·23	8,711·09	+ 884·86
Do.	do. ...	26. Lancefield G.M. Co., Ltd.	35,299·63	37,505·50	+ 2,205·87
North Coolgardie ...	Menzies	27. Gladsome leases	3,577·10	4,802·03	+ 1,224·93
Do.	do. ...	28. Sand Queen G.Ms., Ltd.	2,419·30	5,455·10	+ 3,035·80
Do.	do. ...	29. Menzies Consolidated Gold Mines, Ltd. ...	11,542·20	10,458·94	− 1,083·26
Do.	do. ...	30. Menzies Gold Mine leases	1,996·99	2,539·80	+ 542·81
Do.	Ularring... ...	31. Golden Pole G.Ms., Ltd.	1,265·14	1,578·47	+ 313·33
Do.	do. ...	32. Lady Gladys G.M. Co., N.L....	1,658·61	741·11	− 917·50
Do.	Niagara	33. Champion	2,838·04	2,292·22	− 545·82
Do.	do. ...	34. Englishman: Cosmopolitan Proprietary, Ltd.	1,893·31	216·24	− 1,677·07
Do.	do. ...	35. Orion Mines, Ltd.	2,232·87	2,043·50	− 189·37
Do.	Yerilla	36. Gawler G.M. Co., Ltd.	1,493·81	614·88	− 878·93
Broad Arrow ...	... .	37. Gimblet South	1,229·62	...	+ 1,229·62
Do.	... ...	38. Siberia Consols	233·27	1,238·17	+ 1,004·90
Do.	... ...	39. Slippery Gimblet leases	4,376·15	831·36	− 3,544·79
N.E. Coolgardie ..	Kanowna ...	40. Sirdar G.M. Co., Ltd.	2,708·39	1,472·09	− 1,236·30
Do.	do. ...	41. North White Feather G.Ms., Ltd. ...	6,545·99	5,425·14	− 1,120·85
Do.	do. ...	42. White Feather Main Reefs (1906), Ltd. ...	1,812·87	963·26	− 849·61
East Coolgardie ...	East Coolgardie	43. Golden Ridge G.M. Co., Ltd.	18,021·37	17,496·80	− 524·57
Do.	do. ...	44. Associated G.Ms. of W.A., Ltd.	41,351·08	32,838·72	− 8,512·36
Do.	do. ...	45. Associated Northern Blocks (W.A.), Ltd....	12,126·93	11,406·49	− 720·44
Do.	do. ...	46. Central and West Boulder G.Ms., Ltd. ...	231·09	6,304·09	+ 6,073·00
Do.	do. ...	47. Chaffers G.M. Co., Ltd.	17,040·61	10,322·07	− 6,718·54
Do.	do. ...	48. Golden Horseshoe Estates Co., Ltd. ...	97,885·44	95,079·80	− 2,805·64
Do.	do. ...	49. Great Boulder Perseverance G.M. Co., Ltd.	26,832·39	72,120·88	+45,288·49
Do.	do. ...	50. Great Boulder Proprietary G.Ms., Ltd. ...	138,707·05	133,776·44	− 4,930·61
Do.	do. ...	51. Hainault G.Ms., Ltd.	21,651·15	18,578·07	− 3,073·08
Do.	do. ...	52. Ivanhoe Gold Corporation, Ltd.	116,147·68	113,742·34	− 2,405·34
Do.	do. ...	53. Kalgurli G.Ms., Ltd.	78,595·23	63,306·75	−15,288·48
Do.	do. ...	54. Lake View and Star, Ltd.	45,352·56	57,361·92	+12,009·36
Do.	do. ...	55. North Kalgurli Co., Ltd.	8,105·13	7,994·89	− 110·24
Do.	do. ...	56. Oroya Links, Ltd.	56,082·14	40,827·71	−15,254·43
Do.	do. ...	57. South Kalgurli G.Ms., Ltd.	34,086·47	33,773·41	− 313·06
Do.	do. ...	58. Golden Zone leases	9,855·17	10,814·20	+ 959·03
Do.	do ...	59. Hannan's Reward, Ltd.	4,078·54	3,555·83	− 522·71
Do.	Bulong	60. Southern Cross leases	62·75	1,077·24	+ 1,014·49
Coolgardie	Coolgardie ...	61. Burbanks Birthday G.Ms., Ltd.	2,000·94	1,477·69	− 523·25
Do.	do. ...	62. Burbanks Main Lode (1904), Ltd.	9,698·36	10,834·51	+ 1,136·15
Do.	do. ...	63. Tindal's Coolgardie G.M. Co., N.L. ...	5,311·25	5,151·73	− 159·52
Do.	Kunanalling ...	64. Carbine leases...	1,534·55	1,448·37	− 86·18
Yilgarn	... ...	65. Bullfinch Proprietary (W.A.), Ltd. ...	10,958·88	5,544·42	− 5,414·46
Do.	... ...	66. Marvel Loch G.M. Co., N.L.	5,696·33	277·80	− 5,418·53
Do.	... ...	67. British and Foreign Development Syndicate, Ltd.	2,935·13	2,413·05	− 522·08
Dundas	... ...	68. Cumberland G.M. Co., N.L.	3,475·94	2,698·41	− 777·53
Do.	... ...	69. Mararoa G.M. Co., N.L.	13,626·39	16,520·73	+ 2,894·34
Do.	... ...	70. Princess Royal G.M. Co., N.L.	2,015·13	227·03	− 1,788·10
Do. ...	... ...	71. Westralia Waihi G.Ms., N.L.	2,780·54	10·06	− 2,770·48
Phillips River ...	.. ..	72. Flag Gold and Copper Mining Co., Ltd. ...	1,541·02	...	− 1,541·02
		Totals	1,155,140·24	1,126,138·80	− 29,001·44

Of the above 72 gold mines, 22 produced 95,699·92 fine ounces more, and 50 produced 124,701·36 fine ounces less than in 1910, being a net decrease of fine ounces 29,001·44.

TABLE 7.

Averages of Gold Ore raised and treated, and Gold produced therefrom, per man employed on the several Goldfields of the State, during 1910 and 1911.

Goldfield.	1910.				1911.			
	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.
	tons.	tons.	fine ozs.	fine ozs.	tons.	tons.	fine ozs.	fine ozs.
1. Kimberley	..	...	...	...	...	...	...	...
2. Pilbara	44·50	22·25	62·50	31·25	60·68	29·56	67 38	32·83
3. West Pilbara	149·20	47·76	436·29	130·89	59·21	24·38	115·41	47·52
4. Ashburton	...	...	...	...	...	...	...	...
5. Gascoyne	...	...	...	...	...	...	...	...
6. Peak Hill	547·31	204·33	125·55	46·87	...	...	...	...
7. East Murchison	293·01	165·37	129·07	72·85	254·25	142·99	129·23	72·68
8. Murchison	210·92	112·83	112·13	59·99	163·73	78·28	89·33	42·81
9. Yalgoo	60·73	31·41	42·40	21·93	27·62	12·80	33·05	15·32
10. Mt. Margaret	336·81	196·84	160·27	93·67	367·58	220·29	178·46	106·95
11. North Coolgardie	125·57	73·74	87·22	51·22	141·52	83·68	93·42	55·24
12. Broad Arrow	191·52	116·00	97·51	59 06	47·61	30·03	35·93	22·66
13. North-East Coolgardie ...	226·63	137·62	85·40	51·86	295·45	171·49	108·25	62·83
14. East Coolgardie	515·28	289·04	244·59	137·20	519·87	299·57	233·46	134·53
15. Coolgardie	135·03	101·57	72·77	44·79	156·98	94·48	83·53	50·27
16. Yilgarn	101·83	53·56	82·94	43·62	83·25	41·26	82·29	40·78
17. Dundas	215·16	142·05	132·85	75·13	218·60	129·38	164·74	97·50
18. Phillips River	143·25	81·28	137·78	78·17	110·08	60·21	87·92	38·09
Total Averages ...	330·20	186·43	161·21	91·02	331·16	184·94	160·50	89·64

The average value of gold produced per man employed above and below ground was £386.63 in 1910 and £380.77 in 1911. The average tonnage of ore raised shows a slight decrease from 186.43 tons to 184.94 tons. The average tonnage raised per man is again highest in the East Coolgardie Field, viz., 299.57 tons, average value £571, the next being the Mt. Margaret Field, with 220.29 tons, average value £454.

TABLE 8.

Output of Gold from the several States of Australia, the Northern Territory, the Territory of Papua, and the Dominion of New Zealand during 1911.

State.	Output of Gold.	Value.	Percentage of total Output of Australasia.
	Fine ozs.	£	
1. Western Australia	1,370,867·52	5,823,075	46·85
2. Victoria	504,000·00	2,140,855	17·22
3. Queensland	386,164·00	1,640,323	13·20
4. New South Wales	181,121·00	769,353	6·19
5. Tasmania	31,100·87	132,108	1·06
6. South Australia	3,537·00	15,000	·12
7. Northern Territory	7,276·83	30,910	·25
8. Territory of Papua	14,622·40	62,112	·50
9. New Zealand	454,881·00	1,815,414	14·61
Total	2,953,570·62	12,429,150	100·00

Table 9.

Dividends paid by Western Australian Gold Mining Companies during 1911 and Total to date.

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

Goldfield.	Name of Company.	Capital.				Dividends.		
		Authorised.	No. of Shares issued.	Par Value of Shares.	Paid up to.	Paid in 1911.		Grand Total paid to end of 1911.
						No.	Total Amount.	
		£		£ s. d.	£ s. d.		£	£
Peak Hill	Various Companies	...	...	...	...	...	...	160,666
East Murchison	Black Range G.M. Co., N.L.	80,000	72,500	1 0 0	1 0 0	13	35,343	203,842
Do.	Other Companies	...	...	...	...	...	...	133,000
Murchison	Black Hill Development Co., Ltd.	35,000	35,000	1 0 0	1 0 0	1	2,350	2,350
Do.	Great Fingall Consolidated, Ltd.	125,000	250,000	0 10 0	0 10 0	1	12,500	1,734,375
Do.	Other Companies	...	...	...	...	...	...	77,945
Mt. Margaret	Ida H. G.M. Co., Ltd.	80,000	282,361	0 5 0	0 5 0	1	1,765	75,177
Do.	Sons of Gwalia, Ltd.	350,000	325,000	1 0 0	1 0 0	4	81,250	758,801
Do.	Sons of Gwalia South G.Ms., Ltd.	50,000	70,000	0 10 0	0 10 0	1	3,500	31,500
Do.	Other Companies	...	...	...	...	...	...	255,418
North Coolgardie	Sand Queen G.Ms., Ltd.	15,000	60,000	0 5 0	0 5 0	1	3,000	3,000
Do.	Other Companies	...	...	...	...	...	...	440,131
North-East Coolgardie ...	Various Companies	...	...	...	...	...	...	82,971
East Coolgardie	Associated Northern Blocks (W.A.), Ltd.	350,000	350,000	1 0 0	1 0 0	1	8,750	691,250
Do.	Golden Dream G.M. Co., N.L.	12,000	12,000	1 0 0	1 0 0	1	300	300
Do.	Golden Ridge G.M. Co., N.L.	50,000	92,705	0 10 0	0 10 0	4	27,812	117,033
Do.	Great Boulder Proprietary G.Ms., Ltd.	175,000	1,750,000	0 2 0	0 2 0	4	262,500	3,694,300
Do.	Ivanhoe Gold Corporation, Ltd.	1,000,000	200,000	5 0 0	5 0 0	4	220,000	2,808,750
Do.	Kalgurli G.Ms., Ltd.	120,000	120,000	1 0 0	1 0 0	4	123,000	1,180,500
Do.	South Kalgurli G.Ms., Ltd.	200,000	200,000	1 0 0	1 0 0	2	20,000	125,000
Do.	Other Companies	...	...	...	...	...	...	9,009,965
Coolgardie	Burbanks Main Lode (1904), Ltd.	40,000	176,335	0 4 0	0 4 0	2	4,306	10,306
Do.	Other Companies	...	...	...	...	...	...	323,001
Yilgarn	Various Companies...	...	...	...	...	...	...	51,078
Dundas	Mararoa G.M. Co., N.L.	40,000	100,000	0 8 0	0 3 0	4	20,000	60,000
	Other Companies	...	...	...	...	...	...	147,000
	Total Dividends paid during 1911	...	...	...	...	...	£826,376	...
	Total Dividends paid to end of 1911	...	...	...	...	...	...	£22,177,659

TABLE 10.

Value of Gold Production and Percentage of Dividends paid.

Year.	Value of Gold Production.	Dividends paid by Gold Mining Companies.	Dividends % of Total Production.	Value of Gold Production by Gold Mining Companies only.	Dividends % upon Production by Gold Mining Companies.
	£	£	%	£	%
Prior to 1902 ...	29,722,650	6,076,857	20·5		
1902	7,947,661	1,424,272	18·0		
1903	8,770,719	2,024,152	23·1		
1904	8,424,226	2,051,797	24·3		
1905	8,305,654	2,167,639	26·1		
1906	7,622,749	1,993,698	26·1		
1907	7,210,749	1,738,163	24·1	5,722,273	30·4
1908	6,999,882	1,487,317	21·2	5,503,784	27·0
1909	6,776,274	1,359,115	23·0	5,398,725	25·2
1910	6,246,848	1,028,393	16·5	4,815,541	21·4
1911	5,823,075	826,376	14·2	4,628,666	17·9
Total ...	103,850,487	22,177,779	21·4	*26,068,989	*24·7

* Five last years only.

TABLE 11.

Quantity and Value of Minerals, other than Gold and Coal, reported to the Mines Department during 1911.

Goldfield, District, or Mineral Field.	1911.		Increase or Decrease for Year compared with 1910.	
	Quantity.	Value.	Quantity.	Value.
	tons.	£	tons.	£
BLACK TIN.				
Pilbara Goldfield (Marble Bar District) ...	148·65	16,064	− 4·85	+ 3,165
Greenbushes Mineral Field	411·12	44,638	+ 93·41	+ 16,664
Total	559·77	60,702	+ 88·56	+ 19,829
PYRITIC ORE.				
Mt. Margaret Goldfield (Mt. Morgans District)	9,938·92	3,559	+ 9,938·92	+ 3,529
COPPER ORE.				
Pilbara Goldfield (Marble Bar District) ...	25·10	196	+ 25·10	+ 196
Pilbara Goldfield (Nullagine District)	5·00	120	+ 5·00	+ 120
West Pilbara Goldfield	9,082·02	69,140	+ 602·22	+ 4,279
Phillips River Goldfield	13,563·68	46,862	− 12,307·97	− 49,883
Total	22,675·80	116,318	− 11,675·65	− 45,288
IRONSTONE.				
State generally	...	...	− 10·50	− 12
LEAD ORE.				
Northampton Mineral Field	8,194·76	17,663	+ 8,009·66	+ 15,886
WOLFRAM ORE.				
State generally	194·00	877	+ 152·00	+ 762

The output of Black Tin shows an increase of 88.56 tons, valued at £19,829, and Pyritic ore of 9,938.92 tons, valued at £3,529. Lead ore and Wolfram also show increases, but Copper ore a decrease of 11,675.65 tons, valued at £45,288. The production of tin was confined to the Greenbushes and Pilbara fields, and of copper to the Pilbara, West Pilbara, and Phillips River fields. The decrease is entirely accounted for in the restriction of operations in the latter. £17,663 worth of lead ore was raised in the Northampton field, and £877 worth of wolfram in the State generally.

It will be noted that the figures in this Table differ from those in Table 1. The figures above are those reported to the Department, and the Table is published as an index to the amount of mining in each field named.

TABLE 12.

Quantity of Coal raised during 1910 and 1911, and estimated Value thereof, with Number of Men employed, and Output per Man.

Coalfield.	Year.	Quantity Raised.	Estimated Value.	Men Employed.		Quantity Raised.	
				Above ground.	Under ground.	Per Man employed under ground.	Per Man employed above and under ground.
		tons.	£			tons.	tons.
Collie	1910	262,166	113,699	124	397	660	503
	1911	**249,899**	**111,154**	**123**	**340**	**735**	**539**

The number of men employed at Collieries has decreased by 58, and the output by 12,267 tons.

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

TABLE 13.

Total Number and Acreage of Leases held for Mining on 31st December, 1910 and 1911.

Description of Leases.	1910.		1911.	
	No.	Acreage.	No.	Acreage.
Gold mining leases on Crown land	2,317	34,538	**2,198**	**34,213**
„ „ „ private property ...	1	6	**1**	**6**
Mineral leases on Crown land	259	31,517	**252**	**31,029**
„ „ private property	2	50	**1**	**20**
	2,579	66,111	**2,452**	**65,268**

The total number of leases held for mining has decreased by 127 as compared with 1910, and the acreage by 843 acres. Leases for gold mining have decreased in number by 119 and in area by 325 acres.

The acreage held under mineral leases has decreased by 488 acres, and the number of leases by 7. The number of leases for mining on private property has decreased by 1 and the area by 30 acres.

TABLE 14.

Number and Acreage of Gold Mining Leases in force each year for the Five Years ending the 31st December, 1911.

GOLDFIELDS.		DISTRICTS.		1907.		1908.		1909.		1910.		1911.		Percentage of Total Acreage.		Increase or Decrease for 1911 compared with 1910.		GOLDFIELDS.
Name.	Proclaimed.	Name.	Proclaimed.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	1910.	1911.	Increase.	Decrease.	
																acres.	acres.	
Kimberley ...	20-5-86	... ...	...	2	13	2	13	...	...	...	...	...	...	...	...	...	...	Kimberley
Yilgarn	1-10-08	... ...	...	60	924	60	1,011	101	1,562	472	9,118	**509**	**10,136**	26·40	**29·62**	1,018	...	Yilgarn
Pilbara	1-10-88	Marble Bar ...	6-11-96	14	192	14	180	35	426	21	260	**26**	**277**	1·16	**1·16**	...	3	Pilbara
		Nullagine ...	6-11-96	23	257	24	265	22	252	16	140	**14**	**122**					
Ashburton ...	11-12-90	... ...	...	...	...	1	6	3	48	3	48	**2**	**30**	·14	**·09**	...	18	Ashburton
Murchison ...	24-9-91	Cue	10-1-96	111	1,386	99	1,152	99	1,089	71	756	**56**	**605**	13·08	**11·35**	...	633	Murchison
		Nannine ...	7-12-94	125	1,466	126	1,491	177	2,288	205	2,670	**177**	**2,350**					
		Day Dawn ...	10-1-96	84	832	65	639	58	541	49	474	**49**	**445**					
		Mount Magnet ...	7-12-94	52	484	47	444	59	622	51	618	**42**	**485**					
Dundas	31-8-93	... ...	...	59	740	78	1,038	74	997	71	872	**70**	**862**	2·52	**2·52**	...	10	Dundas
Coolgardie ...	6-4-94	Coolgardie ...	1-9-97	134	1,709	136	1,760	115	1,525	100	1,372	**68**	**889**	5·38	**3·95**	...	509	Coolgardie
		Kunanalling ...	1-9-97	38	464	42	521	35	436	37	488	**31**	**462**					
East Coolgardie ...	21-9-94	East Coolgardie	21-9-94	206	2,967	208	2,994	209	2,948	200	2,868	**179**	**2,596**	8·72	**8·01**	...	172	East Coolgardie
		Bulong	13-11-96	28	376	23	287	19	245	11	45	**10**	**145**					
Yalgoo	23-1-95	... ...	...	32	365	39	467	44	494	38	425	**39**	**500**	1·23	**1·46**	75	...	Yalgoo
North Coolgardie	28-6-95	Menzies	20-3-96	86	1,185	79	1,055	78	1,115	76	1,053	**64**	**897**	8·75	**7·57**	...	430	North Coolgardie
		Ularring ...	23-9-96	57	737	58	759	65	815	55	720	**42**	**562**					
		Yerilla	20-3-96	42	694	62	965	55	784	46	669	**40**	**573**					
		Niagara	12-3-97	69	902	55	721	70	960	46	580	**47**	**560**					
East Murchison ...	28-6-95	Lawlers	1-7-04	136	2,009	137	2,085	183	2,756	86	1,107	**61**	**914**	13·23	**11·29**	...	706	East Murchison
		Black Range ...	1-7-04	179	2,564	151	2,152	157	2,397	151	2,282	**127**	**1,923**					
		Wiluna	1-3-10	...	...	...	...	...	...	70	1,181	**61**	**1,027**					
North-East Coolgardie	20-3-96	Kanowna ...	13-11-96	88	1,054	77	885	74	908	58	682	**44**	**515**	2·03	**1·70**	...	118	N.E. Coolgardie
		Kurnalpi ...	13-11-96	5	54	6	60	5	48	2	18	**4**	**27**					
Broad Arrow ...	17-11-96	... ...	...	63	789	57	683	71	939	63	803	**117**	**1,912**	2·32	**5·59**	1,109	...	Broad Arrow
Peak Hill ...	19-3-97	... ...	...	40	337	42	352	46	402	52	552	**50**	**559**	1·60	**1·63**	7	...	Peak Hill
Mount Margaret...	12-3-97	Mount Margaret	12-3-97	104	1,753	85	1,407	75	1,307	72	1,197	**71**	**1,248**	12·52	**12·61**	...	13	Mount Margaret
		Mount Malcolm	12-3-97	107	2,070	113	2,036	113	2,030	126	2,314	**131**	**2,415**					
		Mount Morgans	2-4-02	52	772	49	754	35	593	47	815	**34**	**650**					
West Pilbara ...	20-9-95	Crown Lands ...	...	9	132	12	156	10	128	7	72	**7**	**78**	·21	**·23**	6	...	West Pilbara
Do.	...	Private Property	...	...	...	1	24	...	...	1	6	**1**	**6**	·02	**·02**	...	...	Do.
Phillips River ...	21-9-00	... ...	...	22	264	24	303	17	240	15	237	**26**	**409**	.69	**1·20**	172	...	Phillips River
Other Localities ...	...	... ...	...	4	96	1	24	1	24	...	...	...	...	...	...	...	...	Other Localities
Murray	...	Private Property	...	...	...	6	118	...	...	...	...	...	...	...	...	...	...	
Totals ...	...	... ...	...	2,031	27,587	1,979	26,807	2,105	28,919	2,318	34,544	**2,199**	**34,219**	100·00	**100·00**	...	...	

119 Leases : 325 acres decrease for 1911.

Taking all the goldfields, the largest percentage of the area leased for gold mining is in the Yilgarn Goldfield, viz., 29·62; then Mt. Margaret, Murchison, East Murchison, East Coolgardie, and North Coolgardie, with percentages of 12·61, 11·35, 11·29, 8·01, and 7·57 respectively,

TABLE 15.

Number and Acreage of Mineral Leases in force 31st December each year, for the Five Years ending 31st December, 1911.

Mining Districts.		Sub-Districts.		1907.		1908.		1909.		1910.		1911.		Increase or Decrease for 1911, compared with 1910.		Districts.
Name.	Proclaimed.	Name.	Proclaimed.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	Increase.	Decrease.	
														acres.	acres.	
Ashburton ...	11-12-90	...	...	20	567	12	383	5	131	5	131	**4**	**83**	...	48	Ashburton
		Cue ...	7-12-94	2	58	...	...	1	3	...	...	...	...	...	...	Cue
		Nannine ...	7-12-94	7	193	4	126	2	30	1	12	...	...	...	12	Nannine
Murchison ...	24-9-91	Day Dawn ...	10-1-96	1	6	1	6	1	6	1	6	**1**	**6**	...	...	Day Dawn
		Mt. Magnet ...	7-12-94	...	...	...	...	1	5	...	...	...	...	...	...	Mt. Magnet
Greenbushes ...	7-4-92	...	...	100	1,585	60	989	47	727	49	753	**51**	**751**	...	2	Greenbushes
Pilbara	16-6-92	Marble Bar ...	16-6-92	36	763	34	1,114	36	1,142	16	567	**31**	**868**	301	...	Marble Bar
		Nullagine ...	6-11-96	2	72	1	48	1	48	1	48	**1**	**18**	...	30	Nullagine
Yalgoo	23-1-95	...	...	5	168	3	96	2	72	1	48	**1**	**48**	...	...	Yalgoo
Yilgarn	22-3-95	...	...	...	...	...	...	2	96	2	96	...	...	...	96	Yilgarn
Coolgardie ...	22-3-95	Coolgardie ...	22-3-95	4	61	2	21	2	21	2	21	...	...	...	21	Coolgardie
		Kunanalling ...	1-9-97	...	...	...	...	...	...	...	...	...	...	...	...	Kunanalling
East Coolgardie ...	22-3-95	East Coolgardie	22-3-95	8	116	7	49	6	50	7	33	**9**	**45**	12	...	East Coolgardie
		Bulong ...	15-4-96	...	...	...	...	...	...	...	...	...	...	...	...	Bulong
		Lawlers ...	1-7-04	2	42	5	132	10	260	5	104	**4**	**96**	...	8	East Murchison
East Murchison ...	28-6-95	Black Range ...	1-7-04	3	7	2	4	2	4	2	6	**2**	**6**	...	...	Black Range
		Wiluna ...	1-3-10	...	...	...	...	...	...	1	10	...	...	...	10	Wiluna
		Menzies ...	15-4-96	1	48	1	48	1	48	...	...	...	...	...	...	Menzies
		Ularring ...	15-4-96	1	48	...	...	...	...	...	...	...	...	...	...	Ularring
North Coolgardie	16-8-95	Yerilla ...	15-4-96	...	...	...	...	...	...	...	...	...	...	...	...	Yerilla
		Niagara ...	1-3-97	...	...	...	...	...	...	...	...	...	...	...	...	Niagara
West Pilbara ...	1-11-95	...	...	54	1,402	22	683	17	666	20	668	**14**	**537**	...	131	West Pilbara
Dundas	27-12-95	...	...	1	6	1	6	1	6	1	6	...	...	...	6	Dundas
Collie	21-2-96	...	...	80	24,815	80	24,815	79	24,495	88	27,255	**88**	**27,126**	...	129	Collie
North-East Coolgardie	15-4-96	Kanowna ...	15-4-96	...	...	...	...	...	...	...	...	...	...	...	...	Kanowna
		Kurnalpi ...	15-4-96	...	...	...	...	...	...	...	...	...	...	...	...	Kurnalpi
Broad Arrow ...	20-11-96	...	...	1	20	1	20	1	20	1	20	...	...	...	20	Broad Arrow
Northampton ...	1-1-97	Crown Lands...	...	21	412	11	247	4	60	1	10	**1**	**10**	...	...	Northampton
		Private Property	...	1	20	1	20	1	20	...	...	**1**	**20**	20	...	
Peak Hill ...	1-4-97	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Peak Hill
		Mt. Margaret...	1-4-97	1	3	1	48	1	48	...	...	...	...	...	...	Mt. Margaret
Mt. Margaret ...	1-4-97	Mt. Malcolm ...	1-4-97	3	12	3	12	1	6	...	...	...	...	...	...	Mt. Malcolm
		Mt. Morgans ...	2-4-02	13	330	6	139	5	129	5	129	**6**	**134**	5	...	Mt. Morgans
Gascoyne	15-4-97	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Gascoyne
Yandanooka ...	1-12-97	Crown Lands...	...	3	60	...	...	2	40	2	40	**2**	**40**	...	...	Yandanooka
		Private Property	...	2	50	2	50	2	50	2	50	...	...	...	50	
Phillips River ...	1-7-99	...	...	57	1,323	42	1,047	46	1,283	30	782	**22**	**613**	...	169	Phillips River
Other localities ...	...	Crown Lands ...	...	45	1,845	27	1,230	21	860	18	772	**15**	**648**	...	124	Other Localities
		Private Property	...	2	69	...	...	...	...	...	...	...	...	...	...	
Totals ...	...	...	...	476	34,101	329	31,333	300	30,326	261	31,567	**253**	**31,049**	...	...	

Decrease for 1911: 8 leases. Decrease in area, 518 acres.

In the Collie field the largest area is held, viz., 27,126 acres occupied entirely for coal mining, then follow: Pilbara with 886 acres, principally for tin and asbestos, then Greenbushes 751 acres. Outside localities 648 acres, and Phillips River 613, worked principally for copper.

TABLE 16.

Number and Acreage of Mineral Leases in force on 31st December, 1911, showing Minerals for which they are worked.

MINERALS.	Murchison.								Pilbara.				Ashburton.		Greenbushes.		Coolgardie.		East Coolgardie.		Broad Arrow.		Dundas.		West Pilbara.		Yalgoo.		Yilgarn.	
	Cue.		Day Dawn.		Nannine.		Mt. Magnet.		Nullagine.		Marble Bar.		Uaroo.				Coolgardie.													
	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.
Coal	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Copper	...	...	...	...	...	...	...	...	...	...	...	...	1	48	...	...	...	...	...	...	...	...	...	...	12	497	1	48	...	...
Ironstone	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Limestone	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Graphite	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tin	...	...	...	...	...	...	...	...	...	...	24	588	...	...	51	751	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Silver and Lead	...	...	...	...	...	...	...	...	...	...	...	...	3	35	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Copper and Silver	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Clay	...	...	1	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	34	...	...	...	...	...	...	...	...	...	...
Building Stone	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	11	...	...	...	...	...	...	...	...	...	...
Lime	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Copper and Lead	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Asbestos	...	...	...	...	...	...	...	...	1	18	5	240	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tantalite	...	...	...	...	...	...	...	...	...	...	2	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Wolfram	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Copper and Antimony	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	40	...	...	...	...
Totals	...	...	1	6	...	...	...	...	1	18	31	868	4	83	51	751	...	...	9	45	...	...	...	...	14	537	1	48	...	...

MINERALS.	East Murchison.						Collie.		Northampton.		Mt. Margaret.						Yandanooka.		Phillips River.		Crown Lands outside proclaimed Mining Districts.		Total Acreage.
	Wiluna.		Black Range.		Lawlers.						Mt. Margaret.		Mt. Malcolm.		Mt. Morgans.								
	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	Leases.	Acres.	
Coal	...	...	...	...	...	...	88	27,126	...	...	...	...	...	...	...	...	...	...	...	...	...	...	27,126
Copper	...	...	...	...	4	96	...	...	...	...	...	...	...	...	4	114	2	40	21	573	3	120	1,536
Ironstone	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	440	440
Limestone	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	5	...	...	1	40	...	...	45
Graphite	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	40	40
Tin	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,339
Silver and Lead	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	35
Copper and Silver	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Clay	...	...	2	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	46
Building Stone	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11
Lime	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Copper and Lead	...	...	...	...	...	...	...	...	2	30	...	...	...	...	1	15	...	...	...	...	...	...	45
Asbestos	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	258
Tantalite	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	40
Wolfram	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	48	48
Copper and Antimony	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	40
Totals	...	...	2	6	4	96	88	27,126	2	30	...	...	...	...	6	134	2	40	22	613	15	648	31,049

TABLE 17.

Number and Acreage of Miscellaneous Leases in force 31st December, 1911.

LEASES.	COOLGARDIE.		EAST COOLGARDIE.		EAST MURCHISON.		DAY DAWN.		KANOWNA.		NORTH COOLGARDIE.		WEST PILBARA.		PHILLIPS IVER.		TOTAL.	
	No.	Acreage.	No.	Acreage.	No.	Acreage.	No.	Acreage.	No.	Acreage.	No.	Acreage.	No.	Acreage.	No.	Acreage.	o.	Acreage.
Machinery	...	...	4	51	...	...	...	...	...	...	...	...	...	...	...	...	4	51
Residence ...	...	...	1	2	...	...	1	1	...	...	...	...	...	...	...	...	2	3
Tailings ...	...	...	18	356	1	22	...	...	...	...	...	...	...	...	...	...	19	378
Tramway ...	...	...	...	...	4	32	...	...	1	2	...	...	1	24	3	7	9	65
Water ...	1	13	2	37	...	...	...	...	...	...	2	6	...	..	...	...	5	56
Total ...	1	13	25	446	5	54	1	1	1	2	2	6	1	24	3	7	39	553

TABLE 18.

Claims and Authorised Holdings under "The Mining Act, 1904," and Regulations, existing on 31st December, 1910 and 1911.

Claims, etc.	Yalgoo.		Yilgarn.		Pilbara.				Ashburton.		Murchison.								Dundas.		Coolgardie.				East Coolgardie.				North Coolgardie.								Collie.	
					Marble Bar.		Nullagine.				Cue.		Day Dawn.		Nannine.		Mt. Magnet.				Coolgardie.		Kunanalling		East Coolgardie.		Bulong.		Menzies.		Ularring.		Yerilla.		Niagara.			
	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.
Water Rights ...	...	...	4	3	2	2	5	3	...	...	4	3	15	15	3	1	2	2	13	12	10	12	9	8	16	11	1	1	12	12	6	7	4	7	19	18	...	..
Area of Water Rights	...	...	21	20	11	2	8	5	...	...	11	9		25	5	1	2	2	133	30	43	48	51	46	56	37	12	12	38	38	15	18	6	9	40	50	...	...
Lode Claims	...	...	1	1	2	4	17	14	...	...	5	5	...	...	...	...	8	8	...	2	11	1	...	1	7	5	1	5	1	1	...	...	1	1	1	1	...	...
Alluvial Claims ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	3	...	...	1	...	1	3	...	..	...	...	...	...	2	1	...	...	...	...
Dredging Claims ...	...	...	...	...	2	2	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Prospecting Areas ...	3	8	38	71	26	21	5	3	...	...	11	15	3	8	45	33	16	20	32	12	60	62	25	25	46	54	7	7	35	42	24	16	26	30	25	14	2	2
Area of Prospecting Areas	54	129	635	1,173	375	306	67	54	...	...	156	231	38	106	663	490	224	264	415	165	895	831	398	389	658	717	96	107	471	581	263	202	411	430	365	204	5,380	4,100
Residence Areas ...	10	11	17	64	...	4	7	5	2	...	20	21	43	41	39	17	7	8	...	...	2	2	2	1	73	28	22	...	2	2	...	...	2	2	2	2	...	
Business Areas ...	18	27	33	38	25	14	...	5	...	2	9	6	...	...	20	11	8	8	3	2	5	5	4	6	14	10	4	...	15	18	2	2	8	6	4	2	...	
Machinery Areas ...	2	2	3	2	1	...	...	3	...	...	1	1	...	...	1	1	1	1	4	2	4	3	2	2	4	5	2	2	2	2	...	...	2	2	2	2	...	...
Tailings Areas ...	2	3	2	4	1	1	...	2	...	...	2	3	...	...	...	4	2	3	1	1	1	2	1	...	8	8	...	..	2	4	...	...	7	1	...	..	...	...
Garden Areas ...	3	4	2	3	12	5	4	5	...	...	2	2	6	6	7	2	9	9	2	2	6	5	...	...	30	27	...	...	8	8	1	1	...	...	6	7	...	1
Washing Areas ...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Claims, etc.	East Murchison.						West Pilbara.		North-East Coolgardie.				Broad Arrow.		Peak Hill.		Mount Margaret.						Greenbushes.		Phillips River.		Outside Goldfields.		TOTAL.		Increase or Decrease for 1911 compared with 1910.	
	Wiluna.		La wlers.		Black Range.				Kanowna.		Kurnalpi.						Mount Margaret.		Mount Malcolm.		Mount Morgans.												Increase.	Decrease.
	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.		
Water Rights	6	6	21	22	3	3	1	1	7	5	...	...	10	11	12	8	23	23	39	38	22	24	7	10	4	7	1	...	281	275	...	6
Area of Water Rights ...	10	10	33	33	7	7	5	5	34	30	...	...	31	33	125	69	67	67	222	221	88	97	47	52	9	32	...	...	1,158	1,008	...	150
Lode Claims	...	...	...	...	...	...	1	...	8	8	...	...	12	13	...	...	...	...	4	4	...	...	...	...	1	1	...	...	81	75	...	6
Alluvial Claims	...	...	...	...	...	...	...	...	11	2	...	...	...	...	...	...	8	...	...	...	...	...	24	21	...	...	...	...	49	30	...	19
Dredging Claims	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	3	...	...	...	...	4	6	2	...
Prospecting Areas	12	20	20	11	37	26	6	5	11	17	3	4	40	33	11	10	27	33	52	44	13	4	1	1	19	28	17	18	* 698	* 697	...	1
Area of Prospecting Areas...	181	297	273	171	541	410	87	45	129	203	44	36	622	523	178	135	366	494	766	688	175	55	48	18	295	432	45,048	34,532	60,317	48,528	...	11,789
Residence Areas	...	...	13	8	203	208	7	12	5	4	...	...	...	...	7	6	8	8	2	2	1	1	32	33	...	...	...	...	528	490	...	38
Business Areas	2	1	2	2	34	23	6	9	4	3	1	1	15	18	...	2	18	20	6	6	3	4	6	6	1	1	...	...	276	258	...	18
Machinery Areas	2	1	2	2	2	2	...	...	6	5	2	2	6	5	1	...	4	4	1	1	...	...	9	9	2	2	...	...	71	63	...	8
Tailings Areas	...	...	2	2	1	1	...	...	3	3	...	...	4	4	...	...	4	5	3	3	...	...	2	2	4	4	...	...	60	60	...	...
Garden Areas	5	5	13	6	14	14	3	3	3	3	...	...	1	...	...	...	10	10	15	16	3	3	8	8	9	8	...	...	182	163	...	19
Washing Areas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	1	1	...	...

* 1910 including 15 for coal and oil 45,000 acres.

* 1911 „ 15 „ „ 38,500 „

Last year the number of Prospecting Areas held was 698, the total acreage being 60,317 acres (which included 15 areas of an acreage of 45,000 acres for coal and oil). This year shows a decrease to 697, acreage 48,528 acres, including 15 areas of 38,500 acres for coal and oil.

TABLE 19.—*Miners' Rights issued during 1910 and 1911.*

Place of Issue.	Miners' Rights.		Consolidated Miners' Rights.		Place of Issue.	Miners' Rights.		Consolidated Miners' Rights.	
	1910.	1911.	1910.	1911.		1910.	1911.	1910.	1911.
Albany	2	7	...	...	Meekatharra ...	194	163	...	...
Ashburton	40	33	...	...	Menzies	197	149	...	...
Black Range	415	260	...	...	Mount Magnet ...	133	284	...	...
Boulder	43	35	...	...	Mount Malcolm ...	38	191	...	...
Bridgetown	1	9	...	...	Mount Morgans ...	71	39	...	...
Broad Arrow	225	177	...	...	Mulline	21	...	...	...
Broome	9	1	...	...	Nannine	238	161	...	...
Bulong	52	10	...	...	Narrogin	5	9	...	...
Bullfinch	...	53	...	...	Newcastle	1	...	...	...
Bunbury	7	13	...	...	Norseman	209	117	...	...
Burtville	16	18	...	...	Northampton ...	4	4	...	...
Carnarvon	20	17	...	...	Northam	9	17	...	...
Collie	11	12	...	...	Nullagine	74	60	...	...
Coolgardie	433	239	...	...	Peak Hill	54	68	...	...
Cue	231	226	...	...	Perth	296	276	1	...
Davyhurst	53	45	...	...	Phillips River ...	193	162	...	...
Derby	14	12	1	...	Pinjin	18	6	...	...
Esperance	...	1	...	...	Port Hedland ...	6	11	...	...
Greenbushes	138	132	...	...	Roebourne	64	83	...	...
Kalgoorlie	905	497	...	...	Southern Cross ...	929	510	...	...
Kanowna	147	126	...	...	Wagin	1	4	...	...
Katanning	...	...	...	...	Waverley	38	43	...	...
Kimberley	46	19	...	...	Wiluna	124	83	...	...
Kookynie	138	103	...	...	Wyndham	2	1	...	...
Kurnalpi	8	...	...	...	Yalgoo	46	56	...	...
Lake Darlot	21	13	...	...	Yarri	44	22	...	...
Laverton	194	142	...	...	York	3	73	...	...
Lawlers	152	80	...	...	Youanmi	...	92	...	...
Leonora	256	...	...	...	Yundamindera ...	15	2	...	...
Linden	23	39	...	...					
Marble Bar	190	153	...	...	Total ...	6,817	5,158	2	...

TABLE 20.

Number and Acreage of Miners' Homestead Leases in force on 31st December, 1910 and 1911.

Goldfield.	District.	1910.		1911.		Increase.		Decrease.	
		Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.
West Pilbarra ...	... ...	1	30	1	30	...	...	...	...
Greenbushes	... ...	6	612	6	612	...	...	...	...
Pilbara ...	Marble Bar ...	4	148	5	67	1	...	...	81
	Nullagine	1	20	1	20	...	...	...	...
Dundas	... ...	23	799	25	1,318	2	519	...	...
Broad Arrow	... .	5	495	3	280	...	...	2	215
Yilgarn	... ...	14	432	23	1,212	9	780	...	...
Mt. Margaret ...	Mt. Morgans ...	5	180	4	160	...	...	1	20
	Mt. Malcolm ...	10	2,034	7	1,264	..	...	3	770
	Mt. Margaret ...	12	619	13	424	1	...	...	185
Murchison ...	Cue	10	1,332	10	1,332	...	...	...	...
	Day Dawn... ...	13	159	12	145	...	...	1	14
	Nannine	20	2,262	18	1,967	...	...	2	295
	Mt. Magnet ...	2	40	2	40	...	...	...	...
Yalgoo	... ...	1	200	2	220	1	20	...	...
Coolgardie ...	... ...	47	5,666	44	5,135	...	...	3	531
	Kunanalling ...	1	20	2	520	1	500	...	...
East Coolgardie ...	... ...	113	4,235	118	4,365	5	130	...	...
Phillips River ...	... ...	135	13,712	140	16,526	5	2,814	...	...
Peak Hill	... ...	11	1,765	7	740	...	...	4	1,025
North-East Coolgardie	Kanowna	23	915	22	895	...	...	1	20
North Coolgardie	Menzies	9	248	9	395	...	147	...	...
	Yerilla	2	20	2	20	...	...	...	...
	Niagara	7	404	8	424	1	20	...	...
	Ularring	2	25	1	20	...	...	1	5
East Murchison	Lawlers	5	1,110	5	1,110	...	...	...	...
	Black Range ...	19	2,024	25	2,129	6	105	...	...
	Wiluna	5	89	5	89	...	...	...	...
	Total ...	506	39,586	520	41,459	...	...	...	...

As compared with the year 1910, there is an increase in the number of leases by 14 and in acreage by 1,873 acres.

Part IV.—MEN EMPLOYED.

Table 21.

Average Number of Men engaged in Mining during 1910 *and* 1911.

Goldfield.	District.	Reef or Lode.		Alluvial.		Total.	
		1910.	1911.	1910.	1911.	1910.	1911.
1. Kimberley	...	...	...	13	14	13	14
2. Pilbara	Marble Bar	71	64	55	41	126	105
	Nullagine	63	53	10	16	73	69
3. West Pilbara	...	10	17	33	14	43	31
4. Ashburton	...	...	...	19	23	19	23
5. Gascoyne	...	...	...	3	2	3	2
6. Peak Hill	...	75	39	11	21	86	60
7. East Murchison	Lawlers	523	354	25	20	548	374
	Wiluna	270	127	16	16	286	143
	Black Range	970	897	5	12	975	909
8. Murchison	Cue	244	191	9	10	253	201
	Nannine	1,104	1,889	160	78	1,264	1,967
	Day Dawn	442	416	14	15	456	431
	Mt. Magnet	255	244	2	2	257	246
9. Yalgoo	...	58	41	1	14	59	55
10. Mt. Margaret	Mt. Morgans	183	83	59	31	242	114
	Mt. Malcolm	890	796	13	12	903	808
	Mt. Margaret	621	536	18	6	639	542
11. North Coolgardie	Menzies	543	487	12	9	555	496
	Ularring	208	155	31	15	239	170
	Niagara	314	232	34	29	348	261
	Yerilla	345	293	35	32	380	325
12. Broad Arrow	...	246	298	60	74	306	372
13. North-East Coolgardie	Kanowna	397	269	42	21	439	290
	Kurnalpi	18	17	13	11	31	28
14. East Coolgardie	East Coolgardie	5,608	5,716	50	50	5,658	5,766
	Bulong	54	49	17	21	71	70
15. Coolgardie	Coolgardie	614	506	22	15	636	521
	Kunanalling	213	147	16	4	229	151
16. Yilgarn	...	637	458	...	...	637	458
17. Dundas	...	389	294	9	6	398	300
18. Phillips River	...	104	117	1	...	105	117
State generally	...	2	9	...	...	2	9
Total—Gold Mining	...	15,471	14,794	808	634	16,279	15,428
MINERALS OTHER THAN GOLD.							
Tin	Greenbushes	...	*157	*237	*69	237	226
	Cue	...	*1	...	...	...	1
	Marble Bar	...	*24	*89	*70	89	94
Copper	West Pilbara	133	141	...	...	133	141
	Yalgoo	1	...	...	...	1	...
	Phillips River	425	173	...	...	425	173
	Marble Bar	...	3	...	...	...	3
Pyritic Ore	Mt. Morgans	...	22	...	...	...	22
Lead	Northampton	21	43	...	...	21	43
Coal	Collie River	521	463	...	...	521	463
Wolfram	Cue	...	2	...	...	...	2
	State generally	5	...	...	...	5	...
	Total—Other Minerals	1,106	1,029	326	139	1,432	1,168
	Grand Total	16,577	15,823	1,134	773	17,711	16,596

* Classified elsewhere as employed at mines.

Comparing the years 1910 and 1911, there was a decrease of 1,115. This decrease is mostly attributable to gold mining, wherein the number of men engaged is less by 851 than in 1910; the number of men working reefs or lodes decreased by 677, and alluvial by 174. In mining for minerals, there was a decrease of 264 due principally to copper and coal, the number of men employed being less by 242 in the former and 58 in the latter. Tin and wolfram show decreases of 5 and 3 respectively, and pyritic ore and lead increases of 22 each.

TABLE 22.

Average Number of Men employed at Mines during 1911.

Mineral.	Above Ground.	Under Ground.	Total.	Percentage of total men employed.	Increase or decrease compared with 1910.
Coal	123	340	463	2·93	− 58
Copper	213	104	317	2·00	− 242
Gold	6,532	8,262	14,794	93·50	− 677
Lead	21	22	43	·27	+ 22
Pyritic Ore	8	14	22	·14	+ 22
Tin	*158	24	182	1·15	− 144
Wolfram	2	...	2	·01	− 3
Total	7,057	8,766	15,823	100·00	− 1,080

*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 men working their own mines, or employed on wages, and is compiled from returns furnished to the Department by mine-owners. The percentage employed shows increases in lead and pyritic ore, but decreases in all others.

TABLE 23.

Average Number of Men employed at Gold Mines during 1911, 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 1910.	Percentage of total men employed.	
					1910.	1911.
1. Kimberley	...	...	...	...	...	...
2. Pilbara	60	57	117	− 17	·87	·79
3. West Pilbara	10	7	17	+ 7	·07	·12
4. Ashburton	...	...	...	...	...	...
5. Gascoyne	...	...	...	...	...	...
6. Peak Hill	22	17	39	− 36	·49	·26
7. East Murchison	603	775	1,378	− 385	11·40	9·31
8. Murchison	1,427	1,313	2,740	+ 695	13·22	18·52
9. Yalgoo	22	19	41	− 17	·37	·28
10. Mt. Margaret	567	848	1,415	− 279	10·95	9·57
11. North Coolgardie	477	690	1,167	− 243	9·11	7·89
12. Broad Arrow	110	188	298	+ 52	1·59	2·01
13. North-East Coolgardie ...	120	166	286	− 129	2·68	1·93
14. East Coolgardie	2,443	3,322	5,765	+ 103	36·60	38·97
15. Coolgardie	260	393	653	− 174	5·34	4·41
16. Yilgarn	231	227	458	− 179	4·12	3·10
17. Dundas	120	174	294	− 95	2·51	1·99
18. Phillips River	53	64	117	+ 13	·67	·79
State generally	7	2	9	+ 7	·01	·06
Total	6,532	8,262	14,794	− 677	100·00	100·00

The above table shows that the number of men employed in gold mines, excluding alluvial workers, decreased to the extent of 677. The largest decreases were in the East Murchison, Mt. Margaret, North Coolgardie, Yilgarn, and Coolgardie fields, but the Murchison field shows a substantial increase.

TABLE 24.

Alluvial Gold Workers.

Goldfield.	1910.	1911.	Increase or decrease compared with 1910.
1. Kimberley	13	14	+ 1
2. Pilbara	65	57	− 8
3. West Pilbara	33	14	− 19
4. Ashburton	19	23	+ 4
5. Gascoyne	3	2	− 1
6. Peak Hill	11	21	+ 10
7. East Murchison	46	48	+ 2
8. Murchison	185	105	− 80
9. Yalgoo	1	14	+ 13
10. Mt. Margaret	90	49	− 41
11. North Coolgardie	112	85	− 27
12. Broad Arrow	60	74	+ 14
13. North-East Coolgardie	55	32	− 23
14. East Coolgardie	67	71	+ 4
15. Coolgardie	38	19	− 19
16. Yilgarn	...	...	...
17. Dundas	9	6	− 3
18. Phillips River	1	...	− 1
Total	808	634	− 174

The number of alluvial gold workers decreased by 174, the largest decreases being in the Murchison, Mt. Margaret, North Coolgardie, and North-East Coolgardie fields. Murchison with 105, as in previous years, heads the list; followed by North Coolgardie with 85, Broad Arrow with 74, East Coolgardie with 71, and Pilbara with 57.

Table 25.

Rates of Wages in the Gold Mining Industry.

Table showing Wages payable to Mining Employees under various Arbitration Awards and Industrial Agreements.

Locality in which Award or Agreement has effect.	Date of Award or † Agreement.	Date of Expiration.	Rock-drill men in shafts.	Rock-drill men in rises.	Rock-drill men elsewhere.	Miners (Hand Labour). +	Miners (wet ground extra allowance). Per shift.	Bracemen and Platmen.	Skipmen.	Mullockers and Shovellers.	Truckers—Filling and trucking.	Men working in Cyanide Vats, and Filter-press men.	Timbermen.	Surface Labourers.	Boiler Cleaners.	Horse-drivers (including feeding and grooming).	Drill and Tool Sharpeners.	Mechanics' Labourers.	Oilers and Greasers.	Biggers.	Firemen.	Pipe Fitters (underground).	Fitmen.	Fitters, Turners, and Blacksmiths.	Patternmakers.	Engine-drivers. Surface winding Engines.	Engine-drivers. All other classes of Engines.	¶Overtime. Up to four hours.	¶Overtime. After four hours.	Hours of work per week. Men on Surface.	Hours of work per week. Men underground.
			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.		
† Abbotts	30th Aug., 1910 ...	30th Aug., 1911	15 0	14 6	13 10	13 0	0 10	12 6	...	11 10	11 10	12 6	13 10	11 4	13 0	12 4	14 3	12 4	...	...	...	...	...	...	...	...	...	...	...	48	47
			15 4	14 10	14 2	13 4	...	...	..	12 6	12 6	13 6	15 0	12 6	...	13 6	...	12 6	...	...	...	...	...	...	...	...	...	...	...	...	...
Black Range ...	13th July, 1905 ...	1st Feb., 1907 ...	...	...	...	15 0	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...
	17th May, 1907 ...	31st May, 1910 ...	...	...	...	14 0	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	13 6	14 6	...	...	...	...	48	...
	20th May, 1908 ...	31st May, 1910 ...	15 4	14 10	14 2	13 4	1 3	13 6	...	12 0	12 0	13 10	15 0	11 8	14 0	12 8	14 4	...	...	...	...	15 0	...	...	...	...	...	...	...	48	47
	14th Aug., 1908 ...	31st May, 1910 ...	...	...	...	...	1 3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	47
Broad Arrow, Paddington, & Kanowna	19th Dec., 1904 ..	19th June, 1906 ...	14 4	13 10	13 4	11 8	1 8	11 8	...	10 6	10 6	11 8	13 4	10 0	11 10	11 0	12 8	...	...	...	...	...	...	...	...	15 8	15 0	1½	1½	47& 48	...
	13th July, 1905 ...	1st Feb., 1907 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13 0	14 0	...	...	...	...	48	...
Bulong	13th July, 1905 ...	31st Dec., 1905 ...	14 4	13 10	13 4	11 8	...	11 8	...	10 6	10 6	11 8	13 4	10 0	...	...	...	...	10 6	...	...	...	...	...	...	...	...	...	...	48	47
	13th July, 1905 ...	1st Feb., 1907 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13 0	14 0	...	...	...	...	48	...
Bullfinch	*28th July, 1911 ...	28th August, 1911 ...	14 4	13 10	13 4	12 8	...	11 8	...	11 0	11 0	...	13 4	10 0	...	11 8	...	...	...	...	...	...	...	...	...	...	...	...	...	48	47
						11 8																									
Burtville	*4th Sept., 1909 ...	7th March, 1911 ...	...	...	...	13 4	1 8	12 4	...	13 4	13 4	13 4	...	13 4	...	14 4	...	...	...	...	...	...	...	...	...	...	...	...	...	47	47
Cue-Nannine ...	*17th Oct., 1904 ...	30th Jan., 1906 ...	14 6	14 0	13 4	12 6	0 10	12 0	...	11 4	11 4	12 0	13 4	10 10	12 6	11 10	13 9	...	...	...	...	...	...	...	...	...	...	...	...	48	47
	†18th Dec., 1908 ..	1st Jan., 1910 ...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	§15 10 and 14 10	14 2	1½	1½	47& 48	...
Dundas (Norseman)	13th July, 1905 ...	1st Feb., 1907 ...	...	...	...	13 0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13 6	14 6	...	...	...	...	48	...
	16th June, 1910 ...	15th June, 1913 ...	14 8	14 2	13 8	12 6	1 8	12 0	13 8	11 2	11 2	12 0	13 8	10 8	12 2	11 8	13 0	11 8	...	...	...	...	...	...	...	...	...	...	...	48	47
	16th June, 1910 ...	16th June, 1911 ...	...	...	...	12 0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14 4	13 8	1½	1½	47& 48	...
Gindalbie	10th Nov., 1908 ...	16th Nov., 1911 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14 10	14 2	1½	1½	47& 48	...
Higginsville	5th Oct., 1906 ...	1st May, 1908 ...	15 0	14 6	14 0	13 4	1 8	12 4	...	11 4	11 4	12 4	14 0	10 10	12 6	11 10	13 4	11 10	...	...	...	...	...	...	...	...	...	...	...	48	47
						12 10																									
						12 4																									
Kalgoorlie ...	13th July, 1905 ...	1st Feb., 1907 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13 0	14 0	...	...	...	...	...	48
	*10th March, 1910 ...	30th Sept., 1912‖ ...	14 4	13 10	13 4	11 8	...	11 8	...	11 0	11 0	11 8	13 4	10 0	...	...	...	10 to 15s.	10 6	...	11 8	...	...	...	...	§ 15s. & 14s.	13 4	...	...	47& 48	47
Do. Engineers	21st Dec., 1911 ...	30th Sept., 1912 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1½	...	...
Kanowna (for Miners' rates *see* Broad Arrow, etc.)	10th Nov., 1908 ...	16th Nov., 1911 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14 0	13 4	1½	1½	47& 48	...
Kunanalling	*21st Feb., 1910 ...	30th Sept., 1912 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14 10	14 2	1½	1½	47& 48	...
						12 8																									
Lawlers and Mt. Sir Samuel	10th July, 1905 ...	1st Feb., 1907 ...	13 4	12 10	12 4	12 4	1 3	12 0	12 0	11 4	11 4	11 8	13 0	10 10	12 0	11 10	13 4	11 0	11 0	11 8	11 8	11 0	12 6	...	...	...	...	...	...	48	47
	13th July, 1905 ...	1st Feb., 1907 ...	...	...	...	12 0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13 6	14 6	...	...	...	...	48	...
Leonora, Kookynie, Laverton, etc.	13th July, 1905 ...	28th February, 1906...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	11 8	...	...	...	...	...	...	...	...	48	...
	13th July, 1905 ...	1st February, 1907 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13 0	14 0	...	...	...	...	48	...
	†19th Jan., 1909 ...	1st Jan., 1910	a15 0	14 6	14 0	12 4	1 8	12 4	14 0	11 6	11 6	12 4	14 0	11 0	12 6	12 0	13 4	12 0	...	...	...	...	...	...	...	...	...	...	...	48	47
			14 8	14 2	13 8	12 0	1 8	12 0	13 8	11 2	11 2	12 0	13 8	10 8	12 2	11 8	13 0	11 8	...	...	...	...	...	...	...	...	...	...	...	48	47
	†19th Jan., 1909 ...	1st Jan., 1910	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	a14 8	14 0	1½	1½	48 &	...
			...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	14 4	13 8	1½	1½	47	...

Marvel Loch	†27th Jan., 1910	1st Feb., 1911	13 6	13 0	12 6	10 10	1 8	10 10	...	10 10	10 10	10 10	12 0	10 6	...	11 6	12 6	...	...	...	10 6	...	...	...	...	...	...	...	...	48	47
Meekatharra	30th Aug., 1910	30th Aug., 1911	b15 4	14 10	14 2	13 4	0 10	12 6	...	12 6	12 6	13 6	15 0	12 6	...	13 6	14 3	12 6	Men on	cracker	12/6. Sol	ution	hands	13/4.	...	...	...	...	...	47 &	47
			15 0	14 6	13 10	13 0	0 10	12 6	...	11 10	11 10	12 6	13 10	11 4	13 0	12 4	14 3	12 4	...	...	...	...	...	...	...	...	...	...	...	48	47
Menzies	16th Dec., 1904	28th Feb., 1906	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15 5	14 0	1¼	1½	47	...
	19th Dec., 1904	28th Feb., 1906	14 9	14 3	13 9	12 0	1 8	12 0	...	11 0	11 0	12 0	13 9	10 6	12 0	11 6	13 0	11 6	...	...	...	...	...	...	...	...	...	...	...	48	47
	13th July, 1905	28th Feb., 1906	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11 8	...	...	...	...	...	...	...	...	48	...
	13th July, 1905	1st Feb., 1907	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13 0	14 0	...	...	...	...	48	...
Mt. Magnet	†18th Dec., 1908	1st Jan., 1910	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14 0	13 4	1¼	1½	47 & 48	...
	†8th Nov., 1909	16th Nov., 1910	14 6	14 0	13 4	12 6	0 10	12 0	...	11 4	11 4	12 0	...	10 10	12 6	11 10	13 9	...	...	...	...	...	...	...	...	...	...	...	...	48	47
Mt. Morgans	13th July, 1905	28th Feb., 1906	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11 8	...	...	...	...	...	...	...	...	48	...
	13th July, 1905	1st Feb., 1907	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13 0	14 0	...	...	...	...	48	...
	†19th Jan., 1909	1st Jan., 1910	14 8	14 2	13 8	12 0	1 8	12 0	13 8	11 2	11 2	12 0	13 8	10 8	12 2	11 8	13 0	11 8	...	...	.	...	...	...	...	...	...	...	...	48	47
	†19th Jan., 1909	1st Jan., 1910	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14 4	13 8	1¼	1½	47 & 48	...
Nullagine	*16th Jan., 1905	1st Feb., 1907	...	...	...	14 2	1 8	14 2 and 13 4	...	...	13 4	14 2	16 8	13 4	...	...	16 8	...	...	...	...	...	...	...	...	‡16 8	‡15 0	...	...	44	44
Peak Hill	6th Dec., 1906	1st Oct., 1909	15 0	14 6	13 10	13 0	1 3	12 6	...	11 10	11 10	12 6	13 10	11 4	13 0	12 4	14 3	...	...	...	...	...	...	...	...	...	...	...	...	48	47
Southern Cross	13th July, 1905	1st Feb. 1907	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12 0	13 0	...	...	...	...	48	...
Wiluna	13th July, 1905	1st Feb., 1907	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13 6	14 6	...	...	...	...	48	...
	6th Dec., 1906	1st Jan., 1910	15 6	15 0	14 4	13 6	1 3	13 0	13 0	12 4	12 4	13 0	14 4	11 10	13 6	12 10	14 9	...	...	...	...	...	...	...	...	...	...	...	...	48	47

* Industrial Agreement. (NOTE—An Industrial Agreement continues in operation until 30 days after the parties or any of them give notice of retirement therefrom). †Award continues in operation until amended or rescinded by the Court of Arbitration. ‡ Hours of Labour for engine-drivers and battery feeders agreed to at 47 per week. § Special rate for large surface winding-engines. ¶ Overtime rates do not apply to continuous process mills, to pumping and bailing, or to work necessitated by breakdown of machinery. ‖ Five Industrial Agreements registered, viz.:—Miners, Filterpressers, Firemen, Iron and Sheet Metal Workers' Labourers, and Engine-drivers. + Where three rates are shown for Miners (Hand Labour) they refer respectively to work in (a) Shafts, (b) Rises, and (c) other parts of the mine. (a) Applicable only to Sons of Gwalia, Sons of Gwalia South, and Murrin Murrin Proprietary Mines. (b) Applicable to Fenian Mine only.

PART V.—ACCIDENTS.

TABLE 26.

Men employed in Mines killed and injured in Mining Accidents during 1910 and 1911.

A.—ACCORDING TO LOCALITY OF ACCIDENT.

Goldfield.	Killed.		Injured.		Total Killed and Injured.	
	1910.	1911.	1910.	1911.	1910.	1911.
1. Kimberley	...	...	...	...	...	...
2. Pilbara	...	1	1	...	1	1
3. West Pilbara	...	...	...	...	...	...
4. Ashburton	...	...	...	...	...	...
5. Gascoyne	...	...	...	...	...	...
6. Peak Hill	...	...	...	...	...	...
7. East Murchison	1	1	18	8	19	9
8. Murchison	4	1	31	22	35	23
9. Yalgoo	...	...	...	...	...	...
10. Mt. Margaret	6	10	57	53	63	63
11. North Coolgardie	2	3	12	5	14	8
12. North-East Coolgardie ...	...	1	11	1	11	2
13. Broad Arrow	...	...	1	2	1	2
14. East Coolgardie	11	17	363	370	374	387
15. Coolgardie	1	...	4	4	5	4
16. Yilgarn	2	2	...	7	2	9
17. Dundas	...	...	5	1	5	1
18. Phillips River	...	...	4	1	4	1
MINING DISTRICTS.						
Northampton	...	...	...	3	...	3
Yandanooka	...	...	...	...	...	...
Greenbushes	...	1	2	1	2	2
Collie	2	...	78	50	80	50
Total	29	37	587	528	616	565

B.—ACCORDING TO CAUSES OF ACCIDENT.

	1910.		1911.		Comparison with 1910.	
	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.
1. Explosives	3	12	2	15	− 1	+ 3
2. Falls of Ground	10	46	12	42	+ 2	− 4
3. In Shafts	6	26	12	33	+ 6	+ 7
4. Miscellaneous Underground ...	4	320	3	291	− 1	− 29
5. Surface	6	183	8	147	+ 2	− 36
Total	29	587	37	528	+ 8	− 59

During the year 1911 37 fatal accidents occurred, as against 29 in 1910. The number of injured shows a decrease of 59 compared with the preceding year. Full details of these accidents will be found in the Report of the State Mining Engineer published as Division II. to this Report.

TABLE 27.

Deaths of Persons employed at Mines from Accidents during 1910 *and* 1911.

Kind of Mine.	1910.						1911.					
	Number of Persons killed.			Death Rate per 1,000 Men employed.			Number of Persons killed.			Death Rate per 1,000 Men employed.		
	Above Ground.	Under Ground.	Total.	Above Ground.	Under Ground.	Total.	Above Ground.	Under Ground.	Total.	Above Ground.	Under Ground.	Total.
Coal Mines	...	2	2	...	5·04	3·84	...	...	...	...	...	...
Men employed ...	(124)	(397)	(521)	...	...	...	(123)	(340)	(463)	...	...	...
Gold Mines	7	20	27	·93	2·29	1·66	7	29	36	·98	3·51	2·33
Men employed ...	(7,544)	(8,735)	(16,279)	...	...	...	(7,166)	(8,262)	(15,428)	...	...	...
Other Mines	...	...	...	...	...	...	1	...	1	1·85	...	1·42
Men employed ...	(656)	(255)	(911)	...	...	...	(541)	(164)	(705)	...	...	...
Total for all Mines ...	7	22	29	·84	2·34	1·64	8	29	37	1·02	3·31	2·23
Total number of men employed	(8,324)	(9,387)	(17,711)	...	...	...	(7,830)	(8,766)	(16,596)			

Of the fatal accidents one occurred at a tin treatment plant, and the remaining thirty-six in gold mines. The death rate per 1,000 men employed on gold mines was 2·33 as against 1·66 in 1910.

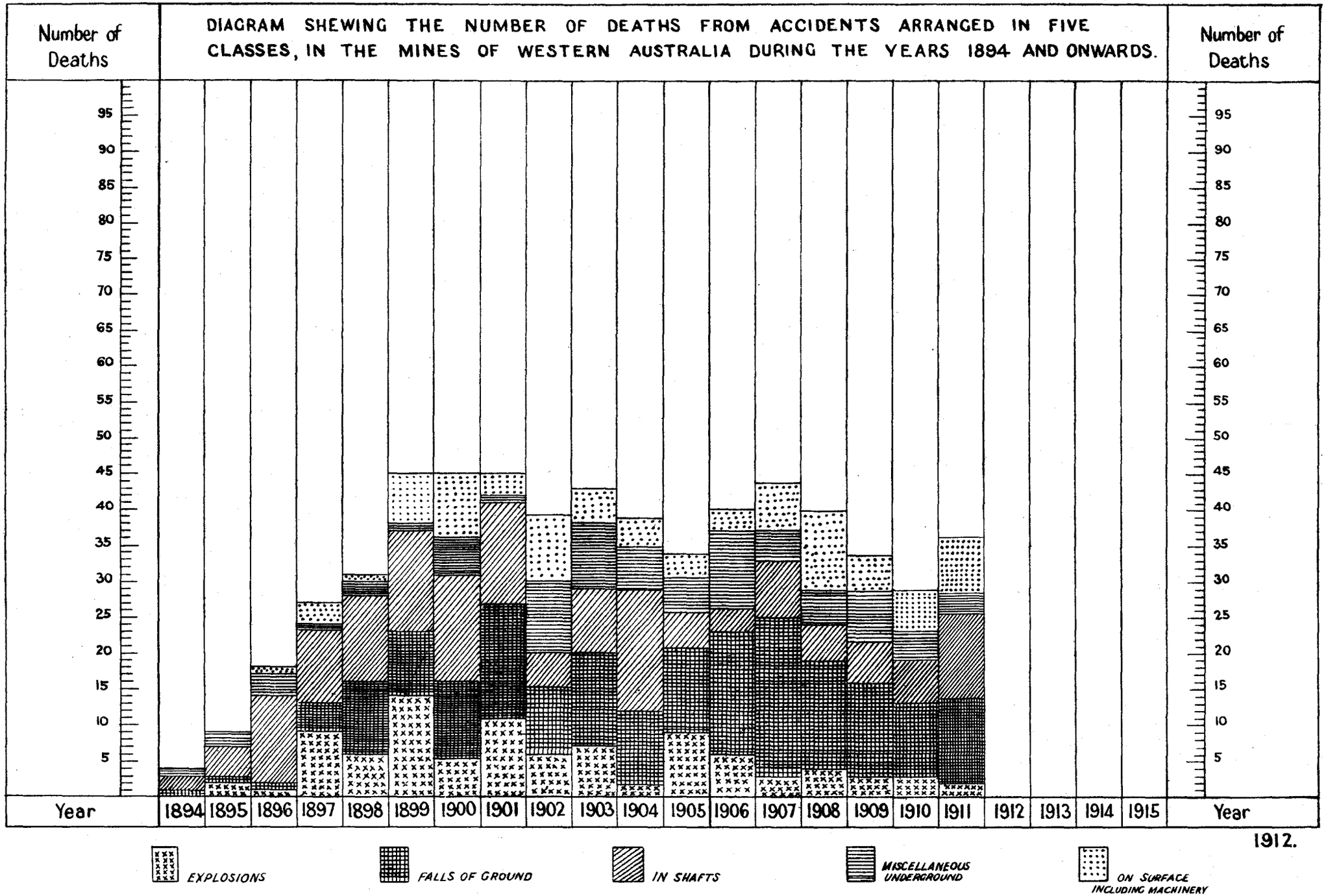

Number of Deaths
DIAGRAM SHEWING THE NUMBER OF DEATHS FROM ACCIDENTS ARRANGED IN FIVE CLASSES, IN THE MINES OF WESTERN AUSTRALIA DURING THE YEARS 1894 AND ONWARDS.
Number of Deaths
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
Year
1894
1895
1896
1897
1898
1899
1900
1901
1902
1903
1904
1905
1906
1907
1908
1909
1910
1911
1912
1913
1914
1915
Year
1912.
EXPLOSIONS
FALLS OF GROUND
IN SHAFTS
MISCELLANEOUS UNDERGROUND
ON SURFACE INCLUDING MACHINERY

TABLE 28.

Deaths of persons employed from Accidents in Gold Mines during 1911, and the Death Rate per 1,000 men employed, and per 1,000 tons of Gold Ore raised during 1910 and 1911 (Number of men taken as in Table 23, not including Alluvial Gold Workers).

GOLDFIELD.	Number of Deaths.			Death rate per 1,000 Men employed.				Number of Deaths per 1,000 tons of Gold Ore raised.	
	1911.			1911.			1910.		
	Above Ground.	Under Ground.	Total.	Above Ground.	Under Ground.	Total.	Total.	1911.	1910.
1. Kimberley	...	...	...	...	...	...	...	...	...
2. Pilbara	...	1	1	...	17·54	8·55	...	·289	...
3. West Pilbara	...	...	...	...	...	...	...	...	...
4. Ashburton	...	...	...	...	...	...	...	...	...
5. Gascoyne	...	...	...	...	...	...	...	...	...
6. Peak Hill	...	...	...	...	...	...	...	...	...
7. East Murchison	1	...	1	1·66	...	·73	·57	·005	·003
8. Yalgoo	...	...	...	...	...	...	...	...	...
9. Mt. Margaret	1	9	10	1·76	1·06	7·07	3·54	·032	·018
10. North Coolgardie	2	1	3	4·19	1·45	2·57	1·42	·031	·019
11. North-East Coolgardie ...	...	1	1	...	6·02	3·50	...	·020	...
12. Broad Arrow	...	...	...	...	...	...	...	...	...
13. East Coolgardie	3	14	17	1·23	4·21	2·95	1·94	·010	·007
14. Coolgardie	...	...	...	...	...	...	1·21	...	·012
15. Murchison	...	1	1	...	·76	·37	1·96	·005	·017
16. Yilgarn	...	2	2	...	8·81	4·37	3·14	·106	·059
17. Dundas	...	...	...	...	...	...	...	...	...
18. Phillips River	...	...	...	...	...	...	...	...	...
Totals and Averages	7	29	36	1·07	3·51	2·43	1·10	·013	·009

The number of deaths per 1,000 men employed unfortunately shows an increase from 1.10 in 1910 to 2.43 in 1911, and that per 1,000 tons of gold ore raised shows a slight increase, being .013, as against .009 for the preceding year.

PART VI.—STATE AID TO MINING.

STATE BATTERIES.

The number of State Batteries existing at the close of the year was 33, as compared with 34 during 1910, the 10-head Mill at Kalpini having been dismantled and removed to Linden for re-erection to take the place of the Unit Stamp.

From the inception of the battery system to the end of 1911, gold and tin, to the value of £3,733,939, have been recovered at the State plants. 843,780 tons of gold ore were treated, and produced £3,146,990 worth of gold by amalgamation; £429,274 worth by cyanidation; £88,974 from slime treatment, and 51,553 tons of tin ore produced tin to the value of £68,701.

During the year the gold ore treated was 59,373 tons for 56,265 fine ounces, and in the preceding year, 89,278 tons produced 80,074 fine ounces.

The working expenditure for all plants during the year totalled £60,061 11s. 5d., and the revenue £53,321 19s. 5d., which, after including £750 17s. 6d. for additions, etc., and paid from revenue, shows a loss of £7,490 9s. 6d. on the year's operations. The capital expenditure from the inception of the scheme was £290,732 13s. 8d., £91,981 1s. 8d. being paid from revenue and £198,751 12s. from loan. The cost of administration for the year was £3,764 3s. 10d., as against £3,891 16s. 8d. for 1910.

The working expenditure from inception to the 31st December, 1911, exceeds the receipts by £28,870 8s. 2d.

GEOLOGICAL SURVEY.

The work of this Branch of the Department has been carried out during the year by 19 officers, who have been kept fully occupied. The principal reports as a consequence of the year's operations are on—

The question of permitting mining on the Water Reserve at Garden Gully near Meekatharra.

The underground water resources of the belt of wheat-growing country lying to the South of Norseman.

The underground water supply at Rottnest.

Boring for coal at Eradu.

The selection of sites for boring at Cue.

The limestone deposits at Pinjarra.

The operations for boring for coal on the Fitzgerald River.

The supposed coal finds at Donnybrook.

The location of suitable sites for boring with the object of locating auriferous ore channels in the Coolgardie district.

A supposed asbestos discovery at Golden Valley in the Yilgarn Goldfield.

The boring for artesian water at Cookernup.

Numerous reports were also furnished in connection with applications for the alienation of Mineral Lands, and for assistance to mines under the provisions of the Mining Development Act. The staff was increased during the year by the appointment of three Field Geologists, one Assistant Field Geologist, a Petrologist, and an Assistant Mineralogist and Assayer.

One Geological Bulletin was issued, and seven more will be in the hands of the printer early in the coming year.

ASSISTANCE UNDER THE MINING DEVELOPMENT ACT, 1902.

The following statement shows the sums advanced during the year 1911 under the provisions of the Mining Development Act:—

	£	s.	d.
Advances in aid of mining work and equipment of mines with machinery	1,654	5	11
Advances in aid of erection and equipment of crushing plants, including subsidies paid on stone crushed for the public	3,297	3	2
Advances in aid of boring	1,141	11	4
Providing means of transport ..	281	14	1
	£6,374	14	6

In addition to the above, amounts totalling £2,144 3s. 9d. were expended from the Mining Development Vote on various matters for the assistance of mining, such as water supply, roads, subsidies to assist cartage of ore long distances, and subsidies for development work done below the 100-feet level in small mines.

Included in the amount set against Advances in aid of erection, etc., is the sum of £942 18s. 5d., being the subsidies paid to the owners of plants crushing for the public, the conditions being that they crush for the public at fixed rates, in most cases a further requirement being imposed as to treating or purchasing tailings. The ore crushed at such plants during the year amounted to 11,161 tons.

The receipts under the Mining Development Act, exclusive of interest payments, amounted to £2,966 12s. 10d., made up as follows:—

	£	s.	d.
Refunds of advances	1,104	19	5
Sales of securities	956	5	4
Miscellaneous	905	8	1

WATER SUPPLY.

The work of this Branch, which includes surveys for, and construction of reservoirs for conservation of water, boring for water and minerals, sinking wells, clearing tracks, etc., has been continued during the year.

A short summary is as follows:—

14	Water Shafts sunk aggregating	993 feet.
169	Hand Bores „	11,622 „
6	Diamond Drill Bores „	1,901 „

Tanks have been constructed at Golden Valley (roofed and lined), Nevoria, Salmon Gums (Agricultural Tank), Grass Patch (Agricultural Tank), and others are in progress at Marda, Ennuin, Curra-jong and Yackie Yackine, all of which are to be roofed and lined.

Norseman No. 2 Tank has been enlarged to 3,985,852 gallons capacity, and Menzies No. 1 Tank has been roofed to reduce evaporation.

Road clearing and water supply have been carried out from Carrabin to Boodalin 7¾ miles, from Manningu to Koolyanobbin 33 miles, and West of Mt. Ida 32 miles.

Windmills have been erected at Murrin Murrin and Golden Ring Wells.

Surveys have been carried out at Ravensthorpe, Marvel Loch, Parker's Range, Marda, Ennuin, Curra-jong, Yackie Yackine, and Gordon.

PART VII.—REMARKS ON THE GOLDFIELDS AND MINERAL DISTRICTS AND SUMMARIES OF THE WARDENS' AND OTHER OFFICERS' REPORTS.

ASHBURTON GOLDFIELD.

The output of gold from this field during the year was 256 fine ozs., and for the preceding year 248 fine ozs., an increase of 8 fine ozs.

Mining has been practically at a standstill, and the prevailing drought has tended to prevent anything being done, the scarcity of water rendering the back country inaccessible.

BROAD ARROW GOLDFIELD.

The output of gold for the year was 7,153 fine ozs., and for the preceding year 15,482 fine ozs., a decrease of 8,329 fine ozs. The greater portion of the output came from the Siberia centre where a good deal of activity prevails, particularly at Ora Banda. The mine owners, however, are at a disadvantage owing to the want of a reliable water supply, and the absence of crushing facilities. The Government, however, have both matters in hand, and it is expected the wants will be supplied early in the new year. The outlook for this portion of the field is most promising, but the other centres of Bardoc, Black Flag, Broad Arrow, and Paddington, have had no developments or new finds, and have been exceedingly quiet. There is no immediate prospect of any improvement.

COLLIE COALFIELD.

The output of coal for the year was 249,899 tons, and in the preceding year 262,166 tons, a decrease of 12,267 tons. The principal causes for this decrease were an unfortunate fire which broke out in the Collie Proprietary mine at the end of 1910, and which necessitated the sealing up of the old workings, and opening up afresh in another part of the property; also industrial troubles, which were eventually fortunately settled. The Newcastle mine, a new one, commenced to raise coal in July and contributed over 6,000 tons to the total. All the mines are being worked and developed, and the district is flourishing so that the outlook is very promising.

COOLGARDIE GOLDFIELD.

The output of gold for the year was 33,754 fine ozs., and in the preceding year 37,911 fine ozs., a decrease of 4,157 fine ozs.

In the Bonnievale centre very little has been doing. The Burbanks centre was again the chief producer, the Main Lode mine having kept up its production. The tributers on the Burbanks Birthday Gift had an excellent year, and employed a fair number of men.

In the Coolgardie centre mining has been quiet, and most of the old mines were worked on tribute.

At Eundynie the Hidden Secret mine was let on tribute, and as the result of a good development the tributers have done well.

At Gibraltar, Higginsville, Londonderry, Red Hill, and Widgiemooltha, nothing of importance has transpired.

In the Kunanalling centre there has been a falling off in the output, and nothing transpired to give hope of any improvement in the immediate future.

DUNDAS GOLDFIELD.

The output of gold for the year was 28,990 fine ozs., and for the preceding year 29,627 fine ozs., a decrease of 637 fine ozs.

The operations of the various mines have been considerably hampered on account of the serious shortage of fresh water obtaining. In the Lady Miller leases, owned by the Hampton Uruguay Ltd., a development took place which will probably mean a vastly improved future.

The outlook for this field is very promising.

EAST COOLGARDIE GOLDFIELD.

The output of gold for the year was 776,494 fine ozs., and for the preceding year 778,480 fine ozs., a decrease of 1,986 fine ozs.

A very important development was the location by diamond drilling in the Golden Horseshoe mine at a depth of 2,600 feet of a lode 15 feet wide, assaying 30dwts. to the ton. This drilling was done from the Great Boulder main shaft. Subsequently another drill hole was bored from the Great Boulder "Edwards" shaft, and located what is believed to be the same lode, but with a width of 27 feet, assaying 18dwts. per ton. The value of this cannot be stated, but the work will undoubtedly lead to other mining companies going in for deeper sinking to locate similar ore bodies in depth. At the other large mines work has gone on steadily, but there has not been any other important development. Nothing of any note has transpired in the outside centres.

EAST MURCHISON GOLDFIELD.

The output of gold for the year was 102,391 fine ozs., and for the preceding year 130,371 fine ozs., a decrease of 27,980 fine ozs.

In all of the centres there has been a falling off, but at Youanmi in the Black Range district the Youanmi Gold Mines, Ltd., have erected a 20-head mill, which will be in operation early in the new year, and should add considerably to the output.

In the Lawlers district new promising discoveries were reported from Mt. Keith about half-way between Lawlers and Wiluna, and also at a spot about 10 miles east of Lawlers. The closing down of the Northern Mines, Ltd., has, however, rendered the district very quiet.

In the Wiluna district matters have not improved. The outlook for the field is, however, promising.

GASCOYNE GOLDFIELD.

Mining is still at a standstill in this field excepting for a few dryblowers who remain at Bangemall. Eight (8) fine ozs. of gold were reported, a decrease of eighteen (18) fine ozs. on the preceding year.

GREENBUSHES MINERAL FIELD.

The output of black tin for the year was 411.12 tons, valued at £44,638, and for the preceding year 317.71 tons, valued at £27,974, an increase of 93.41 tons, valued at £16,664.

Owing to the absence of a market for tantalite none was produced. The improved output, and the increased price of tin has resulted in a renewal of activity, and an improved outlook. The greater portion of the mining is treating the alluvial by means of dredges. In lode mining a considerable amount of work has been done on the South Cornwall mine on which a mill is now being erected, and the holders hope to turn it into a good paying concern.

The prospects of this field are promising.

KIMBERLEY GOLDFIELD.

The output of gold from this field was 171 fine ozs., and in the preceding year 265 fine ozs., a decrease of 94 fine ozs. This is all won by alluvial miners, who eke out a precarious existence. There is nothing to justify any hope of improvement in mining matters.

MT. MARGARET GOLDFIELD.

The output of gold for the year was 152,474 fine ozs., and for the preceding year 160,281 fine ozs., a decrease of 7,807 fine ozs. In addition 9,938.92 tons of pyritic ore valued at £3,529 were raised.

The Mt. Margaret district showed an increase of over 2,000 ozs., and in the latter part of the year there was a general improvement in prospects.

The Mt. Morgans district shows a decrease. Very little work has been done on any of the mines, but towards the close of the year the Transvaal group of leases was acquired by a company which has commenced operations and the mine is looking promising.

The Mt. Malcolm district also shows a decrease, but generally speaking is much the same as at the end of the previous year. Steady progress has been made in development work, and indications are promising.

MURCHISON GOLDFIELD.

The output of gold for the year was 119,653 fine ounces, and for the preceding year 124,351 fine ounces, a decrease of 4,698 fine ounces.

In the Nannine district there was an increase attributable to the activity at Meekatharra, and Quinns; at the former place mining is looking most promising. At Garden Gully the Kyarra lease is being systematically developed by a strong company, which holds an option of purchase over it. It is understood that prospects are excellent. At Quinns matters are improving, and the new State mill has been kept going steadily, and many good crushings put through.

In the Mt. Magnet district there was a decrease, but the Morning Star and St. George mines have maintained steady progress. In August a party took up the "Early Bird" lease situated about two miles east of the town, and from a crushing of one (1) ton obtained a return of 377ozs. They also obtained 120ozs. by dollying, and are reported to have about 200 tons raised, estimated to go 2ozs. to the ton. At Boogardie the "Boogardie View" lease produced 756 fine ounces of dollied gold, which created a stir. In the outlying centres matters remained much the same.

In the Cue district there was an improved output, attributable to the increased return from the "Hidden Treasure" mine, which more than made up the poorer yields from many other mines. This mine has given fresh hope to many by its excellent developments. A

new find was made about a mile from Cue, and a crushing of 42 tons yielded 136ozs. The property known as the "Bob Bell" is now being developed with very promising results. The outlying centres are very quiet.

In the Day Dawn centre there is a decrease due to a lesser output from the Great Fingall mine, which, however, has had a promising development in its lower levels, to open up which an internal shaft is now being sunk. Nothing of note transpired at any of the other mines.

NORTHAMPTON AND YANDANOOKA MINERAL FIELDS.

No minerals were reported from the Yandanooka district for the year.

In the Northampton field work has been confined to the Baddera mine, and a fair amount of development has been the result. If prospects continue encouraging the result will be the opening up of other mines. The output was 8,194.76 tons of lead ore, valued at £17,663.

NORTH COOLGARDIE GOLDFIELD.

The output of gold for the year was 64,760 fine ounces, and for the preceding year 72,748 fine ounces, a decrease of 7,988 fine ounces.

In the Menzies centre the output from Menzies and Woolgar was about the same as for 1910. The Maranora mine at Kensington has been considerably developed, and other locally owned properties, notably the "Friday" and "Balkis," have been well opened up with profitable results. From Hill View, about nine miles south-east of Menzies, there have been several crushings with payable returns.

In the Yundaga centre the Menzies Consolidated mine has been vigorously worked.

At Comet Vale good progress has been made, and the results are most promising. This centre promises to develop into a splendid field.

At Mt. Ida matters have been somewhat quiet.

In the Ularring district the "Resurgam" continues to put out good crushings, and at Davyhurst one or two mines have been carrying on operations, but nothing noteworthy has transpired.

At Mulline a large amount of prospecting has been done, and fair returns obtained from most of the leases.

At Riverina the "Riverina South" struck payable ore, which resulted in other properties being taken up.

In the Niagara district the Lubra Queen had a good output, and the erection of a treatment plant on the mine is in hand. One or two other shows have been looking well.

In the Yerilla district mining has been most active at Linden, where several good crushings have been treated at the State mill, and many of the mines are most promising.

Yundamindera, Yerilla, and Pingin have been quiet, but Yarri and Edjudina have been the scenes of greater activity, and hopes of improvement are entertained.

The outlook for this field is promising.

NORTH-EAST COOLGARDIE GOLDFIELD.

The output of gold for this field was 19,555 fine ounces, and for the preceding year 23,027 fine ounces, a decrease of 3,472 fine ounces.

Mining throughout this field has remained quiet, but prospects in one or two properties give promise of an improvement in the future. It is hoped that the construction of the Trans-Australian Railway will give an impetus to prospecting in the Eastern portion of the field.

PEAK HILL GOLDFIELD.

The output of gold from this field was 1,747 fine ounces, and for the preceding year 4,327 fine ounces, a decrease of 2,580 fine ounces. This is accounted for by the cessation of operations at the Peak Hill mine, the Company owning it having ceased operations and sold up everything.

A new find was reported from Ruby Well, about 30 miles south-east of Peak Hill, and is said to be very promising.

At Mt. Egerton a State battery is being erected and will serve to prove the locality, which is of much promise.

The output from this field should show a substantial increase in the coming year.

PHILLIPS RIVER GOLDFIELD.

The output of gold for the year was 5,657 fine ounces, and for the preceding year 8,195 fine ounces, a decrease of 2,538 fine ounces.

The production of copper was 13,563.68 tons, valued at £46,862, and for the preceding year 25,871.65 tons, valued at £96,745, a decrease of 12,307.97 tons, valued at £49,883. These decreases are attributable to the closing down of the mines controlled by the Phillips River Gold and Copper Company, and this has also created a temporary depression in the district generally. It is hoped and anticipated that operations will be resumed early in the new year. Several of the smaller mines have been developing steadily, and as there was a fair rainfall during the year, which replenished the dams, a good revival is anticipated.

PILBARA GOLDFIELD.

The output of gold for the year was 4,608 fine ounces, and for the preceding year 5,370 fine ounces, a decrease of 762 fine ounces.

Black tin to the extent of 148.65 tons, valued at £16,064, was raised, and in the preceding year 153.50 tons, valued at £12,899.

30.10 tons of copper ore, valued at £316, were also reported.

Mining has not improved to the extent that was anticipated with the advent of the railway. It was hoped that the reduction in costs of mining consequent on its completion would be followed by the advent of capital necessary for the development of the promising deposits known to exist. The exceptional drought which existed considerably retarded the operations of prospectors.

At Bamboo Creek a new make of stone carrying good gold was struck in the Kitchener lease, and several other shows look promising, but the absence of crushing facilities mitigates against the development of any but the very rich ones. The question of erecting a State plant here is under consideration.

At Wodgina a new tin lode was unearthed, and several leases were in consequence taken up. Capital is, however, absolutely essential for the development of this centre.

At Warrawoona good developments have taken place on the Klondyke Boulder, and the future looks promising.

In the Nullagine district there was little change, a find was made at McPhee's Creek, about 22 miles north-east of Nullagine, but there has not been sufficient work done to justify any prediction, although the holders are very sanguine.

Despite the absence of rain the pastoralists have had a fair time, and the outlook is hopeful.

WEST PILBARA GOLDFIELD.

The output of gold for the year was 983 fine ounces, and for the preceding year 1,484 fine ounces, a decrease of 501 fine ounces.

Copper ore to the extent of 9,082.02 tons, valued at £69,140, was raised, and in the preceding year 8,479.80 tons, valued at £64,861, an increase of 602.22 tons, valued at £4,279.

Nothing of any note has transpired, but most of the mines continue to develop steadily. The Whim Creek Copper mine continues to maintain its output.

Early in the new year an officer of the Department is proceeding to the field to specially report on the question of the best means to push ahead the industry in the way of Government assistance

WEST KIMBERLEY MAGISTERIAL DISTRICT.

Nothing of importance has been reported from this district. Assistance has been promised in connection with the erection of machinery on Wolfram Reward Lease No. 146H, a company having been formed to work the property. Hopes are entertained that it will develop into a good proposition.

YALGOO GOLDFIELD.

The output of gold for the year was 1,162 fine ounces, and for the preceding year 1,333 fine ounces, a decrease of 171 fine ounces. Notwithstanding this decrease there has been a considerable improvement in this field, notably at Yuin, where the Royal Standard group of leases have been taken under option of purchase by a company, and are reported to be developing most encouragingly, and at Goodingnow, commonly known as Payne's Find, where, in May, Thomas Payne discovered and reported payable gold. In consequence 57 leases and 13 Prospecting Areas were taken up. A townsite has been surveyed, and many of the properties are developing splendidly.

The erection of a State battery has been authorised and will be pushed on as speedily as possible.

The other centres have not altered, but a substantial increase in gold output is anticipated for the coming year.

YILGARN GOLDFIELD.

The gold output for the year was 18,811 fine ounces, and for the preceding year 27,858 fine ounces, a decrease of 9,047 fine ounces. It is regrettable that the optimistic forecasts consequent on the discovery of the "Bullfinch" mine have not been realised, although the vigorous prospecting which followed the discovery has led to the opening up of promising shows in different parts of the field, which may later develop into good mines. The "Bullfinch" mine has been steadily developed and a plant is in course of erection, but no ore was treated.

In the Mount Jackson district there has been a considerable amount of prospecting, and in order to test the district the Government have leased a battery erected there some years ago and are putting it in order for public crushing.

In the Marvel Loch centre there has been considerable activity, and some of the mines there are most promising. The extension of the Goldfields Water Supply to this centre has been approved.

A new discovery at a place called Westons, situated about 40 miles west from Southern Cross, has developed most promisingly, and several excellent shows are the result.

In the other centres there has not been anything of note to report, but the outlook for the field generally is very promising.

TABLE 29.

Value of Mining Machinery and Number of Stamps and other Mills erected on the 31st December, 1911, compared with the previous Year.

Goldfield.	District.	Value of Mining Machinery.		Batteries. Number of Stamps.		Mills.																					
						1910.										1911.											
		1910.	1911.	1910.	1911.	Prospecting.	Ball.	Krupp Ball.	Griffin.	Huntington.	Salford.	Tremain.	Flint.	Other Crushers.	Puddlers.	Prospecting.	Ball.	Krupp Ball.	Griffin.	Huntington.	Salford.	Tremain.	Flint.	Other Crushers.	Puddlers.
		£	£																						
1. Kimberley		5,000	**5,000**	45	**45**	...	...	...	...	1	...	...	...	...	...	...	...	...	...	**1**	...	...	...	...	...
2. Pilbara	Marble Bar	17,227	**16,245**	70	**60**	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Nullagine	7,298	**4,600**	40	**30**	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. West Pilbara		2,400	**2,600**	20	**20**	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Ashburton		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Gascoyne		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Peak Hill		73,870	**74,150**	50	**50**	1	...	...	...	...	...	...	...	2	2	**1**	...	...	...	...	...	...	...	**2**	**2**
7. East Murchison	Lawlers	120,423	**49,097**	153	**148**	..	...	...	...	...	...	...	...	3	2	...	...	...	...	...	...	...	...	**1**	**2**
	Wiluna	84,694	**76,875**	70	**70**	1	...	...	...	...	...	...	...	...	...	**3**	...	...	...	...	...	...	...	**1**	...
	Black Range	101,198	**113,259**	125	**115**	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	**2**	...
8. Murchison	Cue	41,994	**32,708**	118	**98**	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Nannine	91,528	**101,706**	250	**222**	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	**3**	...
	Day Dawn	208,585	**20,800**	65	**65**	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Mt. Magnet	35,290	**37,565**	88	**85**	...	2	...	...	1	...	2	...	...	1	**3**	...	...	...	**1**	...	**2**	...	...	...
9. Yalgoo		25,745	**30,145**	100	**105**	4	...	...	...	...	...	2	...	...	...	**2**	...	...	...	...	...	**2**	...	...	...
10. Mt. Margaret	Mt. Morgans	191,629	**21,278**	142	**57**	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...
	Mt. Malcolm	164,145	**107,527**	240	**240**	...	...	...	...	...	...	1	...	3	...	...	...	...	...	...	...	**1**	...	**11**	**1**
	Mt. Margaret	141,881	**128,327**	173	**163**	5	...	...	...	...	...	...	...	...	1	...	**5**	...	...	...	...	...	...	**1**	...
11. North Coolgardie	Menzies	73,538	**69,292**	145	**140**	...	...	...	...	...	...	...	...	4	...	...	...	...	...	**1**	...	...	...	**4**	...
	Ularring	34,722	**32,750**	85	**85**	...	...	...	...	...	...	...	...	...	...	...	...	...	...	**2**	...	...	...	**2**	...
	Niagara	74,904	**28,512**	117	**112**	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Yerilla	24,411	**28,400**	62	**86**	1	...	...	...	...	...	...	...	...	...	**1**	...	...	...	**1**	...	...	...	...	...
12. Broad Arrow		35,156	**32,020**	123	**123**	1	...	...	...	...	...	...	...	2	...	**1**	...	...	...	**1**	...	..	...	**1**	...
13. North-East Coolgardie	Kanowna	46,392	**46,397**	148	**143**	1	...	...	...	...	...	...	...	...	2	**3**	...	...	...	...	...	...	...	...	**2**
	Kurnalpi	180	**180**	5	**5**	1	...	...	...	...	...	...	...	...	1	**1**	...	...	...	...	...	...	...	...	**1**
14. East Coolgardie	East Coolgardie	1,576,382	**1,696,631**	655	**640**	1	10	39	12	8	...	...	29	23	15	**2**	**15**	**35**	**13**	**8**	...	...	**33**	**52**	**3**
	Bulong	2,730	**5,187**	10	**20**	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Coolgardie	Coolgardie	112,916	**108,110**	304	**304**	...	...	...	...	...	...	...	...	2	...	**8**	...	...	...	...	...	...	...	**4**	...
	Kunanalling	19,850	**17,697**	85	**80**	...	2	...	...	...	...	...	...	1	...	...	**2**	...	...	...	...	...	...	**1**	**1**
16. Yilgarn		35,130	**47,375**	130	**125**	...	...	...	...	...	...	..	...	2	...	...	...	...	...	...	...	...	...	**5**	...
17. Dundas		73,117	**186,239**	135	**135**	1	...	...	...	...	...	...	...	1	2	**1**	...	...	...	...	...	...	...	**3**	...
18. Phillips River		51,555	**20,723**	46	**61**	1	...	...	...	...	...	...	...	1	1	**1**	...	...	...	...	...	...	...	...	...
State generally		58,000	**58,000**	...	...	...	...	1	...	...	...	...	...	1	...	...	...	**1**	...	...	...	...	...	**1**	...
Total Gold-extracting Machinery		3,531,890	**3,199,395**	3,799	**3,632**	18	14	40	12	10	...	5	29	51	27	**27**	**22**	**36**	**13**	**15**	...	**5**	**33**	**94**	**12**
Total Machinery, other than Gold-extracting		190,175	**234,011**	10	**5**	...	...	...	...	3	...	...	...	8	2	...	**3**	...	...	**4**	...	...	...	**17**	**3**
TOTAL MINING MACHINERY		3,722,065	**3,433,406**	3,809	**3,637**	18	14	40	12	13	...	5	29	59	29	**27**	**25**	**36**	**13**	**19**	...	**5**	**33**	**111**	**15**

PART VIII.—EXISTING LEGISLATION.

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

(1.) "The Mining Act, 1904."
(2.) "Sluicing and Dredging for Gold Act, 1899."
(3.) "Mines Regulation Act, 1906."
(4.) "Coal Mines Regulation Act, 1902."
(5.) "Mining Development Act, 1902."
(6.) "Mines and Machinery Inspection Act, 1911."

The last-named Act was assented to on February 16th, 1911, and provides for the conferring on a Chief Inspector or Inspector appointed under "The Mines Regulation Act, 1906," "The Coal Mines Regulation Act, 1902," or "The Inspection of Machinery Act, 1904," of all or any of the powers of the Chief Inspector or Inspector, as the case may be, under all or any of the said Acts, subject to such conditions and restrictions as may be deemed fit.

The following amendments to Regulations were gazetted:—

Under "The Mines Regulation Act, 1906":
The repeal of General Rules 24 to 30, inclusive, and the substitution of new ones in their stead.

Under "The Coal Mines Regulation Act, 1902":
The repeal of Clause "C" of General Rule 12, and the substitution of a fresh one.

Under "The Mining Development Act, 1902":
Regulations relative to subsidies granted in connection with development work, the ore from which is treated at State mills.
Regulations relative to subsidies given in connection with the production of merchantable mica, and manufactured mica goods.

PART IX.—INSPECTION OF MACHINERY.

The Chief Inspector of Machinery reports that operations under the Inspection of Machinery Act have been somewhat retarded owing to shortness of staff, which has caused the work to fall into arrears, and consequently affects the revenue which, however, shows an increase of £328 12s. on the previous year.

At the end of the year the number of useful boilers on the registers was 3,000, a decrease on the previous year, which is accounted for by the writing off of all "floating" boilers, which are now under the jurisdiction of the Harbour and Light Department, and the writing off of many old boilers temporarily condemned for years and which are now permanently condemned.

During the year 74 new boiler registrations were recorded, 1,637 thorough, and 110 working inspections made, and 1,612 certificates granted; permanent condemnations totalled 141, and temporary condemnations 62, conversions into tanks, air receivers, etc., 2.

The total number of useful machinery plants is 3,036, as against 2,940 in the preceding year.

The total number of inspections was 1,812, and in the previous year 1,725.

Two hundred and fifty-one candidates for engine-drivers' certificates were examined, and certificates as shown hereunder were granted:—

1st Competency	14
2nd Competency	47
3rd Competency	63
Loco. and Traction Competency ..	23
Traction Competency	10
Interim Certificates	30
Copies of lost and destroyed Certificates	10
	197

In carrying out inspection and other work a total distance of 39,340 miles was travelled.

PART X.—SCHOOL OF MINES.

Steady progress has been maintained at the school during the year, the eighth of its existence.

The enrolment of students, and the attendance at classes, have been approximately the same as in 1910.

The preparatory classes which have been established in mathematics, physics, chemistry, geology, and drawing, are proving successful, and are attracting a number of students, who are able to attend regularly throughout the whole year. This gives younger students an excellent preparation in elementary principles, which enables them to proceed with advantage to the more advanced work of the regular courses. In addition to the primary object of its establishment, viz., to enable those engaged in mining to qualify so as to be able to hold responsible positions in the industry, the School also offers facilities for general education, more particularly in elementary science.

The preparatory classes afford an introduction to science which is of great value to youths whatever may be their future occupations. The advanced classes enable students to obtain a training in the earlier portions of an University course, and when the School becomes affiliated with the University about to be established, and its work receives due recognition, considerable benefit will result to students resident on the goldfields.

Extra equipment which was installed during the year has enabled a strong class in the second course of mechanical engineering, including laboratory practice, to be formed, and considerable enthusiasm in this work has been evinced by the students.

The necessity for the establishment of special courses of instruction whereby students may have opportunities of gaining a thorough acquaintance with the theory and practice of gas producer plants has been recognised, and it is proposed to instal in the coming year a small plant to facilitate the work of the students.

In connection with the engineering courses, it is proposed to establish partial courses designed to meet the requirements more particularly of workers who are unable to attend the complete course for the diploma.

The scholarships offered by the Mines Department fully meet the requirements of the local students, and afford youths resident outside of the Kalgoorlie district facilities for attending the school and obtaining a training. In addition, the school has been fortunate in receiving valuable gifts of prizes and scholarships from those interested in the work of the institution.

The system of free assays for prospectors has been continued, and much valuable information has been

given them concerning the samples brought in for examination. A total of 526 assays and determinations was made.

CONCLUSION.

In dealing with the operations of the various sub-departments I have only briefly commented on the principal items. Full and detailed information will be found in the reports of the various officers controlling, published as Divisions II. to VIII. of this Report.

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

H. S. KING,
Under Secretary for Mines.

Department of Mines,
Perth, 31st March, 1912.

DIVISION II.

REPORT OF THE STATE MINING ENGINEER FOR THE YEAR 1911.

The Secretary for Mines, Perth, W.A.

Office of the State Mining Engineer,
Mines Department, Perth, W.A.,
30th March, 1912.

Sir,

I have the honour to submit for the Hon. Minister's information my report on the work performed by this office during the year 1911.

INSPECTION OF MINES UNDER "THE MINES REGULATION ACT, 1906," AND "THE COAL MINES REGULATION ACT, 1902."

The only change in the personnel of the Inspectors of Mines has been the resignation of the Inspector for Northampton, Greenbushes, and Phillips River (Mr. E. D. Cleland), who left the Public Service in March to take up the position of Superintendent of the Great Boulder Perseverance G.M., Kalgoorlie. The vacancy had not been filled up to the end of the year pending decision upon some suggested readjustments of the work of mine inspection which have been under consideration.

Inspectors' Reports.—Reports have been received from each of the Inspectors of Mines, giving a brief outline of the work done and the progress made in their respective districts for the year 1911.

CENTRAL GOLDFIELDS.

Mr. F. J. Lander, Inspector of Mines, reports as follows under date 3rd March, 1912:—

Cue.

"The Hidden Treasure.—This mine was purchased by Messrs. Chesson & Heydon on August the 1st, 1911, for £35,000. Before that it was held by a prospector named James Oates, who sold it to Chesson & Heydon. Since Chesson & Heydon took it over they have sunk a main underlay shaft 340 feet from the surface. The angle of dip is 30 degrees. At this depth a drive was put in south for 100 feet and the ore stoped out. This level is being continued and they are still sinking the main shaft. The present owners have taken out 2,683½ tons of ore for a return of 4,554 ozs. of gold worth £3 17s. 2d. per oz. The new main shaft is in ore six feet wide worth 10dwts. per ton.

"The Lord Nolan.—This property is also owned by Chesson & Heydon. During the year a main shaft was sunk through very hard country 300ft. deep, at this point a plat was cut and a cross-cut put in 12 ft. which struck the reef. The reef was six inches wide and valueless. The cross cut was continued for another 60 ft. but nothing was found. At 220ft. from the surface another cross cut was started and is now in 25ft. It is expected that this cross cut will have to be driven 160ft. before it strikes the reef. From the Lord Nolan shaft 423 tons have been taken during the year for 366.55ozs. of gold. The gold from this mine is worth £4 1s. per oz. Sixteen men have been employed on this mine during the year. At the present time the prospects of this mine are not very encouraging.

"The Light of Asia mines have been under exemption for the greater part of the year. At the present time a small syndicate is working on tribute.

"The Rubicon has also been under exemption and worked by a few tributers. The Company has now again started work in the south-west portion of the lease, prospecting from the surface. About three months ago some very rich ore was found near the surface but it proved to be only a patch.

"The Creme D'Or has been under exemption the greater part of the year as the gas-producing plant was not sufficiently powerful to keep the mine going. This machinery has been removed and a new plant is being installed. This is a good little mine that has been hampered for the want of funds.

"The Great Fingall.—The manager of this mine is getting on as fast as he possibly can with the internal shaft which is about 2,300 feet north of the main shaft at No. 13 level. When this is complete it will help to considerably increase the output. The following are the mine's operations during the year:—

"Main workings:—

Total number of feet driving, rising, and crosscutting			2,353ft.
Ordinary	2,116		
Internal shaft ..	237		
Total number of feet winzing			578ft.
Ordinary	418		
Internal shaft ..	160		
			2,931ft.
Plat cutting and winch chambers, etc.			
Internal shaft ..	4,676		
Ordinary	3,916		8,592ft.

Total tons (2,240lbs.) crushed for year, 108,639 tons, produced, viz.:—

Mill	20,100.025	fine ounces
Concentrates ..	5,124.637	do.
Cyaniding sands ..	6,286.974	do.
Filtering slimes ..	2,552.750	do.
Accumulated slimes	7,280.729	do.
Accumulated sands	1,476.608	do.
	42,821.723	do.

"The aforementioned tonnage includes 6,690 tons of Customs ore treated. The aforementioned gold includes production from the following:—

Customs ore	4,103.621	fine ounces
Purchased concentrates	1,833.867	do.
Purchased slimes ..	93.076	do.
	6,030.564	do.

Average number of men employed during the year, 375.

Lowest depth at which work is being carried out, 2,292ft.

"General.—Work carried out in the deeper levels has disclosed a chute of payable ore north of No. 4 winze.

"The above work is greatly hampered owing to all ore and mullock having to pass through No. 4 winze.

"The Bob Bell.—This is a six-acre lease held by Whitley and Dyer. During the year the north shaft was sunk 45ft. and the south shaft 150ft. This is at water level. A level was opened out at 45ft. and driven south for 75ft. and north 10ft. At 150ft. the ore at the bottom of the shaft is worth 2ozs. per ton. The reef is 18 inches wide. The bottom level has been driven 17ft. south and has passed through the chute of ore, which is nearly vertical. At the 45ft. level this chute of ore is 75ft. long and is dipping south a little. 42 tons of ore have been taken out of this mine during the last 12 months from development only. The first crushing of 21 tons gave a return of 36 dwts. per ton. A crushing of 21 tons was put through about Christmas time and gave a return of 5ozs. 5dwts. 12grs. per ton. This is a good little mine and promises well for the future.

"The Happy Jack.—This 18 acre lease is held by Mr. Lloyd and is let on tribute to Dawson Bros. at 5 per cent. of the gold won. During the year they have crushed 116 tons for 135ozs., 78 tons for 64ozs., and 93 tons for 35ozs. The reef is very small, ranging from 1in. to 12in. in width.

"The Hidden Treasure South.—This is a 24 acre lease and is held by Colgan Bros. It joins the Hidden Treasure on the south. The main shaft on this property is down 120ft. on the Hidden Treasure reef. The reef at the bottom is nearly five feet wide and the chute of gold, which the owners are seeking, is expected to be met with at 150ft. from the surface. I am told that the chute of gold at present being worked in the Hidden Treasure is dipping into this property. If this be true, this mine has a great future before it. The people of Cue are watching the development of this mine with great interest on account of its close proximity to the Hidden Treasure lease, which has proved such a valuable property.

"The Dew Drop.—This is a 12-acre lease held by W. Dawson. The main shaft has been sunk 200ft. the first 50ft. is vertical and 150ft. on the underlay. The underlay is about 27 degrees west. The deepest workings at the present time are at the 150ft. level. Here the reef is three feet wide and worth 22dwts. per ton. The country is hard granite and the reef in consequence very costly to work.

"The Starlight.—This 17-acre lease is the property of Messrs. Rogers & Streuffert. 150 feet of driving have been done at the 103ft. level and also some stoping above it. Altogether 109 tons of ore have been mined for 189.63ozs. of gold. The gold is valued at £4 per oz. At the present time a new shaft is being sunk north-west of the old shaft. It is down 75ft. It is expected that this shaft will cut the reef 110ft. from the surface. This mine is looking very much better than it did 12 months ago.

MEEKATHARRA.

"Ingliston Consols Extended.—During the year under review the main shaft of this mine has been sunk 125ft. It is now 636ft. deep, the deepest mine in the Meekatharra District. A crosscut was put in east at the 622ft. level for 117ft. The ore at this point is worth about 10dwts. per ton.

"Most of the ore from this mine is being taken from the Nos. 2, 3, 4, and 5 levels. The principal amount is coming from the Nos. 3 and 4 levels. The output is about 1,150 tons per month. The ore averages about 11½dwts. per ton. This mine never looked better than it does at the present time. The manager informs me that there are 80,000 tons of ore in reserve.

Tonnage crushed in 1911	13,692
Tonnage crushed in 1910	11,806
Increase	1,886
Tonnage crushed in 1911 from—	
No. 2 Stopes	2,035
No. 3 Stopes	6,552
No. 4 Stopes	1,694
Development	2,311
Estimated tonnage for December ..	1,100
	13,692
Development for 1911—	
Shaft sinking	166½ft.
Winzing	341ft.
Driving	406ft.
Rising	154ft.

"The Marmont.—The new main shaft on this mine has been sunk about 80ft. during the current year. The No. 1 level was opened at 300ft. from the surface. The No. 2 level was opened at 400ft. from the surface. There are two winzes being sunk below the No. 1 level on the reef and there are three parties of men stoping at the back of the No. 1 level. The cross cut at the No. 2 level is in 40ft. but the reef is not yet cut, although it was expected that it would have been cut before this. 7,126ozs. of gold have been taken from this mine during 1911 from 7,958 long tons. A new winding engine and a Cornish boiler 6ft. x 26ft. and a new overhead tram line, connecting the new with the old shaft, have been erected, also a new set of poppet legs 65ft. in height. The new tram line is about 30ft. high. These improvements have been made at a cost of £3,018. A good house has been built for the manager and a new change house erected for the men.

"There is no doubt that this is a good mine, but there are very little ore reserves.

"The Fenian.—At the present time there are 80 men employed on this mine. The ore for the battery is being broken from the Nos. 3, 4, 5, and 6 levels. Since the new machinery was installed the output has been increased 70 per cent. The output for November of the present year was 1,870 short tons for 1,829ozs., valued at £7,124. At the present time there are 85,000 tons of ore in reserve worth 74 shillings per ton. The bottom level 525 ft. deep, is looking better than any level in the mine. The reef going north is 17 ft. wide and the walls are not yet met with. Three winzes are being sunk below the bottom

level and they are all in good payable ore. This mine never looked so healthy as it does now.

"The Ingliston United and the Queen of the Hills have been under exemption for the greater part of the year and are still under exemption. During the year Queen of the Hills have done 390ft. of driving, 418ft. of crosscutting, and 40ft. of rising, 156ft. of winzing, and 12ft. of shaft sinking.

"Ingliston United have done 256ft. of winzing and 35ft. of crosscutting.

"Eldorade.—59ft. of crosscutting have been done here.

"Bobs Extended.—This mine has done 271ft. of crosscutting and 20ft. of shaft sinking. For several months past these mines, which are under the management of Mr. Thomas, have been under exemption, but it is expected that early in this year they will be re-started.

"Commodore South.—This property of 12 acres is held by Butler and party. A main shaft 7ft. x 4ft. x 180ft. in depth has been sunk during the last 12 months and 500ft. of crosscutting and driving have been done. There have been 56 tons of 11dwts. ore crushed. The reef at the bottom is two feet wide and worth 2ozs. per ton. This two feet is purely quartz, but there is a large formation, about 30ft. wide all carrying a little gold.

"The Way Back.—This property of 12 acres is held by Charles Jackson. A main shaft has been sunk 7ft. x 4ft. in the clear and 115ft. deep. A crosscut was put in west for 41ft. and the reef cut. The reef is 15 inches wide and worth 2ozs. per ton. A pumping plant has been erected to cope with the water. The reef is north and south and almost vertical. All the ore taken from this property has crushed 26dwts. per ton.

"The Ingliston Extended.—There are 80 men employed on this mine and the ore which is broken at the No. 2 level is being drawn through the new main shaft which is 300ft. in depth. There are two parallel reefs in this mine about 300ft. apart, one is known as the eastern reef and is six feet wide; it is worth about 12dwts per ton. The other reef is known as the western reef; it is 20in. wide. This also is worth 12dwts. per ton. A new Crossley gas producer engine, 75-horse power, has been installed for driving the battery, for electric light, and for a friction winch. There has also been erected a Hornsby gas producer engine, 35-horse power, for driving the slimes plant and other work. There is also a six-drill air compressor installed. All this machinery is new and has been erected during the year 1911.

"This mine is very heavily watered, 70,000 gallons of water are raised per 24 hours. This mine is looking better than it has done before.

"The Globe.—This 24-acre lease is held by a local syndicate. There are two prospecting shafts sunk, one 116ft. deep and the other 102ft. deep. The ore here is composed of quartz and iron and other conglomerate matter. About 400 tons have been taken out of this mine and the ore is so scattered that neither of the walls have been found. The average value of the ore taken out of this mine is 33dwts. per ton. At the 116ft. level going north, sulphides have been found carrying good gold. There are now 40 tons of average value ore at grass.

"The country through which the ore passes and the way it is twisted and warped is very similar to that found in the Marmont, Fenian, and the Ingliston Consols at this depth.

"This is certainly a mine with a promising future.

"The Macquarrie.—During the year under review 100ft. have been driven on the bottom level south of the centre shaft. The reef here is 20ft. wide and is worth 9dwts. per ton. The stone near the bottom of the level is worth 15dwts. per ton. Several rises of 15ft. in height have been put up at the back of the level to test the reef; the lowest value found was 10dwts. per ton. One rise was put up 60ft. and the ore in this rise valued at 11dwts per ton. 140ft. north of the shaft a rise was put up 150ft. to the surface. The ore was worth 11dwts. per ton right through. The north shaft has been sunk 50ft. to water level and connected with the bottom level from the centre shaft by a crosscut 31ft. east. At the end of the crosscut of the north shaft the ore is worth 50s. per ton. 1,500 tons of ore from this mine have been crushed at the Great Fingall battery since May, 1911, for a return of 40s. per ton. About 19,000 tons of ore are blocked out in this mine said to be worth 35s. per ton. This mine would pay well if the owners could treat the ore on their own property. Altogether 13,000 tons of ore have been taken from the mine for an average of 40s. per ton.

"In the hands of a good company there is no doubt that this mine would be very valuable.

"The Pioneer.—There are four miners and one engine-driver working on this property. The ore is being taken from a winze below the bottom (180ft.) level. The winze is 60ft. deep. At this depth the reef has faulted and gone back 15ft. into the foot wall. 269 tons of ore were taken out of this winze and crushed at the Great Fingall mine for a return of 29dwts. per ton. This mine is unfortunate in that it has no ore reserves.

"The Commodore.—The following is the development work done on this mine during the year 1911:—

Levels.	Drive.	Winze.	X-cut.	Rise.	Shaft Sinking.
100ft.	19	..	..	..	..
150ft.	318	163	56	135	..
200ft.	12	18	..	..	..
300ft.	824	54	524	93	..
E. Shaft	..	38	..	..	73
	1,173	273	580	228	73

Total footage for the year ended 31st December, 1911, 2,327 feet.

"The Golden Bracelet.—This lease is situated 10 miles south-east of the Meekatharra townsite. It consists of 18 acres and is owned by Bourke and Dixon. The trend of the formation is north and south and is underlying west. A shaft has been sunk 30ft. and then the formation has been worked on the open cut for about 30ft. A drive has been put in north for about 25ft. At the bottom very rich quartz has come in and the reef is well defined. Above this is a conglomerate of quartz, kaolin, and iron.

"The first crushing of 50 tons taken from this lease gave a return of 18dwts. per ton. The next 42 tons gave a return of 11dwts. per ton. Then 150 tons were put through at the Great Fingall battery for 35 dwts. per ton. The last crushing of 50 tons gave a return of 2ozs. 9dwts. per ton at the Great Fingall battery. This mine stands alone 10 miles from Meekatharra and as the crushings show is one of great promise.

"Mining in Meekatharra, I am pleased to say, is looking very healthy and gives promise of a greater output in 1912 than in any previous year. The big

gold-producing mines are improving in size and values with depth. Three mines, the Ingliston United, Queen of the Hills, and the Globe are to be equipped with new machinery during 1912. This will considerably increase the output from these mines.

GARDEN GULLY.

"The Kyarra.—At the present time these leases are under option to the Bullrush Gold Estates, No-Liability. Since this Company took over the option on August 1st, 1911, 350ft. of driving and cross-cutting have been done on the 30ft. level. This is water level. 120ft. of shaft sinking have been done to water level and a main shaft 11ft. x 4ft. in the clear has been sunk 100ft. and close timbered. 300ft. of costeening have been done also. The average thickness of the reef on this property is 10ft. The reef is dipping at an angle of 75 degrees west. So far as is known at the present time the mine consists of two sets of workings. It is quite possible that future operations may prove that the original lode has faulted and has caused the division. The country rock is diorite and the ore formation consists of ferruginous quartz and schist. The general strike of the country is about north-west and south-east.

"There are 150 tons of payable ore at grass. There are 19 men employed, and as soon as more men are available they will be put on. The plant erected here consists of a Robert's double drum winch 10in. cylinder, 14-inch stroke and geared 10 to 1. Steam is supplied by a Turner vertical boiler at a pressure of 80lbs. per square inch. There is a steel head gear 32ft. in height. 12,000 gallons of water are raised per 24 hours. This water is bailed by the winding engine. It is too early to say whether the option will be taken over or not because the cross cut has yet to be driven and the reef tested from the bottom of the main shaft.

"Mount Egerton.—I have not visited this field again since last reporting upon it, but I may say that I am of the opinion that when developed it will be equal to Meekatharra.

BURNAKURRA.

"Federal City.—The only work being done on this mine just now is stoping at the back of the 140ft. level. There the reef is four feet wide and worth about half an ounce per ton. At the 140ft. level 260ft. of driving have been done, and 163ft. of cross-cutting have been done at the 93ft. level with very poor results. There are 14 men employed on this mine. The year's work has been very disappointing.

"The New Alliance.—This little mine has produced 228ozs. of gold during 1911. It was held by a local syndicate of four men. The machinery was hired to them by Mr. Snell, the late owner. The party is now broken up and the mine abandoned.

QUINNS.

"The Phoenix.—The main underlay shaft on this mine is 180ft. deep. A level has been opened out at 175ft. and the level driven 175ft. From the No. 1 level two crosscuts were put in east and west for 75 ft. and 80ft. respectively. This mine was hung up for five months for the want of good boiler water. Finally the Phoenix and the Lady Dagmar people amalgamated and both parties are now working in the Phoenix mine. The reef in the bottom level is four feet wide and is worth 40s. per ton. A water shaft was sunk 90ft. and a windmill 8ft. in diameter erected on it.

"The Forget-me-not.—This property of three acres is held by William Grant; the reef is three feet wide and is cut in two by a jasper dyke which is running east and west. The trend of the reef is north-west and south-east. On the south-east side of the dyke some very rich ore has been found. 34ozs. 13dwts. of gold were dollied from 6lbs. of stone just at the end of the year. This claim was worked in 1903 by Grant. At that time he took out 360ozs. of gold from it. Mr. Grant entertains great hopes for the future of this mine.

"Phoenix Extended.—No development work has been done on this mine during the year 1911. 1,336 tons of ore have been stoped and crushed at the State mill for 576ozs. of gold, valued at £3 14s. per oz.

"The Commonwealth.—There is a shaft 50ft. deep on this property and 78ft. of driving has been done. A winze has been sunk 20ft. below the bottom level. The reef here averages two feet in width. 291 tons of ore have been crushed for 14dwts. per ton.

"The Caladbro.—Since I last visited this mine a shaft 40ft. has been sunk through hard jasper bars. Two crushings have been taken out. One of 25 tons worth 2ozs. per ton and one of 27 tons for over 4ozs. to the ton. The mine has rich little leaders which contain the gold. The leaders are richest where they strike the jasper bar.

"Lupton's Gold Mines, Sugarstons.—This mine is under option to a local company that has been formed named Lupton's Gold Mines. Since taking over the mine they have crushed 600 tons from the old stopes above water level, for a return of 15½dwts. per ton. The reef varies from 3ft. 3in. to 5ft. 6in. and has been proved for 200ft. in length. A new main shaft is to be sunk this year and the mine thoroughly opened up.

"Barrambie Ranges G.M.—This mine has been purchased from the old company by a Nannine syndicate. A manager has been appointed to treat the slimes and sands, and when I passed through that way they were un-watering the mine with a view to a new start.

GUM CREEK.

"The Hero.—This property is held by Burrows and party. Since I last visited this mine a new main shaft has been sunk 6ft. x 3ft. 6in. in the clear and 90ft. deep. The reef was struck at the end of a cross cut 10ft. long. At this point the reef is very much broken up. It is almost vertical and varies from a few inches to 2½ft. in width. 36 tons have been crushed for 56ozs. of gold. There are three men employed on this mine.

"The Hilda.—There is very little to report about this mine. 50ft. of a winze have been sunk and 15ft. of a cross cut driven at water level.

GABANINTHA.

"The New Brew.—This 24-acre lease is held by a local syndicate of eight. A shaft 5ft. x 3ft. in the clear has been sunk to a depth of 73ft. and a cross-cut has been driven through a large body of low-grade ore. A drive was put in north 90ft. For 60ft. of this drive the level was driven 18ft. wide and the ore crushed by their own five-head battery. 136 tons of ore were crushed for 223ozs. of gold. The gold is valued at £3 5s. per oz. The lode trends north and south and is dipping east. This is the only mine working here.

"The Mountain View Mine.—This mine is expected to start early in 1912.

TWELVE-MILE, MEEKATHARRA ROAD.

"The Hornsby.—This is a 24-acre lease held by Fenwick, Ord, and party. This mine is well equipped with a five-head battery driven by a Hornsby gas engine of 28-horse power. The ore is raised by a friction winch up a vertical shaft 120ft. deep and 6ft. x 3ft. in the clear. Just now the ore is being taken from the back of the 60ft. levels where the reef is two feet wide, only one foot of which is payable. During the past year 80ft. of driving have been done at the 120ft. level. The main shaft has been sunk 25ft. during the year. At the 60ft. level 60ft. of driving has been done and a new shaft sunk 68ft. 120 tons of ore were taken from the sinking of the main shaft and driving north and south at the bottom level and 30ft. of winze that was sunk below the 60ft. level. 123 tons have been stoped from the No. 1 level. The 120 tons taken from the development work crushed only 3dwts. per ton, but the 123 tons taken from the stopes returned 7½dwts. per ton. 600 tons have been crushed for the public.

NANNINE.

"The Nannine Mine.—During the first six months of 1911 the ore that was crushed from this mine was taken from the Mt. Hall reef. The average size of this reef was two feet and the average value 20dwts. per ton. The ore was taken from the 100ft. and 200 ft. levels. During the last six months the ore has been taken from the Nannine or the big reef. The reef averages 12ft. in width and is worth about 12 dwts. per ton. The output was 200 tons per month. The number of men employed is 15. At the present time arrangements are being made to erect new machinery on this mine. The new machinery will consist of Langey's gas producer and engine, 80-horse power. This power is to be used to drive the 10-head battery, the rock breaker, and new grinding pans. A new ore bin is to be erected that will hold 50 tons, also a large steel water tank 30ft. in diameter and six feet in depth. This mine is looking very much better at the present time than it was last year.

"Trimple.—This property is held by Hunter Bros. and party. During the year 1,800 tons have been crushed from the southern portion of the lease for 300ozs. of gold.

"The water that is pumped from the Trimple does not affect the water in the old Champion lease, consequently if the old Champion lease is to be worked a pump will have to be installed in the northern portion of the lease. This property is not looking very promising and is not so good as it was at the beginning of the year.

"The Caledonia.—During the year this mine was under option to Bewick, Moreing, & Company. It was eventually turned down after working for several months. In the meantime it is under exemption.

STAKE WELL.

"Kohinoor South.—No work is being done underground. The tributers are treating sands and slimes.

"The Nemesis.—Since I last visited this mine a winze has been sunk 70ft. east of the main shaft, 35 ft. deep. The reef here is 2ft. 6in. wide and carrying payable values. A crushing of 50 tons taken from this winze gave a return of 85 ounces. Just now some work is being done at the 150ft. level to try and pick up the rich chute that was lost just below this level.

MOUNT MAGNET.

"The Morning Star.—At the 400ft. level stoping is being done by six men on the big lode. The reef here is about 25ft. in width and worth 10dwts. per ton. On the same level two men are engaged stripping the foot wall of the star lode. On the No. 2 level stoping is being done on the big lode by two men. The reef there is about 15ft. in width and worth 10dwts. per ton.

"On the Easter open cut two men are stoping on the Easter lode where the reef is six feet wide and the values poor.

"On the Star open cut on the footwall branch three men are employed stoping on the footwall of the lode.

"For a long time the Company has been working on the ore-reserves. Unless they adopt a development policy and sink deeper the reserves will soon be depleted.

"The St. George.—There are three stopes working off the 190ft. level in this mine, and there are four winzes being sunk below the 190ft. level. Development work has been stopped at the 300ft. level owing to the influx of water (300,000 gallons per day). There are three men working in the open cut and two men working in a prospecting shaft west of the main shaft. The values just now are very low.

"Prospecting Area No. 342.—This area of 12 acres is held by Clark and Standkie. There is a large iron and quartz formation about 20ft. wide on this area. Samples have been taken along the line of lode for nearly the length of the area. The average of the samples is 7dwts. per ton. The formation is trending east and west and is dipping south. Very little work has been done on it.

BOOGARDIE.

"The Saturn.—This property is held by the Morning Star Gold Mines, Limited. A main shaft has been sunk 200ft. and a crosscut driven west 40ft. and cut the reef. The reef is five feet wide and is worth 10dwts. per ton. About 60ft. of driving have been done on the reef and stoping will be commenced very shortly. There are 18 men employed on this mine and there are 700 tons of ore lying at grass.

YALGOO DISTRICT.

"The Royal Standard, Yuin.—This property is now under a 12 months' option to the Bullrush Gold Mining Company. When I was on the property in September the mine was being unwatered and some new machinery was being erected.

"The Emerald, Yalgoo.—This mine has been under exemption for some time.

"The Shanandoah, Gullewa.—During the last 12 months this mine has crushed 197 tons for an average of 16dwts. over the plates. There is a new shaft down 65ft. and 50ft. of driving was done at the 60ft. level and a little stoping done. The reef averages 18in. wide and at this level the ore is worth 23dwts. per ton. The mine is owned by James Dwitini and party. It is an eight-acre lease, and there are 50 tons of ore at grass.

"I reported fully on Payne's Find after visiting the district.

"Although Peak Hill has dropped out and the Kohinoor at Stake Well has ceased producing and

Fields Find has been stopped, yet I am of the opinion that the Murchison will still hold its own as a gold-producer. Meekatharra is the great centre and doubtless the principal increase will come from there. In addition to the above we have Coodingnow in the south-east and Ruby Well Find in the north-east, which promise to be gold producers in the near future.

NORTHAMPTON.

"Baddera Lead Mine.—This mine is owned by the Fremantle Trading Company. A main shaft has been sunk 150ft. deep. At this point a crosscut was put in east 25ft. and the lode cut. The lode is 13ft. wide and valued at 14 per cent. About four feet of the richest ore is put through the mill. The other portion of the lode is so poor that it is used for mullocking up. A level has been driven north 297ft. from the main crosscut in payable ore.

"The south level 150ft. has been put in 120ft. also in payable ore. When I visited the mine the reef at this point was 20in. wide but fairly rich. Some stoping has been done above this level. Since July 100 tons per 24 hours have been put through the mill. The underlay of this lode is about 30 degrees from the vertical west. The lode is trending north and south. This mine is on a 90-acre freehold property.

"After the ore is milled it is bagged and sent to Swansea, in Wales.

"The following is a description of the machinery on this mine as given by the manager, Mr. Sharp:—

"The plant comprises a set of gallows frame headgear 59ft. high over main shaft, a two cylinder (9in. x 16in.) second motion winding engine (J. Martin & Co., Gawler, South Australia, makers), steam being supplied from two Cornish boilers coupled, each 22ft. long, by 5ft. 6in. diameter, 70lbs. pressure per square inch. These boilers are fed by a Tangye's 4½in. x 2¾in. x 4½in. duplex steam pump. An overhead tramway, 117ft. long, connects the brace with the mill.

"The ore is tipped over a grizzley, into a No. 3 Gates crusher, thence through a trommel 30in. diameter, by 7ft. long, into a pair of May Bros. rolls 24in. diameter by 10in. face, then into a May Bros. bucket elevator, 22ft. 6in. high, and elevated into a pair of 4ft. 6in. conical trommels and screened into two iron ore bins, each 8ft. x 10ft. x 12ft., the roughs passing through the conical trommels into shoots to a Robins 14-inch belt conveyor, leading back to No. 1 trommel, then passing through the mill again.

"The engine driving the mill is a 15in. x 30in. single cylinder first motion, stationary one (May Bros., Gawler, South Australia, makers).

"The Concentrate Plant.—The heads are conveyed from the bins by means of an 18ft. Robins 14in. belt conveyor, and discharged into a May Bros. compound jig 18ft. 4in. long x 8ft. 7in. wide, the concentrates are discharged into two iron trucks, from the first and second hutches; from the third and fourth hutches the middlings are distributed over two Wilfley concentrate tables; the fifth hutch discharges the tailings into a 54ft. x 10in. Frenier sand pump, which elevates the residue to a launder, by which it gravitates to the dump. There is also a second Frenier pump the same size, which is not in use at present.

"The jig is supplied with return water from the dams by a 3in. centrifugal pump. There is also an auxiliary for pumping return water which is a six feet by four inches by six inches duplex Worthington steam pump. This plant is driven by a 9in. x 9in. vertical steam engine (J. Martin & Co., Gawler, South Australia). There is a circular saw bench erected alongside of mill to be driven off main line of shafting in mill. A blacksmith's shop fitted up with a Champion's No. 400 forge, also a 18ft. by 10in. centre cap lathe.

"Underground at foot of air shaft is fixed a 10in. x 5in. x 13in. Knowles sinking pump, steam driven. On the surface alongside of main shaft is erected a 10,000 gallon squatter's storage tank, the water from this supplies the mill."

EAST MURCHISON GOLDFIELD.

Mr. H. Colbran, Inspector of Mines, has forwarded the following report under date 30th February, 1912:—

"The work performed during the year consisted of 181 mine inspections, 3,183 miles of travelling, four reports on applications for Government assistance, three prosecutions for breaches of the provisions of the Mines Regulation Act of 1906, and general office correspondence.

"Unfortunately during the year mining in the East Murchison district has considerably fallen off, and the year's results for the goldfield show a decrease of 94,221 tons milled and 27,970 fine ozs. obtained. This is largely due to the fact that about the beginning of the year the Vivien G.M. Co. ceased operations, and about the middle of 1910 the Gwalia Consolidated G.M., at Wiluna, also closed down. There is reason to hope, however, that the fine lode at Youanmi, upon which a plant has just been put into operation, and the fine and promising length of payable reef at Mt. Keith will, during the next year, somewhat make up for this year's deficiency.

MINING.

"Mining at Lawlers looks anything but bright at present, as about the end of the year the Waroonga G.M. which up to then had been reported to be opening up well in the bottom level (No. 7) somewhat suddenly closed down owing, it was reported, to the shortage of skilled labour in the district, and the consequent high working costs. Since then the Company's operations have been confined to treatment of accumulated slimes.

"The Vivien Gem mine, which commenced to crush with its own five-head mill in May last, and which during the year has crushed 1,301 tons for 574 fine ozs., has also within the past week or so discontinued operations.

"The Donegal has been worked by tributers who, from 194 tons, have obtained 180ozs. of gold.

"The Rajah, the northern continuation of the Waroonga lode, continues to open up satisfactorily, and during the year has from 340 tons yielded 146 ozs. of gold.

"The Sunrise, Moa, Wild Cat, Golden Swan, and several other old prospecting shows, still turn out payable parcels from time to time.

"The old Never-Can-Tell, now known as the May-Be, is again being worked down to 100ft. in depth, and from a fine strong reef 789 tons have been broken out during the year yielding 182ozs. of gold.

"The New Find.—In September gold was found about nine miles east of Lawlers, and just north of the Lawlers-Darlot road, and a claim known as the White Hope pegged around a quartz blow. The reef

runs north and south and is practically vertical, and has to date been chiefly open cut, and is very strong. The first two crushings (firsts and seconds) gave a disappointing yield however, 31ozs. only being obtained from 57 tons. I understand the reef looks better now, however, in the bottom and a better yield is expected from the next parcel. On another lease, The Bungarra, a rubbly sandstone reef is being opened up and to date has been sunk on to a depth of some 45ft. on ore of good value.

Sandstone and District.

"The three chief producers at Sandstone, the Oroya Black Range, the Black Range Mining Co., and the Sandstone G.M. Co., have had continuous runs during the year.

"On the Oroya a winze has been sunk from No. 5 level to some 860ft. below the surface on a strong body of quartz, but since no values were cut further development in this direction appears to have been abandoned.

"On the Black Range Mining Coy.'s property there have been installed during the year two Crossley gas engines (one of 160 and one of 80 h.p.), and also a new and up to date slimes plant, capable of treating 100 tons per day.

"The mine is looking well throughout. The shaft is down 130ft. below No. 10 level, whilst 10, 9, and 8 levels, below which no stoping has been done, are looking well.

"The Sandstone G.M. Co., at date of my last visit were equipping a winze from the surface as a main haulage road, which exposed a fine body of payable stone throughout its entire length. In addition to these three chief producers there are many claims around Sandstone which are regular and profitable producers.

"The Kohinoor North at Hancock's has a shaft down 135ft. below which a winze is being sunk on the reef 2ft. 6in. in width, from which a 20-ton parcel of stone recently crushed yielded 38dwts. per ton over the plates.

"The Kohinoor, which is on tribute, recently crushed 140 tons for 45dwts. per ton over the plates.

"The Breakaway, which contains both a reef and a big lode formation, crushed 53 tons from the reef which yielded 214ozs. over the plates, the sands being worth 17dwts. per ton, and from the lode at a depth of about 85ft., 100 tons averaging 11dwts. per ton over a width of about eight feet.

"The Faugh-a-Ballah on my last visit had just crushed 167 tons averaging 37dwts. per ton over the plates and was looking well in the bottom.

"On the old Bull Oak, now the Royal Oak, an option was taken but a shaft after being put down 190ft. was lost due to running ground. A second one was then sunk 260ft. at which depth some 75,000 gallons of water per day were encountered, but as this quantity rapidly increased and they were unable to bail it, I believe work is now stopped.

"At Maninga Marley the Havilah mine has been worked down to the 375ft. level, which has, during the year, been driven some 400ft., disclosing a strong and payable reef.

"On the claim adjoining the Havilah property on its north-west boundary, known as the Havilah Development, a good deal of work has been done in endeavouring to cut the continuation of the Havilah chute of gold, but owing to the chute's rapid dip no work of sufficient depth has been completed to date.

"The Maninga Marley mine, on date of my last visit, was being stoped over the 100ft. level where the reef ranged from 1 to 3ft. in thickness and whence 208 tons yielded about 1oz. per ton.

"In September gold was found about four miles north-west of Maninga Marley in spinifex country in a reef running north-east and south-west and underlying north-north-west at an angle of depression of some 45deg. A lease called the Vanguard was taken up and a vertical shaft sunk 50ft., and a crosscut put out, which cut a reef of fair size and said to be worth up to 4ozs. per ton.

"At Range View the Range View G.M. syndicate (G.M.L. 568) are working an east and west reef of about 1ft. in thickness and underlaying to the south at an angle of depression of some 55degs.

"A Hornsby gas engine of 12 h.p. is installed and drives a pump and also a safety friction winch used for hauling purposes. There is an underlay shaft some 150ft. deep on the reef, and a recent crushing from between the 150 and 100ft. levels of 141 tons yielded 373ozs. over the plates and left about 14dwts. per ton in the sands.

"Youanmi District.—On the Youanmi Gold Mines, Ltd., development work has been pushed ahead continuously during the year. The new main shaft has been put down to 450ft. in depth and a western crosscut of 30ft. exposed 4ft. of lode. The bottom level was opened out at 430ft. and about 350ft. of driving on the lode has been done at that depth. Levels have also been put in at depth of 300, 170, and 80ft. "P" shaft at date of my last visit had been put down to a depth of 208ft. and a level opened up at a depth of 200ft. where the lode had been driven on for some 200ft. in length. On this property a 20 stamp mill of 1,250lbs. stamps, a No. 1 Krupp tube mill, an eight-drill air-compressor, and a 12,000 gallon per hour pump have been installed and crushing operations were expected to commence about the middle of this month. About 6,000 tons of ore were, at date of my last visit, already at grass awaiting treatment. On the same lode the Hill End mine is opening up well, the stopes above the 100ft. level exposed ore some 12ft. wide, worth about 10dwts per ton. Upon the United a well defined and payable lode was being driven on at a depth of 60ft., whilst on the surface some 900 tons of ore, estimated to be worth some 14 dwts. per ton, were ready for crushing.

"At Curran's, some 14 miles south-west of Youanmi, a considerable amount of prospecting has been done.

"On the Red, White, and Blue (G.M.L. 641B) three parallel almost vertical reefs running north-east and south-south-west in soft granite country have been opened up to a considerable extent.

"On the Central reef at the date of my last visit there were four shafts down to depths of 110, 110, 35, and 14 feet respectively, which opened up the reef for a length of some 14 chains, whilst at a depth of 85ft., 100ft. of driving had proved the reef to average 4ft. in width and about 24dwts. per ton in value.

"On the eastern reef the shaft was down 100ft., and from it at a depth of 70ft. a drive had been put out on the reef some 50ft. exposing about 3½ft. of 2oz. stone. The western reef was being prospected for by a crosscut from the central reef, but although this had been driven 115ft. at the time of my inspec-

tion, it had not then been cut. There were some 400 tons of stone at grass, broken entirely from development work and consequently there are large bodies of ore blocked out for stoping.

"Three or four other claims were also being prospected to a lesser extent in this vicinity.

"At Birrigrin very little has been done during the past year, but a new boiler having been installed on the Pelerin G.M., work will be recommenced there shortly.

"At Montagu the Caledonian and Montagu Boulder have been worked fairly continuously throughout the year. On the Montagu Boulder at date of my last visit a strong footwall reef had been cut and driven on for a few feet and was sampling well.

"On the Prince Foote, a large irregular quartz blow, much work of a scattered nature had been done in endeavouring to discover a defined reef, but so far without success. In May, however, a parcel of 62 tons was broken from this reef yielding 26dwts. per ton by amalgamation.

"At Wiluna no mining work was done during the year on the Gwalia Consolidated mine, the difficulty of treating the sulphide ore met with at the 100ft. level not having yet been overcome.

"The Bulletin-Indicator mine has continued to crush ore from above the sulphide zone (175ft. vertical). A vacuum slimes plant of a capacity of 90 tons per day has during the year been installed on the mine.

"The Happy Jack, now owned by the Bulletin syndicate, have sunk a new shaft 40ft. and driven at that depth some 80ft. on the lode on good values.

"The Squib, also owned by the Bulletin syndicate, were at date of my last visit opening up a 5ft. lode of payable ore at a depth of 40ft. On the southern continuation of the Moonlight-Adelaide lode, a show known as the Ullina, a shaft had been sunk to a depth of 45ft., which is the water level, and at this depth some 150ft. driven on a payable lode 6ft. in width, from which a parcel of 150 tons yielded 18 dwts. per ton.

"On the Moonlight on my last visit (9th December, 1911), a start had been made with the erection of a 10-head mill and cyanide plant. A new vertical 7ft. x 4ft. shaft had been sunk 73ft. to water level. A 100 h.p. National gas engine was also about to be installed. Six or seven other smaller prospecting shows have also been working in Wiluna during the past year.

"New England.—Unfortunately this district is now almost deserted. The Empire mine proved too low-grade and Harris' Reward, on which a lot of very good work was done, was in country too hard to be worked profitably on the grade of ore running through it.

"On Ives' Reward, however, I believe arrangements were made towards the end of the year to equip the claim with a plant, but since then I have neither visited the claim nor heard how it is opening out.

"Mount Keith.—About mid-December, 1910, the old Walton's Reward and adjoining south blocks on the same line of reef were taken up again, since then a very fine line of reef has been opened up for some three miles in length and some very good claims proved to considerable depths.

"The reef, which has a course of about 35degs. north-west underlays to the south-west at an angle of depression of 85degs. in places, whilst in others it is practically vertical. The country is schist and the lode has well defined walls.

"In October last a Government boring party cut water in a bore at 110ft. and have since put down a good water shaft.

"To date crushings from this reef have yielded handsome returns and now that a new track has been cut to Kathleen Valley claim-holders are enabled to send crushings there instead of to Wiluna as previously, thus saving some 30 to 35s. per ton cartage; it may therefore be expected that much stone which previously had to be thrown back as unpayable will now be taken to Kathleen Valley and yield a profit.

"Kathleen Valley.—At this centre some tributing has been done on the Nil Desperandum and a little work on the Yellow Aster, but beyond this no mining work has been done for the year.

"Sir Samuel.—At this centre some four parties of men are working on Bluey's Release, lately known as the City of Paris, a small reef in hard country on the footwall side of Henderson's lode is being opened up. A crushing of 32 tons from this reef yielded 35½ozs. fine gold. North again the Henderson lode itself is being worked and at 80ft. in depth about 3ft. of 10dwt. stone is in sight.

"The Carbine, lately known as the Isidore, was also being worked and the last crushing of 20 tons yielded 30ozs. of gold.

"Lake Darlot.—At this centre the Amazon has again been worked and from it 75 tons yielded 145 ozs. of gold.

"The King of the Hill has also been reopened and from it two crushings totalling 151 tons have yielded 74ozs. of gold.

"The old Lass O'Gowrie shaft has been cleaned out and in December a parcel taken from the bottom of 53 tons yielded 170ozs. fine gold.

"At Wilson's Patch the Great Western mine has been working during the year on the main line of reef, which however has proved to be somewhat low-grade.

"Around Mt. Clifford the Famous, Victory, and several other prospecting shows continue operations, and from time to time rich patches (characteristic of the district) are met with.

"Accidents.—During the year there have been reported to me 29 accidents causing injury to 32 persons. Of these accidents none were fatal, six only were serious, and 23 were of a minor character. Of the 29 accidents, six were due to falls of ground, seven occurred in shafts, ten miscellaneously underground, and the remaining six were on the surface.

"General Remarks.—During the year the provisions of the Mines Regulation Act, 1906, have been complied with throughout the district. There have been very few complaints, and any suggestions I have seen fit to make have been readily complied with."

MT. MARGARET GOLDFIELD.

Mr. S. Cullingworth, Inspector of Mines, reports as follows on 1st February, 1912:—

Leonora.

"Sons of Gwalia, Ltd.—Development work has been steadily pushed ahead, and the 20th level will shortly be opened up at an actual depth on the underlie of about 2,600ft. Ore is being won from above the No. 2 level down to the bottom level opened viz., the 19th, and there are as a result a large num-

ber of working places. I understand the ore channel is to be still further prospected by diamond drilling from the lower levels. The output has been maintained at about 13,000 tons per month.

"Considerable alterations have been and are being made on the surface. A new slimes plant is in course of erection, and I understand another powerful gas engine with producers has been ordered. The change house has been enlarged and improved and shower baths provided.

"Sons of Gwalia South.—This mine is hemmed in by the adjoining property, its ore bodies underlying into the Sons of Gwalia; whether fresh bodies will be discovered remains yet to be shown.

"The Trump.—This old mine after a period of idleness has been acquired by two men, who have been working it with very successful results. During the year 326 tons were treated for a yield of 1,384 ozs. To obtain this result the ore has been sorted and only the richer portion consisting of a small quartz vein has been crushed. The lode itself is from 4 to 5 ft. wide, and I am informed carries low-grade but payable ore.

"The Gold Blocks.—The main shaft is 250ft. in depth, and drives north and south have been put in for a length of about 250ft. The characteristics of the ore body are similar to those at the Sons of Gwalia, viz., lenses of ore through schist country. During the year 1,239 tons have been crushed yielding by battery 424ozs. There is a large percentage of sulphide in the ore, the gold contents of which are not recoverable I understand by ordinary battery and cyanide treatment.

"Mt. Stirling.—This is a privately-owned mine. The ore is quartz in granite country. During the year ore of high value has been won from stopes above the 300ft. level. 218 tons have been treated at the Leonora State battery, yielding by battery 332ozs.

"The King of the Hills has lately been acquired by an Adelaide Company and development is proceeding. A Cornish lift and engine is being installed at the old main shaft, which I understand will be unwatered. There are several parallel lines of reef on this property which are said to carry payable values. The present owners intend to develop these as quickly as possible.

Malcolm.

"North Star.—From the No. 4 level at the south end a winze had been sunk on the lode for a depth of 160ft. with, I am informed, highly satisfactory results. The lode is now being opened up from this point by driving towards the main shaft. At the north end of the No. 4 level driving has been carried on with the object of striking the north shoot, which in the level above was of high grade. Judging from the distance driven the expected shoot should be met with in the next few feet. Ore has been won from stopes above the No. 4 and from the development work mentioned.

"Very little work has been going on at Mertondale, Randwick, or Pig Well Centres.

Murrin.

"Hills Proprietary Mine has reverted to its original owner who has confined his attention chiefly to driving the No. 3 level to open up the south shoot of ore which has been prospected by winzes from the No. 2. The ground has been hard and progress slow and the drive is not yet enough advanced to intercept the shoot which apparently dips sharply to the south. Ore has been crushed from development work below No. 2 level and the stopes above it.

"A slimes plant has been erected and is treating the accumulated slimes, and a new gas engine and producers have been installed to drive the battery.

"W.A. Copper Co.—From their Anaconda mine at Eulaminna regular parcels of 400 to 500 tons of dense sulphide ore have been sent away to Guildford for treatment. The ore is obtained from above the No. 4 level. Development work has been chiefly confined to extending the level southwards, where the ore body is of considerable width.

"Yundamindera, Battlesville G.M.—The owners have erected a five-head mill driven by a suction gas engine, and after various ineffectual attempts to obtain water, have with Government assistance purchased a three-throw pump driven by an oil engine. This has been erected at a shaft about one mile from the mine and a line of pipes has been laid to the battery. Crushing has now been commenced on the accumulated dumps of ore broken out during the erection. The ore is low-grade, but the owners anticipate it will be payable, should this be so there should be no lack of ore, as there is a large formation in addition to a quartz reef.

"There are a few tributers on the May Queen and Potosi leases.

Morgans.

"Mining in this centre has been very quiet. The Westralia Mt. Morgans ceased operations, and their properties are, I understand, in liquidation. At the Transvaal very little progress has been made. This mine has lately changed hands, and it is, I believe, the intention of the new owners to develop the mine from the 300ft. level which at present is the bottom level.

"The V's United, a local company, has also ceased operations, their money having become exhausted. It was their intention to sink a vertical shaft to 200ft. and cut the lode at this depth. Owing, however, to the country being very hard and to encountering a heavy and unexpected flow of water their object was not achieved. The lease has lately been taken up again by two local men who are prospecting the shallower levels.

"Very little work has been done at Mt. Margaret, although there are one or two properties there which should be worth further prospecting.

Laverton.

"The Lancefield G.M.—Development work has been steadily pushed ahead, and the No. 8 level will shortly be opened up. Ore is being obtained from the No. 4 to the No. 7 levels and the output has been increased until it now approches 10,000 tons monthly. The lode maintains its size, and I understand the lower levels are highly satisfactory. Experiments are proceeding with an oil concentration process for extracting the sulphides. I am informed no definite result has been reached.

"Ida H. G.M.—A number of alterations and improvements have been effected. The main underlay shaft from the No. 5 level has been straightened and a new road with heavy rails laid, also a new winding engine installed at the No. 5 level.

"On the surface a rock breaker with ore bins and self feeder have been added to the crushing plant,

and a new dynamo and electric lighting system completed.

"The mine is opened to the 1,000ft. level and winzes are being sunk from this level on the lode. I understand the bottom levels are quite satisfactory and judging from the published results the ore is of high grade. Three bores were put down by diamond drill from the surface to explore the southern end of the mine. In one of these a vein of quartz was encountered at a depth of 600ft., assaying, I am informed, 18dwts. per ton.

"Craggiemore.—The owners after applying for Government assistance to develop their lode at the No. 4 level, withdrew, as they did not feel they ought to take the responsibility, as in the event of the enterprise failing they probably would not be able to meet their liabilities. They are now treating the accumulated slimes, hoping to obtain a little capital. The ore is low-grade, but as there are large bodies it would be a matter for regret should this mine have to close down permanently.

"Mary Mac.—A battery driven by a gas engine has been erected, but, although the ore was rich near the surface it does not, I believe, show any signs of permanency. The directors have now secured the Innis Killen, which contains a large low-grade ore body, and they are now considering the advisability of removing their plant on to this property.

"Erlistoun.—The Westralia-Tasmania G.M. has been in active operations throughout the year. Unfortunately the owner has not met with the success which his energy warrants. He has, however, demonstrated the possibility of working and paying his way, even in this remote centre, on ore worth not more than 12s. per ton. A very small increase in this value would give him a good profit.

"The mine is equipped with a small winding plant and 10-head mill and cyanide plant.

"The Mulga Queen has been quietly worked by its owner. Some years ago this was a productive mine, but after working out the upper levels to about 100 ft. deep, work came to a standstill. Government aid was given to enable the owners to sink their shaft to where a bore hole had shown good values at a deep level. The water which in this locality is heavy, defeated them. Now I understand the owner intends to try again to sink the shaft by installing a more powerful pump. This mine possessed in the upper levels a long shoot of payable gold, and it is to be hoped the difficulties of coping with the water will this time be successfully overcome. Small parcels of stone have been treated from the Hootonui; and the Golden Spinifex has been lately retaken up by a Laverton syndicate or party.

"Burtville.—The Mikado, which was the largest employer of labour, ceased operations some months ago.

"The other properties working are held by smaller parties or are privately owned. Some good crushings have been obtained from the Nil Desperandum from above the 100ft. level. There are several lines of reef on this property, and although they are not large bodies they all, I am informed, carry gold.

"The Golden Bell North has been actively worked by the owners, who have sunk their main shaft to a depth of about 250ft., and have crushed during the period under review 800 tons for 1,167.47 fine ozs. by battery.

"The Savage Captain.—A mine which has been idle for some time has lately been taken on a tribute for two years. It is the intention of the tributer to sink the main shaft and open up the mine at a lower level.

"The Golden Ring and Specimen Hill.—These mines have been acquired by an Adelaide Company who have commenced by shaft sinking.

Kookynie.

"The Lubra is held by a local company, who have developed their holding by an underlay shaft to 150 ft. and have opened up a highly payable shoot of stone. There is a good sized quartz reef of from five to seven feet in width which, according to the returns, has averaged 13dwts. per ton over the plates. They have lately acquired a five-head battery, winding engine and boilers, and are now engaged in sinking the shaft.

"The Champion.—There are large ore bodies in this mine. The owners have been working above the No. 3 level, and have opened a new make of stone south of their older workings. So far as developed the stone is high grade, I am informed. North of their original workings a long shoot of ore has been developed. The main shaft is sunk to 500ft. At No. 4 level there is a large body of stone which, I am informed, so far as developed is payable; but partly owing to the heavy inflow of water and partly because the rock is of a very hard nature for hand-drilling, the owners cannot undertake the expense of its development.

"The mine is equipped with a 10-head battery, engine, boilers, winding plant, and pumping engine.

"The Orion.—There is a good body of stone in this mine opened up to a depth of 600ft., but, unfortunately, the grade is becoming very low, especially as a percentage of the gold is contained in sulphides, which have to be concentrated and sent away for treatment.

"An Adelaide Company has purchased Shearer's property at Tampa and has taken up adjoining leases. The property will, in future, be known as the Golden Butterfly.

"The Golden Butterfly.—There is a large lode formation on which an underlay shaft has been sunk to a depth of 320ft. Drives have been put in at 70ft. and 140ft. in depth and the ore body opened up for about 250ft. in length. The mine is being equipped with winding engine, boilers, and a ten-head mill. Although the shaft has reached the above mentioned depth there is very little water, and it seems probable before the battery can be started a water supply will have to be obtained some distance away and a pipe line laid to the plant.

"The Hawk G.M.—From this mine 232 tons have been crushed; the gold recovered has realised £1,820.

"There is an underlay shaft 180ft. deep, and the shoot has been practically worked out to this depth. The owners have been engaged for the past four or five months in sinking a new vertical shaft which they intend to carry down to 200ft.

"With Government assistance they have acquired a small pumping and winding plant. For a small party of workers this little mine should be remunerative, providing the values are maintained in depth.

Yerilla.

"The Viola.—A small pumping and winding plant has been installed and the shaft has been deepened to 180ft.

"The upper level of this mine was very profitably worked and a large quantity of gold obtained. The present owners are now developing their mine at a deeper level, viz., 160ft., and are now raising ore for treatment.

LINDEN.

"A 10-head battery has been erected by the Government and is now working. Its completion induced a certain amount of renewed activity in this district, and some very good crushings have been reported; but progress in the way of real development is very slow. The Democrat, for instance, had a very successful crushing in October last of 488 tons for 1,070 ozs. Since then however, no work was done in the mine up till the time of my visit a month later, and it is doubtful if anything has been done since.

"The Great Carbine also had a successful parcel treated, but the owner, instead of developing his mine or equipping it with the necessary plant to cope with the water, went elsewhere, and the manager left in charge had to confine his attention to the shallow ground where he is driving a level with only a few feet of backs to the cement. There are other properties in this district with good records of high-grade crushings obtained from the shallower levels, but nothing can be seen of them at the present time, the workings being under water. What then became of the money obtained from these crushings? Certainly it was not used to equip the properties and enable them to cope with the water which in one or two cases at least is admittedly not heavy. There are a number of prospecting parties in the district, which is an extensive one, but generally speaking, the shows are as yet only in the initial stages. At the Camel Backs, a lease about 10 miles north of Linden, and a property which has been systematically prospected and opened up to 120ft., very little has been done, with the exception of sinking a new shaft to 120ft., and about 200ft. of driving on the vein at 100ft.

"Prosecutions.—There were eight prosecutions conducted for breaches of the Mines Regulation Act.

"Subsidies.—Seven applications for Government assistance to purchase plant or for development work were dealt with.

"Leases reported on.—34 miner's homestead leases and 12 gold mining leases were reported on.

"Mileage.—5,006 miles were travelled by road and rail during the year.

"Mines inspected.—141 mines were inspected.

"Accidents.—The year was unfortunately marked by 10 fatal accidents:—Four occurred through a skip running out of control; two were falls down shafts; one a fall down a stope; one a fall off an overhead tramway; two were falls of stone. 46 serious and 26 minor accidents were also reported. It should be mentioned that of the serious accidents the majority consisted of cut fingers, jarred hands or strains, and sprains. 12 of these occurred on the surface and two were accidents with detonators."

NORTH COOLGARDIE GOLDFIELD, ETC.

Mr. W. F. Greenard, Inspector of Mines, reports on January 6th, 1912:—

"A systematic and continuous inspection has been maintained throughout the above areas for the year 1911.

"A strenuous enforcement of the Act for the safety of every man employed on and in mines has been carried out.

"There are only a few foreigners employed in the districts under my control and they fully comply with the requirements of the Act.

"The filling of stopes has been enforced and every care taken to have all ground securely timbered.

"The cutting and re-shoeing of ropes every six months has been carefully observed.

"The testing of cages and hooks has been strictly enforced.

"The storage of dynamite above and below in all mines has been strictly enforced in accordance with the Act.

"Signals.—Return signals have been fixed in all shafts where continuous work is in process.

"Accidents.—The accidents during the year were four fatal, eleven serious, and one minor. The cause of these accidents has been exhaustively enquired into, and in no case was there any contravention of the Act found. The explosion that killed Andrew Vafiopolous and injured R. Willsden, at the Gladsome mine, Cometvale—the cause was not too clearly demonstrated at the inquiry, notwithstanding five or six adjournments of inquest to obtain further evidence, the conditions in the rise, where accident occurred—point to sand blasting as the cause of the explosion. Willsden said in his evidence that he hung his candle on some dynamite or a hole with some dynamite in—inferring a mis-hole—no trace of this hole could be found after the explosion. The cause of the explosion will never be thoroughly explained.

"The burning of the Rowe boys in the blasting powder magazine was an intensely sad occurrence. This magazine was specially constructed for the storage of this powder. The Rowe boys, with the assistance of other boys, broke the lock with a pick and hammer and gained access to the magazine, when they set fire to the powder which was scattered about the floor, and they were immediately burnt to death. At the enquiry the evidence showed conclusively that the Mines Regulation Act, 1906, had been absolutely complied with.

"The burning speed of fuse is carefully checked and the speed kept posted on all mines.

MINING.

"The Menzies Consolidated mine, Woolgar, has continued to push forward developments and has sunk a main shaft from the twelve to the fourteen hundred feet level during the year. At the twelve hundred feet level the reef and values were extremely disappointing and it looked for a period that the end of this mine had come, but the manager pushed sinking and developments ahead, and the reserves developed at the 13ft. and 14ft. levels placed the mine in a much more satisfactory position than has existed for several years.

"Mining development in the vicinity of Menzies has not been too satisfactory.

"Comet Vale.—Mining development in this centre is extremely promising. The Sand Queen mine has continued to raise good ore from the 200ft. level, where the reef is five and six feet wide. A dividend has been paid by this Company during the year and preparations are being made to sink the main shaft down to 300 and 400 feet.

"The Gladsome mine has also developed remarkably well—ore has been raised from about the two hundred feet level—a winze has been sunk 150ft. from the 200ft. level; at the bottom of the winze the reef is large and carries good value. The main

shaft is now being sunk to the 400ft. level; the prospects disclosed by these developments are extremely promising.

"The Happy Jack mine is also developing well. This mine is equipped with a producer gas engine and Huntington mill, which has done remarkably good work on the soft schistose ore formation. The Sand Queen and the Gladsome mines are equipped with ten stamps each.

"The Ora Banda district has continued to develop well considering the want of water.

"The Gimlet mine has sunk a new main shaft down to 300ft. where crosscutting is now taking place and the developments on this mine are undoubtedly of a very promising nature.

"The Gimlet South has also had considerable development work done; water was located at about 270ft. in small quantities; the future of this proposition is very reassuring.

"The Gimlet South Extended mine was recently purchased for twenty-two thousand pounds by the Associated Northern Gold Mines, Ltd.; development work has been pushed on by the employment of about fifty men during the greater part of the year under the management of Mr. Wm. Martin, who has undoubtedly done a remarkable amount of development footage; the shaft and winze sinking together with the driving on the large lode formation have been done in a splendid manner.

"This mine was equipped with a Huntington mill and producer gas engine, and the lode formation and values were thoroughly tested before the purchase was completed. The testing of this proposition has been done in a very thorough manner.

"There are a large number of prospecting lode formations in this district, which have the same characteristics as the Gimlet group, and with proper facilities and development some of them will, in all probability, develop into large mines.

"Broad Arrow, Paddington, Cane Grass, Bardoc, and Goongarrie are depressed and very little mining is being done; Mulgarrie, Gordon, Gindalbie, Binty Binty, Kalpini, Kurnalpi, and Mulgabbie—at these centres a good deal of prospecting is being done, several good patches have been obtained and the prospects are no worse than they have been for several years.

"At Siberia prospecting has been continued during the year by several parties on lode formations occurring in the old alluvial patches. The prospects obtained are undoubtedly promising, but so far, nothing of a payable nature has been worked. The Siberia Consols mine, owned by Adams and Francis, has been equipped with a small winding plant, with the view of sinking the shaft deeper—work has been confined to the 100ft. level and the stopes above, from where two or three crushings were won and crushed at the Siberia State battery for excellent returns.

"At Davyhurst and Mulwarrie mining is depressed, the want of water has retarded development.

"The Golden Pole mine has been worked by tributers during the past year, and they made from £8 to £10 per week per man for the year. Cassidy and party are working the Great Israel mine with a Huntington mill and producer gas engine. They are working a large low-grade lode formation, averaging about 12s. per ton.

"The Resurgam, the Pirate, and Hayes and Murray's mines continue to produce high-grade values, and several highly payable crushings have been produced from these mines during the past year.

"At Mulline a considerable amount of prospecting has been done during the year, and several highly promising prospects were located, but further development has not been too satisfactory.

"The Gladys mine has been worked by tributers.

"The Young Australia mine has been equipped with a small winding plant and development on high-grade ore has been continued.

"The Riverina mine is being developed below the 200ft. level and the large reef disclosed in the shaft is very promising.

"The Riverina South, Wood and party, have sunk their new main shaft; at the bottom the reef has been driven on and several hundred tons stoped which have returned a little over 13dwts. per ton from the plates. This is highly payable and the future of the mine is almost assured.

"At Mt. Ida very little development below the previous year's work has been done; work has been mostly confined to stoping reserves. There is undoubtedly a large area of auriferous country at Mt. Ida that will eventually repay for energetic development. Very little work has been done at Metzkey's new find during the year.

"A new find has been made at the 55-mile peg on the Menzies-Ida road by Pianto and party. A shaft has been sunk 50ft.; the reef varies from 18in. to 2ft. wide and is going down almost vertically. Good gold shows plainly in the quartz.

"At Edjudina, Yarrie, and Pingin very little development work has been done and mining is considerably depressed."

EAST COOLGARDIE GOLDFIELD.

Mr. J. O. Hudson, Inspector of Mines, has submitted a report dated 11th March, 1912, as follows:—

"The mines have been regularly inspected during the year and where defects were noted attention was directed to them, and with the exception of employing men under stages, were speedily attended to.

"In regard to employing of men under stages, the matter was submitted to arbitration, the arbitrators deciding that they considered the system a safe one, which was contrary to the opinion of the inspectors.

"Explosives.—The quality of the explosives used during the year was good; complaints were received in regard to one brand, but several samples taken were found to be in good condition.

"Stoping.—There has been no alteration in the methods of stoping, but there has been a slight increase of shrink stoping.

"First aid.—This necessary work has not received the attention that it should. During the present year it is intended to carry out this instruction on the mines in a vigorous manner.

"Accidents.—Attached is a list of accidents for the year. There were 16 fatal accidents and 353 serious accidents. The total number of men employed was 5,720. The fatal accidents occurred on the following mines:—Golden Horseshoe, 3; Oroya Links, 4; Ivanhoe G.M., 1; Great Boulder Proprietary, 4; Kalgurli G.M., 1; South Kalgurli G.M., 1; Chaffers G.M., 1; Golden Dream G.M., 1.

"In the portion of the North-East Coolgardie field under this district two accidents were reported, both from the North White Feather G.M., one being fatal.

"The number of men employed on the field was 271, of which 51 were employed on the North White Feather G.M.

"Prosecutions.—There were twelve prosecutions for breaches of the Act; in all cases convictions were obtained.

"Ventilation.—The system of ventilating the mines naturally by connecting at regular intervals still continues with good results. In one mine it was found that the air tested was in close proximity to the standard provided for in the Act. The Great Boulder Proprietary G.M. have installed an exhaust fan at Edwards' shaft.

"Developments.—There have been no new developments of note during the year. A considerable amount of prospecting has been done in the vicinity of the conglomerates about seven miles on the Coolgardie road. Reefs have been located but to the present sufficient development has not been carried out to demonstrate their being of payable value.

"Great Boulder Perseverance G.M.—A large amount of development has been done in various parts of the mine and several promising ore bodies located. Total depth of shaft No. 3 (main), 2,228ft. Total depth of shaft No. 6, 1,493ft.

"Development work during 1911.—No. 3 (main) shaft sunk 37ft. 6in.; driving during 1911, 5,199ft. 6in.; crosscutting during 1911, 2,310ft.; rising and winzing during 1911, 956ft. 6in.

"Golden Ridge G.M.—The mine has worked continuously with payable results. There are no new developments of importance to report.

"Total depth of shafts, 520ft.; shaft sinking during 1911, nil; driving during 1911, 1,262ft.; crosscutting during 1911, 357ft.; rising during 1911, 609 ft.; winzing during 1911, 145ft.

"South Kalgurli G.M.—The ore bodies east of the main shaft continue to develop in a satisfactory manner and give promise of supplying a large amount of payable ore.

"Total depth of main shaft, 1,818ft.; total depth of Morty shaft, 991ft.; shaft sinking during 1911, nil; driving during 1911, 2,571ft.; crosscutting during 1911, 1,100ft.; rising during 1911, 81ft.; winzing during 1911, 737ft.

"Hainault G.M.—The development work on the eastern side of the main shaft has resulted in promising ore bodies being opened up and the work being done at the 375ft. level gives evidence of the upward continuation of the ore bodies.

"Total depth of shafts (main shaft), 1,014ft.; shaft sinking during 1911, 119ft.; driving during 1911, 1,674ft.; crosscutting during 1911, 891ft.; rising during 1911, 929½ft.; winzing during 1911, 445½ft.

"Ivanhoe G.M.—The developments have been very satisfactory during the year. The east lode was cut at the 242ft. level and driven on 146ft. north and 124ft. south in payable values.

"On the 400ft. level the east branch of the east lode was located carrying high values and was driven on 42ft. north and 137ft. south.

"Shaft sinking, 170ft.; driving, 2,084ft.; crosscutting, 1,117ft.; rising, 262ft.; winzing, 831ft.

"Chaffers G.M.—A large amount of development has been carried out in the main reef shaft. The mine discontinued crushing during the latter part of the year and the question of erecting a new mill is receiving consideration.

"New shaft, 396ft.; main shaft, 1,013ft.; main reef shaft, 2,274½ft.

"Development during 1911:—Shaft sinking, nil; driving, 1,296ft.; crosscutting, 878ft.; rising, 304ft.; winzing, 266ft.; diamond drilling, 703ft.; sample holes bored, 1,971ft.; tonnage of ore obtained from development, 2,559 tons.

"Lake View and Star G.M.—The Hannans Star leases have continued to develop in a satisfactory manner.

"The Lake View Consols leases are being vigorously developed and good bodies of ore located. There is every probability that the main shaft will be continued during the present year.

	L.V.C.	Han. Star.	Totals.
Driving ..	852ft.	891ft.	1,743ft.
Crosscutting ..	186ft.	310ft.	496ft.
Rising ..	252ft.	462ft.	754ft.
Winzing ..	245ft.	650ft.	895ft.

"Associated Northern G.M.—There are no new developments on this mine. The main ore body is being rapidly depleted.

"The western portion of the base is being worked by a number of tribute parties. The mill is running principally on ore from tributers and other mines.

"The low-grade bodies on the northern portion of the field have continued to give satisfactory results the principal being the Hidden Secret, who are crushing a low-grade oxidised body which gives promise of supplying a large amount of ore.

"Golden Dream continues to yield payable values. The total value from milling and cyanide is given as 11s. 1.4d. per ton. Three dividends of 6d. have been paid during the year.

"Lone Hand.—This lease has been equipped with a Huntington mill and cyanide plant. The yield per ton is very low but the mine promises to prove payable.

"Mystery G.M.—The owners of this lease have acquired the Little Wonder, which adjoins the Mystery on the south, and have from the two leases obtained sufficient ore to keep their plant running.

"The ore body at the north end of the lease was lost, but has been located carrying good values.

"Reefers Eureka.—A new lode has been located at the surface which gives every promise of proving payable.

"Sir John.—This syndicate has erected a five-head battery and is preparing to crush ore which is being obtained from the 120ft. level.

"Inspector Deeble has reported separately on the developments on mines under his supervision.

EAST COOLGARDIE GOLDFIELD.

Summary of Accidents, and Men Employed on Mines during the year 1911.

Name of Company or Lease.	Men employed.	Explosions.			Falls of Ground.			In Shafts.			Miscellaneous, under.			Surface.			Totals.		
		Fatal.	Serious.	Minor.	Fatal.	Serious.	Minor.	Fatal.	Serious.	Minor.	Fatal.	Serious.	Minor.	Fatal.	Serious.	Minor.	Fatal.	Serious.	Minor.
Golden Horseshoe	917	...	...	...	3	7	5	...	1	2	...	41	58	...	10	10	3	59	75
Oroya Links	261	...	1	...	3	...	2	1	...	1	...	12	37	...	1	13	4	14	53
Ivanhoe	631	...	3	...	...	6	5	...	...	1	...	36	47	1	9	9	1	54	62
G.B. Proprietary	689	...	...	...	1	6	7	1	...	1	1	52	72	1	11	10	4	69	90
Associated	407	...	...	...	...	...	...	...	...	1	...	13	29	...	6	17	...	19	47
Kalgurli	391	...	...	1	...	...	...	1	...	1	...	14	7	...	2	3	1	16	12
G.B. Perseverance	529	...	2	...	...	3	5	...	2	3	...	26	90	...	13	45	...	46	143
Hainault	195	...	...	...	...	1	...	...	...	1	...	10	14	...	3	7	...	14	22
Associated Northern	71	...	...	...	...	...	...	...	...	...	...	3	...	...	5	1	...	8	1
South Kalgurli	235	...	...	2	1	1	1	...	1	1	...	19	53	1	2	10	2	23	67
Chaffers	101	...	...	...	...	2	2	...	2	...	1	4	5	...	3	2	1	11	9
Lake View and Star	400	...	...	...	...	...	...	...	...	...	...	7	13	...	4	7	...	11	20
North Kalgurli	64	...	...	...	...	...	...	...	...	...	...	2	...	...	2	1	...	4	1
Hannans Reward	39	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...
Brownhill Extended	11	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Paringa	46	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	1	1
Lake View South	16	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...
Golden Ridge	137	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...
Golden Dream	17	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Hidden Secret	14	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...
Total	5,171	...	6	3	9	27	28	3	6	12	2	241	426	3	73	135	17	353	604
Other Mines	549	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals for Goldfield ...	5,720	...	6	3	9	27	28	3	6	12	2	241	426	3	73	135	17	353	604

Mr. W. M. Deeble, Inspector of Mines, has sent in a report dated 1st April as follows:—

"A systematic inspection of the mines has been carried out and every effort made to try to improve the working conditions both in safety and comfort. The ventilation in the lower levels of some of the deep mines is not all that could be desired, but this matter is being attended to by connecting levels by winzes and drives between two or more shafts. Now that a special effort is being made I expect a great improvement will be made during the early part of the coming year.

"Explosives.—The explosives in use in the mines appear to be of good quality and to do good work, but I am quite satisfied after years of experience, during which I have carefully watched results, that the fumes evolved will always affect men more or less. I have noticed that the effect of these fumes upon the individual varies considerably, some men becoming greatly distressed while their mates, working in the same atmosphere at the same time, are very slightly affected. A very great improvement would be effected if it were possible to do all the boring during the day and afternoon shifts and fire out on night shifts. By adopting this principle the majority of the men would be out of the workings at the time the smoke would be passing through, and the air would be free from injurious fumes by the time they returned to work. In connection with gases and fumes, I would like to mention that Mr. Sutherland, the manager of the Golden Horseshoe, informs me that he has ordered a Meco air bellows and pipes for air supply, also Dr. Brat's reviving apparatus. The reviving apparatus consists of a mouthpiece and an exhaust appliance which first withdraws gas from the lungs and then supplies oxygen in its place. The whole apparatus can be carried in a hand box.

The following are the chief development works for the year:—

"Great Boulder Proprietary G.M.—The most interesting work carried out during 1911 was the extension of the 2,800ft. level. The manager supplies the following information on the work done there:—

"At the main shaft 2,800ft. level, crosscut west was driven 155ft. 6in. At 68ft. struck vein 3ft. 6in. wide of no value, and at 95ft. struck 2ft. quartz vein of an assay value of 11dwts.

"Driving north at a point 145ft. west of the shaft on a small vein for a distance of 135ft. the first 25ft. assayed was 5dwts. per ton, the balance being mineralised country of no value. Driving south on the same vein for a distance of 73ft. the first 16ft. assayed 4dwts. per ton, and the balance was in mineralised country of no value; this south drive was extended from about 50ft. to the distance shown to enable the Golden Horseshoe company to crosscut westward from their eastern boundary to intersect the lode in their ground found by diamond drilling from our main shaft.

"At Edwards' shaft the development work done at the 2,650ft. and 2,800ft. levels has not opened up any payable ore.

"At Hamilton's shaft 1,950ft. level a crosscut was driven east 253ft. 6in., and at 242ft. 6in. east from the shaft ore 4ft. wide, worth 9dwts. per ton, was struck. Drive north on this vein for the first 75ft. was in ore 5ft. wide, assay value 6dwts. per ton, the balance of 26ft. 6in. being in mineralised country of 1dwt. value. The drive south on the same vein was driven 111ft. 6in. in ore 5ft. wide, assay value 5dwts. per ton.

"On the surface foundations have been laid for two new Ridgway vacuum filter machines and one filter machine started to work.

"I learn that the last-mentioned machine is capable of treating 250 tons of average slimes per day.

"The following are the depths of main shafts and development work done during the year:—

"Total depths of shafts :—Main, 2,844ft. 6in. ; Edwards, 2,372ft.; Hamilton, 1,978ft. 6in.

"Shaft sinking 1911, 144ft.; driving, 784ft.; crosscutting, 758ft. 6in.; rising, 236ft. 6in.; winzing, 656ft. 6in.; diamond drilling, 4,609ft.

"Golden Horseshoe G.M.—The most encouraging reports of developments come from this mine.

"The manager reports:—'During the year some very important developments have been made; the principal one was the cutting of our No. 4 lode close to the northern boundary, at a depth of 2,800ft., where the lode proved to be 15ft. wide and assayed 30dwts. per ton. We also proved this lode by means of a diamond drill bore 450ft. further south, where 27ft. of the Core assayed 18dwts.

"On Lease 1113E, at a depth of 350ft., we cut what we call our No. 5 lode and drove 150ft. in same, the average width being 8ft., and the average assay 8½ dwts.

"The total depths of shafts are as follows :—No. 1, 2,240ft. 6in.; No. 2, 1,291ft.; No. 3, 2,030ft. 6in.; No. 4, 372ft.

"Developments during 1911 :—Shaft sinking, 460ft. 6in.; driving, 4,016ft.; crosscutting, 1,838ft. 6in.; rising, 94ft.; winzing, 3,181ft. 6in.

"During the year electric signals have been installed and electric lights to each plat.

"Associated G.M.—In the main part of the mine the following development work has been done:—

"Shaft sinking, 47½ft.; chambers and plats, 57½ft.; driving, 2,009¼ft.; crosscutting, 1,743¾ft.; rising and winzing, 2,167ft.

"Adelaide Lease:—Prospecting shaft, 50ft.; crosscutting, 241½ft.; drives, 40ft.

"There has been no discovery of importance to record. On surface the machinery mentioned in last report as being in the course of erection has been completed and now in full work.

"The Kalgurli G.M.—The manager reports:—'Nothing of importance has been disclosed during the year's operations. The usual tonnage has been dealt with and a fair margin of profit maintained.

"The total depth of main shaft is 1,900ft.

"Driving during 1911, 1,878½ft.; crosscutting, 1,122ft.; rising, 575ft.; winzing, 601½ft.; diamond drilling, 1,689ft

"North Kalgurli G.M.—For several years this mine has been worked by tributers who have confined their operations to the surface portions, but during the last year several parties took tributes in the deeper levels and have obtained very encouraging results.

"Paringa G.M. adjoins the North Kalgurli on the east, and has lately cut a lode in the sulphide zone which is similar to those being worked in the North Kalgurli deeper levels, the ore that has been crushed out of it is highly payable, but there has not been sufficient done on the lode to prove the extent of the chute of payable ore.

"Union Jack G.M. is being worked by Black and party. A crushing taken out from below the 200ft.

level assays 32s. per ton, but under present system of working this is too low grade to pay.

"Oroya Links G.M.—There has been very little done in the southern portion of this Company's ground during the year. During the latter part of the year a party of tributers (Rutter and party) on the Oroya North G.M., discovered a lode at surface carrying rich gold, which they worked down to a depth of about forty feet, when their tribute expired. The Company has now started to open out on this lode at their 110ft. level. The Eclipse G.M. is the northern part of the Oroya Links and is from where most of the crushing material has been obtained. The mine workings are comparatively shallow, and all the ore was taken out from above the 600ft. level. The north shaft on the lease has been continued down to No. 7 level, and the lode lately cut at that depth. I am informed that it assays up to grade they are now putting through the mill.

"New North Boulder G.M.—This mine has been worked by a small party during the year who have decided to erect a crushing plant to be driven by a suction gas engine. They have been working on good ore, and from present appearances it would seem that they are likely to get the continuation of the lode worked by Rutter and party on the Oroya North G.M.

"Lake View South G.M. has been worked by a party of tributers who have erected a suction gas plant and a Huntington mill for crushing purposes. They are crushing low-grade ore, and I am informed they are dealing with it successfully.

"Idaho G.M.—This mine is at the south end of the field. At present work is being carried on down to 200ft. depth. There is a large lode going through the mine with cross leaders running into it from both walls and almost at right angles; rich gold makes at the intersection or within a foot or so of it.

"On the north end of this field there are a large number of small parties, mostly working on low-grade lodes."

NORTH-EAST COOLGARDIE.

Kanowna District.

"During the year this district has been very quiet and the developments in the main mines have proved rather disappointing.

"North White Feather G.M.—A considerable amount of development work has been done around the bottom levels, but the mine is at present depending on the upper levels for their margin of profit. The main shaft is 1,014ft. in depth and the following development work has been done during the year:—

"Shaft sinking during 1911, 100ft.; driving, 1,065 ft.; crosscutting, 278ft.; rising, 737ft.

"White Feather Main Reefs G.M.—This mine employed on an average 29 tributers, and during the year 1,848½ tons were treated, yielding 1,110 ounces over the plates valued at £3,869. These men were mostly engaged between surface and No. 4 level, 399ft. depth. The salt water supply in the main shaft is about 35,000 gallons per day.

"Last Chance G.M.—The mine workings have been under water for years, but was emptied lately and the stopes sampled. When I visited the mine last I saw some rough gold in the reef, and the mine seemed to have a fair chance of becoming a payable proposition.

"Randalls and Bulong.—Mining is very quiet at these places at present. At the latter end of the year some rich dabs were found in the Oversight mine at Bulong, but unfortunately no continuation could be traced.

"Southern Cross G.M. has been working on a large low-grade lode which is crushed by a ten-head stamper battery driven by a suction gas engine. They have not been very successful during the year owing chiefly to difficulties with their water supply.

"During the last two years there have been numbers of unfortunate accidents in the Golden Horseshoe and Great Boulder Proprietary gold mines. These mines adjoin, and the country rock in them is recognised as being the most dangerous in this field. It is hard and will often times be safe when examined, and yet in an hour or so later large pieces may fall. This may be caused by the air acting on the minerals, or may be due to pressure, or both may contribute.

"Taking the specific gravity of the rock, the pressure due to the weight of rock at 1,000ft. depth would be approximately 1,200lbs. per square inch. When we take into consideration the great pressure due to depth alone we must recognise that where large reefs are stoped out for hundreds of feet in length and depth, sooner or later there will be a movement. In these two mines there are four parallel lodes worked, and a total of 4,215,309 tons was taken out up to the end of 1911. The cavity formed by the removal of this large amount of ore has been refilled with sand and broken rock, but since the ore when crushed increases greatly in volume, only about one-half of it can be returned to the workings, with the result that when the space has been filled as closely as possible with sand it is really only about half filled. While the total tonnage would occupy in its original solid form approximately 55,000,000 cubic feet, yet when the space from which this was removed is filled as closely as possible under the conditions with sand, there remains in the interstices a total space equal to, say, 27,500,000 cubic feet. We can calculate this, but an examination of the underground workings fails to disclose any large spaces, yet the presence of the large sand dumps at the surface is evidence that such space does exist somewhere, and points to the conclusion that sooner or later movement will take place causing the walls to squeeze in on the filling. This is really what is taking place, and is the cause of the ground in these mines being the most dangerous of the Boulder group.

"In the case of parallel lodes there is a general but slow movement of the country rock which renders it necessary that the supervision be more strict as the mine workings increase in extent.

"Some time before I came to the district a subsidence took place which left the mines supply railroad unsupported for some distance, whilst as recently as twelve months ago there was again a settlement from the surface to the No. 5 level. As the mines become worked out to a greater depth I expect the movement to follow, in fact signs of such pressure are now showing at the 1,600ft. level in the Great Boulder Proprietary G.M. The mine manager of the Great Boulder informed me that the necessary extra measures taken to secure safety during the last twelve months have added one shilling per ton on to the mining costs. As the lower levels of the mines are worked out it will become necessary to be more strict in a number of ways, which will of course tend to raise mining costs. Although there should not be

any serious danger the movement will cause the ground to be dangerous in the stopes being worked, no matter how closely they are kept filled, and it will be only by the exercise of watchfulness constantly by both shift bosses and men that accidents will be averted. Without such watchfulness any amount of supervision by Government inspectors will be of no avail.

"During the year there was a regrettable accident which caused the death of a miner, brought about by the filling in a stope running through a worn out side of a pass and causing a cave, the top of which fell in while the man was working over it. This is the second accident of this sort that has happened in Kalgoorlie. In looking over this matter with a view if possible of preventing repetition I was struck by the limited number of passes in a number of large stopes, which means that the quantity of ore that has to be put through them before the block is worked through to the next level would cause so much wear and tear of the timbering as to necessitate frequent repair.

"I found by rough estimates given by underground managers that a pass with an even grade would usually keep in good repair until about 45,000 cubic feet of ore had been put through, but if there was a bend in the pass it would wear through sooner. When a manager estimates the contents of a block he has a good idea of the amount of payable ore, whilst from experience he knows that the passes will wear out and need repairing before the block has been cut out. I would therefore suggest as a business proposition for the managers to consider whether it would not be to their advantage to have passes closer together. The men could then shovel the ore more easily into them, the filling could follow the working faces more closely, and there would not be the same chances of wearing out and causing a cave around them."

COOLGARDIE, YILGARN, AND DUNDAS GOLDFIELDS.

The Inspector of Mines, Mr. J. Crabb, has forwarded a report dated 5th January, 1912, as follows:—

"Ventilation of Mines.—Generally speaking, the ventilation in the mines throughout the fields under consideration has been kept in a very satisfactory state.

"Most mine managers fully realise the worth of providing an adequate amount of air, and consequently they do their best to maintain as high a standard of ventilation as its importance demands.

"For laying dust caused by rock-drilling machines special appliances are employed. At the Mararoa G.M., Norseman, a small tank having a capacity of about ten gallons is filled with water and connected by a small rubber hose to the compressed air line. The compressed air enters this tank and forces the water out through another hose, which conveys the water under pressure to the collar of the hole being drilled, in the same manner that is employed on the 'Water Leyner Rock Drills,' with the exception that the water is brought to play on the collar of the hole instead of at the end of the hole, as in the case of the Water Leyner machines. It uses about the same quantity as the Leyner, and is effective in arresting dust.

"At the Viking No. 1 G.M. a water-main is laid throughout the workings consisting of three-quarter inch pipes. A small rubber hose is connected to the main at a point usually about 40ft. from the machines, and a jet of water played on the hole.

"No discomfort is felt by the spraying of the holes and broken material with these appliances, on the contrary it has been found to have a cooling effect, which is much appreciated by the men, especially when used in connection with rising.

"A great deal has been said about the discomfort caused by the use of water in the ends of drifts and rise workings, and it seems to be viewed as an insurmountable problem. I think, however, the difficulties are more imaginary than real.

"Accidents.—All accidents that have occurred on the before-mentioned goldfields have been duly reported upon.

"Sunday labour.—Only one Sunday labour permit was granted during the whole of the year. Several applications were made, but in most cases it was found that there was no necessity to grant permission as the work required to be performed came within the scope of the exceptions set out in Section 45 of the Mines Regulation Act.

YILGARN GOLDFIELD.

"Good progress has been made on this goldfield, and its outlook never appeared brighter than at present. I anticipate the output of gold will be more than double within the next year or so.

YARIBU.

"During the early part of the year a belt of gold-bearing country, now known as Yaribu, was discovered by Flegeltaub and party about 110 miles north of Southern Cross or eight miles west of Pigeon Rocks. Apparently a great deal of importance was at first attached to this part of the field, and quite a number of prospectors were attracted to it by the glowing accounts that were made of rich discoveries. Many of the prospectors after a brief inspection of the country, were disappointed and soon returned, and as more recent discoveries have not been very satisfactory the locality is now almost deserted.

"I paid a visit to Yaribu during the month of August and made an examination of a fairly considerable area in the vicinity of the shows, but as Mr. H. P. Woodward, Assistant Government Geologist, had just prior to my visit completed a geological survey of the gold-bearing belt, I shall confine my remarks to a few of the prospects on which a little work had been done at the time of my visit.

"Mr. Flegeltaub's show was the first to be examined. There are several quartz veins on the property, but the one to which most importance is attached strikes north-south along the ridge of a gentle sloping hill. The vein is reckoned to average 3ft. in width, and to outcrop at least a distance of 300ft.

"Mr. Flegeltaub estimates the amount of gold contained in the stone to range from 6dwt. to 10dwt. per ton.

"G.M. Lease 2271.—Some very good specimens were obtained from a small vein which is situated close to the south-east corner of the property. A prospect hole had been sunk on it to a depth of eight feet, but I was unable to see the bottom owing to a considerable amount of mullock having been thrown into it. The vein does not outcrop for more than a few feet, and judging from the conditions in which it occurs I am inclined to think that it will not prove to be very extensive.

"On the Bronzewing a small vein has been developed by means of a few shallow workings. It dips at a very flat angle, and from what I could see does not average more than a few inches in width. The owners estimate that the ore obtained from the different parts of the workings will yield at least 5ozs. per ton.

"A few chains north of Flegeltaub's lease, Cortie and party were opening up a small vein, which gave prospects ranging from 1 to 2ozs. per ton. I have since learned this vein proved very disappointing and was eventually abandoned.

"I inspected several other leases that had been applied for, but I did not see anything that led me to think they contained anything of much importance.

"The prospectors at Yaribu obtain their water from the Government well at Pigeon Rocks, where there is an abundant supply of fresh water at a shallow depth.

MT. KING.

"In the vicinity of Mt. King, which is situated about ten miles in an easterly direction from Pigeon Rocks, Stubbs and party were opening up a small quartz vein on the eastern side of a large banded ironstone lode. At the time of my visit the show did not give encouraging prospects, and it was decided to abandon it in the course of a few days unless something better could be found.

"There appears to be a large belt of promising country here worthy of some attention. It is hilly and, as far as I could ascertain from my brief inspection, is composed principally of greenstone, schist and a series of large banded ironstone lodes. This latter class of formation is receiving marked attention in other parts of the field at present, and has special interest owing to the fact that several mines are being opened up on similar lodes. The principal characteristic of this series is a peculiar banded flinty rock, which appears to be a fine-grained mechanical sediment, silicified and highly charged with ferruginous material arranged in parallel bands.

"Seeing that a little gold has been found at different points in this locality, it does not seem at all unlikely that this series of banded ironstone lodes may produce many large low-grade propositions in future, when the general economic conditions of the country are more favourable.

MT. JACKSON.

"A slight revival in mining has taken place at Mt. Jackson, and a few promising shows are being prospected.

"Athlone G.M.—This property embraces an area of 48 acres, and is situated about seven miles in a northerly direction from Mt. Jackson townsite. There appear to be several small veins of quartz on the property that carry a little gold, but up to the present very little work has been done on any of them. The one to which most importance is attached has been developed to a depth of about 26ft., or water level. Drifts have been driven north and south just above water level, at 25ft. and 30ft. respectively.

"The vein in the north drift is small and pitches at a sharp angle northerly; whilst in the south drift it appears to be much shattered and to be faulted near the face.

"Although the ore is said to contain over 2ozs. per ton it seems questionable as to whether its present prospects warrant any further exploration deeper, as there is a large inflow of water at the bottom of the shaft.

"About two miles south of Mt. Jackson townsite Frell and party are dollying stone from a small vein that is reckoned to contain 10ozs. per ton.

"Ford and party, who have a prospecting area a little south of Frell's claim, are opening up a small vein that is reckoned to contain gold in profitable quantities.

"About two and a-half miles south of Frell's. Saddler and party are prospecting a lode averaging 2ft. in width, reckoned to contain 10dwts. per ton.

"Bourke and party are prospecting a lode averaging 4ft. in width, reckoned to contain 15dwts. per ton.

MARDA.

"Excellent progress has been made at this centre, considering the unfavourable conditions in which prospecting is done.

"At the Butcher Bird (G.M.L. 1933) an incline sunk on the vein 80ft. has proved it to average 4ft. in width and to contain 3ozs. per ton.

"Great Unknown (G.M.L. 2053).—This property, which was discovered during the early part of the year, has been fairly well developed. The vein, which consists almost entirely of quartz, strikes in a north-westerly direction and dips at a sharp angle towards the east. Its width ranges from a few inches to 2ft. Two shafts have been sunk to an average depth of 52ft., from this level drifts have been driven for a distance of about 100ft.; from a parcel of 14 tons treated at Golden Valley in November last 120 ozs. were obtained. The sands are said to contain 2½ozs. per ton. A parcel of 6cwts. of concentrates is also expected to return high results. It is estimated that there are 650 tons of ore in sight that contain 8ozs. of gold per ton. Generally speaking, the vein is well defined, and there are most favourable indications of it continuing to a considerable depth.

"Great Unknown North (G.M.L. 2444).—On this property a vein that strikes a few degrees west of north and dips at an angle of about 40deg. north-easterly is being developed. It is reckoned to average 1ft. in width, and that it can be traced by means of shallow prospect holes for a distance of about 150ft. along the surface. The ore is estimated to be worth 2ozs. per ton. An incline has been sunk on it to a depth of 30ft. and drifts put in north and south a few feet. This incline is supposed to have followed a short shoot of rich ore.

"Ophir (G.M.L. 2150).—This property, which consists of 24 acres, adjoins the Great Unknown on its southern boundary. A shaft has been sunk 50ft. for the purpose of discovering the Great Unknown line of vein, but so far nothing of much value has been found.

"Three Kings (G.M.L. 2157).—This property, which is owned by the Yilgarn Syndicate, consists of 24 acres. It is situated a little south of the Ophir, and the vein now being developed is considered to be the continuation of the Great Unknown. A shaft has been sunk on stone to a depth of 20ft. near the northern boundary, and the ore obtained resembles that of the Unknown very closely. A parcel of stone treated from another shaft situated about the middle of the lease gave a return of 26½dwts. over the plates.

"Scott's Find (G.M.L. 2131).—This property, which consists of 24 acres, is situated some little

distance south of the Three Kings. There is a well defined little vein on this lease which strikes north-south and can be traced along the surface a distance of four chains. The stone has a nice kindly appearance but is only reckoned to contain about 5dwts. per ton.

"General Jackson (G.M.L. 2505).—This lease is situated a little south of Scott's find. A very promising vein, ranging in width from 1ft. to 2ft. 6in., is being developed. It has been traced along the surface a distance of four and a-half chains. An incline has been sunk on it to a depth of 40ft. The ore is said to contain 1½ozs. per ton.

"The Miner's Dream (G.M.L. 2190).—This property is owned by Dallison Bros. The vein on this property has been traced for several chains along the surface, and prospects taken at different points have led the owners to believe that it contains about ½oz. per ton.

"Molley (G.M.L. 2472).—The vein on this property is reckoned to average 18 inches in width, and to contain ½oz. per ton.

"Shannon's Find (G.M.L. 2132).—Two shafts have been sunk on this property in two quartz veins that strike north-south. In the west vein the shaft is down 40ft. in stone that averages 2ft. 6in. in width. The ore raised from this shaft is reckoned to contain ½oz. per ton.

"In the eastern vein a shaft has been sunk to a depth of 15ft. in stone estimated to be worth 1½oz. per ton and to average about 5ft. in width.

"Burguse (G.M.L. 2213).—A shaft is being sunk here is a large banded ironstone lode that is reckoned to contain 7dwts. per ton.

"Allen's Find (G.M.L. 2285).—A vein averaging about 2ft. in width that adjoins a large banded ironstone lode and striking north-south parallel to it, is being opened up on this property. An incline has been sunk 35ft. and the ore obtained from it is reckoned to contain 1½ozs. per ton.

"Mt. Bacon (2209).—There is a banded ironstone vein here that is reckoned to be about 50ft. in width. Up to the present it has been proved to contain about 4dwts. per ton. It appears to be a promising show and well worth being prospected to a fair depth.

"Generally speaking, I rather like the prospects of this part of the field, and if the Department erected a State mill at Marda, or within a reasonable distance of the shows that have been briefly described, I believe it would tend to attract prospectors and very materially assist them in exploring a promising belt of gold-bearing country.

Enuin.

"During my visit to this centre in August last a considerable amount of prospecting was being done. The majority of the shows, however, appear to be somewhat low-grade, and as there are no crushing facilities nearer than Golden Valley, prospectors are placed at a disadvantage. There is a fine belt of country here composed principally of the banded ironstone series, which can be seen outcropping for several miles in a northerly direction. These veins have been proved to carry a little gold in many places, but are looked on at present as being too low in gold contents to be turned to profitable account, but I think the time is not far distant when these lodes will be systematically prospected to a reasonable depth and with satisfactory results.

Golden Valley.

"At the Pine Hill (G.M.L. 1043), an incline has been sunk to a depth of 100ft. on a lode that contained from 1 to 2ozs. per ton.

"During a recent visit to the mine, drifts were being driven off the bottom of the shaft north and south along the course of the lode. In the south drift the vein is estimated to be 12ft. wide, but it is reckoned that only 7ft. of this carries gold in profitable quantities. Apparently this shaft has followed down a shoot of rich ore about 12ft. in length.

"At the Golden Crown some very encouraging results have been obtained. The lode on this property is over 100ft. in width in places. A crushing taken from the outcrop and treated at the Golden Valley battery gave a return of 6dwts. over plates and the tailings contain 2dwt. 8grs. per ton. This property appears to have excellent prospects of being developed into a large and profitable mine.

Bullfinch.

"It is reported that an ore reduction plant with a treatment capacity of 6,000 tons per month is likely to be erected at the Bullfinch G.M.

Corinthian.

"A considerable amount of development work has been done at the Corinthian North, and it is anticipated a mill will soon be erected on the property.

"At the Corinthian large parcels of stone have been treated, which gave satisfactory results.

Southern Cross.

"Mining matters at Southern Cross have been somewhat dull during the year, but there are signs of improvement, however, and it is confidently expected that it will be much more brisk during the present year.

"The Transvaal G.M. has been taken over by a company, and no doubt a start will soon be made to treat the large quantity of ore in sight.

"At Fraser's G.M. the principal work underground has been done by a party of tributers who are reported to have done well.

"At the Cornishman very profitable results have been obtained.

Jacoletti.

"At the Mountain Queen two large Holman pneumatic crushing stamps and a producer gas plant have been erected. A large quantity of ore has been developed and everything points to it being turned to highly profitable account.

"A great deal of public crushing has been done at the Jacoletti G.M. battery, which has proved to be of considerable benefit to prospectors.

"Very little mining has been done in the main underground workings. Recently a little prospecting has been done on a vein situated a little distance east of the battery. A crushing of 60 tons taken from a drift at a depth of 30ft. gave a return of 4dwts. per ton. It is likely this vein will be prospected to a further depth, as recent results have been fairly satisfactory.

"Mountain Prince.—A considerable amount of work has been done on this property, but up to the present results have not been very encouraging.

"Mountain Prince North.—There is a fairly well defined vein being opened up on this property. It averages 4ft. in width and is estimated to contain 7dwts. per ton.

"Irene (G.M.L. 913).—The lode on this property is reckoned to be at least 200ft. in width. Two shafts have been sunk in it, one to a depth of 90ft., the other 30ft. From the 90ft. shaft a crosscut has been put out in a westerly direction 50ft. in ore, reckoned to contain 4dwts. 4grs. per ton. Another has been driven easterly a distance of 50ft.; that is said to contain 5dwts. 14grs. per ton. It is intended to sink the 90ft. shaft to 100ft. and then crosscut east and west to determine the exact width of lode. There seem to be excellent prospects of this property being developed into a profitable mine.

"Madam (G.M.L. 2047).—This property is situated a little distance in a southerly direction from the Irene. During the year some very good results have been obtained from a small vein.

"May Queen.—Highly profitable results have been obtained from this mine, some of the ore yielding as high as 10ozs. per ton. The last parcel of 46 tons gave a return of 192ozs. The vein, which averages only a few inches in width, has been faulted at a depth of about 100ft., but the owners are about to crosscut in an easterly direction a little below the fault, which is dipping at a very low angle, and it is confidently expected that the continuation will be cut by a few feet of crosscutting.

"At the Marvel Loch the main shaft has been deepened another 100ft., and a crosscut driven to the lode. A great many alterations have been made in connection with the milling plant and it is anticipated when milling operations are again commenced satisfactory results will be obtained.

"Bohemia (G.M.L. 923).—The prospects of this mine have improved much of late. During a recent visit there were 358 tons of ore at grass estimated to contain 10dwts. per ton.

Nevoria.

"Never Never.—This property was taken over recently by a company, and a start made with the mill to treat public stone. There is a large quantity of slime which it is intended to treat as soon as a suitable plant be installed.

"Newey.—Mining operations have been much retarded for want of crushing facilities, but as the Never Never mill will soon be brought into operation and the treatment of public stone undertaken, this drawback will be overcome, and as there is a large quantity of ore in sight that is estimated to be worth 6dwts. per ton, it is only reasonable to suppose mining on a fairly large scale will be adopted. A start has been made to sink a new vertical shaft to a depth of 100ft.

"Great Victoria.—The owners of the Great Victoria G.M. have, after a long and rather severe struggle, erected a ten-head mill and developed the mine to such an extent that it appears almost certain that there is a long and prosperous future before it.

"The lode on this property averages 100ft. in width and can be traced for quite a considerable distance along the surface. It has been proved to continue to a depth of 300ft., at which point a good supply of water for mining purposes was struck. The water has risen 50ft. in the shaft, and judging from the amount that has been bailed without making any appreciable difference, it seems as though there is an excellent supply.

"Up to the present the owners have been making a very substantial profit on a recovery of 2½dwts. per ton. The sand and slime, which it is intended to treat later, are reckoned to be worth from 14s. to 16s. per ton. It is roughly estimated at present mining costs 2s. 6d. per ton, and milling 3s. 6d. per ton, or a total cost of 6s. per ton for mining and milling. The present methods employed, however, are considered costly, and it is anticipated that by making a few alterations mining and milling will be done for a total cost of about 5s. per ton. I have no reason to doubt that this reduction can be brought about, and that it will be possible to operate down to a considerable depth on ore containing from 2 to 3dwts. per ton, and at the same time show a very fair profit. Such low costs clearly demonstrate what can be done with low-grade ore on this field, and to a degree the immense potentialities of the large lodes that can be seen outcropping for miles in different parts of the district. If these lodes were proved to contain only a few dwts. per ton, there seems to be every reason to believe that this would eventually become one of the most active mining centres in the State. Up to the present these lodes have not been prospected to any reasonable extent, which is due to the average prospector not being able to stand the cost, and the average speculator being of opinion that ore containing much less than ½oz. per ton cannot be profitably dealt with. The results obtained at the Great Victoria should, however, prove to be an object-lesson, and be the means of attracting capital to test the great lodes that abound in different parts of the field.

Parker's Range.

"Parker's Range G.M.—The vein on this property was extensively prospected in the early days of Parker's Range to a depth of 120ft., several shafts having been sunk and a considerable amount of drifting done at different parts. It consists almost entirely of quartz averaging about 2ft. 6in. in width. The northern portion of the vein is much folded, which has possibly been caused by some granitic dykes that strike through the lease in various directions.

"At the time of a recent visit to the mine a crosscut was being driven at the 150ft. level just off the main shaft. A crushing of 65 tons taken from the north drift and treated at the Australia battery gave a return of 9dwts. by amalgamation per ton, and the sand contained 2½dwts. per ton.

"At the Spring Hill G.M. mining operations have been much hampered by scarcity of water for milling purposes. Satisfactory developments have taken place in the northern portion of the workings at the 150ft. level. It is estimated that there are at present 30,000 tons of ore in sight that can be turned to profitable account.

"An option was taken over the Australia G.M. by an Adelaide Company some little time ago. A vertical shaft is being sunk to a depth of 200ft. and a little stone is being raised and treated from different parts of the mine.

"Ziegler Prospecting and Option Syndicate.—Stone containing exceptionally large quantities of gold was found on this property in the early days, and during recent years small patches were obtained. A parcel of 1½ tons treated in August last gave a return of 34ozs. per ton. At the point where this rich stone was obtained the syndicate sunk an incline in the vein to a depth of 83ft. It was found on

sinking that the rich stone gave out at a shallow depth. From the bottom of incline drifts have been driven north and south in stone that is reckoned to contain from 5 to 7dwts. per ton.

"South Searchlight.—This property adjoins Ziegler's on the north. Here a vein of quartz averaging 1ft. in width is being developed. A shaft has been sunk 50ft. and drifts have been driven north and south 45 and 50ft. respectively. A parcel of 66 tons obtained from these drifts gave a return of 5½ dwts. per ton.

"A few miles south of Parker's Range townsite Polson and Smith have done a considerable amount of work on a show known as the Great Southern. The vein averages 4ft. in width. Four shafts have been sunk at distances of about five chains apart, to depth ranging from 40 to 100ft. The ore is said to contain from 4 to 10dwts. per ton.

"Mountain Devil.—This property is situated a little south of the Great Southern. A small vein averaging 6in. in width is being developed by Cheriton Bros. It is reckoned to contain a little over 1oz. per ton.

"King of the Range G.M.—This property is now being worked by a party of tributers. The stone now being mined is estimated to contain 1½ozs. per ton.

Carrabin.

"Myrtle Consols (G.M.L. 2168).—There are four veins on this property that have a general strike north 60 west and dip almost vertical. Two shafts have been sunk 84ft. apart to a depth of 96ft. and connected at 50ft. by a crosscut, which passes through kaolin formation. In this formation a little quartz occurs which, generally speaking, is not worth more than a few dwts. per ton. At one point, near the south shaft, there is about 12ft. of quartzy material, but this is also low-grade.

"Christmas Group No. 2 (G.M.L. 2078).—There is a large deposit of ironstone conglomerate and rubble on this lease. The latter is being worked by means of dry-blowing machines, and fair wages are said to be made.

"Independent (G.M.L. 2361).—This property, which consist of 34 acres, is situated about three miles from the Greenfinch G.M. in a north-westerly direction. A quartz vein that strikes north 20 degrees east and dips at an angle of about 60 degrees easterly is now being developed. The vein can be traced for a distance of about five chains along the surface. In an incline that has been sunk to a depth of 60ft. the vein averages 2ft. in width and the value of the ore raised from it is estimated to contain 15dwts. per ton.

"Christmas Birthday Central (G.M.L. 2083).—A shaft has been sunk to a depth of about 40ft. on stone that ranges from a few inches to four feet in width. The ore developed in this shaft is reckoned to contain 30dwts. per ton. A parcel of four tons obtained from the sinking of a shaft gave a return of four ounces per ton.

"Myrtle Central (G.M.L. 2291).—A shaft has been sunk in kaolin formation to a depth of 90ft. In this formation bunches of quartz occur, which, I am afraid will, on further development, be proved to be very limited in extent. The owners estimate the value of the ore at 15dwts per ton.

"United (G.M.L. 2180).—A considerable amount of prospecting has been done on this property for the purpose of finding the Myrtle Central lode.

"Greenfinch G.M.—A considerable amount of development work has been done on this property, and some highly satisfactory returns obtained. It is intended to erect a five-head mill as soon as a sufficient quantity of water is available and to undertake public crushing.

"Generally speaking, the outlook of mining in this Goldfield never appeared brighter than at present. And as it has been demonstrated that large lodes which contain from 2 to 3dwts per ton can be turned to profitable account, I do not think it unreasonable to expect this field to become one of the largest gold-producers of this State.

"The laying down of a water system through the southern portion of the field will, I think, have a very beneficial effect.

DUNDAS GOLDFIELD.

"The outlooking of mining on the Dundas Goldfield during the latter part of 1911, appeared as though the yield of gold would show a large increase during the period under review over that of the preceding year. At that time the Westralia, Maihi Company, New Moon, Oversight, Princess Royal, and a few small shows, gave very fair prospects. The output, however, from most of them has been contrary to general expectations, whilst in some others the returns have been somewhat disappointing. There has been a shortage of water for quite a considerable time, and this has undoubtedly hampered mining operations to great extent. The outlook just now, however, is fairly high.

"At the Lady Miller a large quantity of ore that is reckoned will yield profitable results has been developed. Additional machinery has been erected, and crushing operations will be commenced as soon as a good supply of water is available.

"At the Princess Royal it is intended to prospect the main lode deeper from the 1,000ft. level. Seeing that there are several felsite dykes traversing the mine which appear to have conduced to the deposition of gold in the vein where the latter passes through the dykes, it seems highly probable that the vein will intersect other dykes and be enriched at greater depth.

"Should this prove to be the case it would cause a revival of mining at this centre.

"The Mararoa has been constantly worked during the whole of the year with highly profitable results. A considerable amount of diamond drilling has been done on each side of the vein at the lower levels, but I am given to understand nothing of much importance was discovered.

"Viking No. 1 G.M. is opening up well in the bottom levels, and new makes of stone appear to be coming in on the eastern side of the main vein. Highly satisfactory results have been obtained and the prospects of the mine are considered to be very good.

"The Cumberland G.M. has been worked principally by tributers who are reported to have done fairly well.

"The O.K. Mine was recently taken under option by a local syndicate, and judging from results obtained it seems likely that it will be purchased and worked on a much larger scale than hitherto.

COOLGARDIE GOLDFIELD.

Coolgardie.

"Mining in the Coolgardie District has been somewhat dull during the year. Very little prospecting has been done, and no new discoveries of much importance have been made. Prospectors are gradually leaving the district, and it appears to me unless some means are adopted to arrest this state of affairs, mining here at the small shows will soon come to a standstill. The people of Coolgardie have fully realised the decline that has been taking place, and have done their best to stem it. Quite recently a request was made that the Mines Department prospect parts of the district by means of diamond drill boring, but owing to the Geologist's report not being favourable to this method of prospecting the matter was dropped.

"The facilities for crushing at the State mill have no doubt done a great deal towards maintaining a fair proportion of the population, by enabling prospectors to operate on a grade of ore that could not be dealt with unless afforded advantages similar to those in vogue at the battery in question. The mining, however, at prospectors' shows appears to have arrived at such a state that the present charge for treatment is too high to allow of low-grade ore being made to pay. During recent years most of the ore in these shows that could be made to pay has been taken out and treated.

"To try to stem the gradual decline now going on, or to endeavour to expand the mining industry here, I do not think any better method could be employed by the Mines Department than that of reducing the cost of crushing to a point just sufficient to cover the lowest possible working cost, which I think could be done for about 4s. per ton.

"Tindal's mine has been the principal producer and employer of labour in the district, and it may be said one of the mainstays to the township. The mill has been kept constantly employed on a grade of ore that has shown a very substantial profit.

"At New Bayley's a considerable amount of ore has been mined and treated by tributers with fairly satisfactory results. The vein in the bottom level at King's Cross has been found to be disappointing, and very little was done in it.

"The Coolgardie Redemption was taken on tribute by Corney and party during the latter part of December. It is the intention of the tributers to prospect the southern portion of the lease.

Bonnievale.

"Mining at Bonnievale has been very dull. No work of any importance was done at the Westralia and East Extension, but I have good reason to believe that the Company is getting more capital to further test the mine.

"At the Vale of Coolgardie all the work is being done by a party of tributers, who are now doing some fairly extensive developments in the bottom workings. It is anticipated that within the next few months a highly profitable block of ore will be opened up.

Jourdie Hills.

"Mining at some of the shows at this centre has been disappointing. At the Jourdie Enterprise the rich shoot of stone followed down from the surface cut out between the bottom levels, and as the stone apart from the shoot is scarcely payable, the owners have not been so successful as the outlook of the mine promised.

"At Derry's Own a great deal of development was done, but it was found on treating a trial parcel of ore, obtained from developments and a little stoping just above the bottom level, that it was not payable.

"At the Pride of Jourdie North satisfactory results have been obtained from a vein south of the main shaft.

Kunanalling.

"Fairly satisfactory results have been obtained from the Shamrock and Premier mines.

"At the Star of Fremantle the owner has been engaged in treating some tailings that have given profitable returns.

"During the latter part of the year Mr. DeGracie discovered a small vein near the 18-mile peg on the Coolgardie-Kunanalling road that promises to give good results. The vein averages 15 inches in width and can be traced throughout the whole of the lease. A parcel of seven tons treated at the Blue Bell battery gave a return of 18ozs. by amalgamation.

"At the Blue Bell operations have been confined almost entirely to public crushing and treatment of tailings.

Carbine.

"Operations at the Carbine South have proved very disappointing, and no work of any kind has been done on the mine for several months. It is to be much regretted that the Company, after going to so much expense, did not meet with the success it deserved.

"At the Carbine a great deal of work has been done in the lower workings, and very satisfactory results have been obtained.

Chadwin.

"There are a few shows being worked here that are opening up well, and which give highly profitable returns.

"The tank that was constructed by the Mines Water Supply Department has been found to be of great benefit during the dry season.

Burbanks.

"The Burbanks Main Lode, which is now the largest gold-producer and employer of labour in the Coolgardie Goldfield, is opening up well in depth. A good deal of prospecting has been done along the line of lode south of the main shaft.

"The Burbanks Birthday has been worked principally by tributers who have been breaking out fairly large quantities of profitable ore.

"A slimes treatment plant is being erected by the W.A. Slime Treatment Company to deal with a large quantity of slime, and it is expected that it will be at work during the early part of this month. The plant is capable of treating 200 tons per month.

"At the Main Stay and Lady Robinson satisfactory results have been obtained.

"The owners of the Cheapside still continue to mine a profitable grade of ore.

Gibraltar.

"During the year some encouraging developments occurred on the Reform G.M. and the owner, Mr. Clayton, recently commenced crushing with his five-head mill. A parcel of ore taken from a vein a little north of the old workings gave a return of 15dwt. per ton.

"Mr. Clayton thinks well of the property and is confident of making a success of it. The scarcity of water appears to be the principal drawback just at present.

WIDGEMOOLTHA.

"Mining in this district has been dull. The Flinders still continues to give high returns from a series of small veins that cross through a big lode formation. It is reckoned that the just mentioned formation could be profitably dealt with if a mill were erected on the lease.

"At Mt. Morgan satisfactory results have been obtained. The ore from this mine is sent to Kalgoorlie for treatment.

HIGGINSVILLE.

"Very good results have been obtained on the Sons of Erin mine by a part of tributers.

"The Hidden Secret North Mine has been worked the whole of the year by a party of tributers. The main incline was sunk another lift of 100ft., and drifts have been driven north-south along the vein at the bottom. From ore obtained from stopes above the bottom level (300ft.) very profitable results have been obtained. From parcels of ore ranging from 400 to 600 tons which have been treated monthly since July an average of about 13dwts. per ton has been obtained.

"There are excellent indications of the vein continuing to a considerable depth and also of it being highly profitable."

COLLIE COALFIELD.

Mr. T. D. Briggs, Inspector of Mines, reports on 17th January, 1912:—

"The total output of coal from the field during the year was 249,784 tons, being less by 11,803 tons than the previous year. The decrease can be accounted for by the unfortunate dispute between the Scottish Collieries Company and their employees which commenced on 7th August and continued practically to the end of the year. Owing to this dispute the Government orders for many weeks were not fully supplied and considerable shipping trade was lost that had taken a long time to acquire.

"The largest producer was the Co-operative Company, with 89,227 tons. The Collie Coal Company next, with 66,014 tons, and the others in the following order:—Proprietary 43,179 tons, Scottish 41,957 tons, Premier 6,493 tons, and the Westralian 2,913 tons. The Premier did not commence raising coal until July.

"The total men employed averaged 477 as against 518 the previous year, and the output of coal per man per annum was 523 tons, an increase of 18 tons per man on the previous year. This can be accounted for by fewer men being employed on prospecting and preliminary work than during 1910.

"There were no fatal accidents. The serious accidents totalled 51 and the minor accidents 43. Falls caused three serious and two minor; explosions, one serious; miscellaneous underground, 36 serious and 36 minor; surface accidents, 11 serious and five minor.

"There were two prosecutions under the Coal Mines Regulation Act, 1902, both for breaches of special rules. Both were reported to me by the manager of the mine where the offence took place; in each case a conviction was obtained and a fine inflicted.

"Twenty applications for permits to employ persons on a Sunday under Section 46 of "The Mines Regulation Act, 1906," were received, eighteen of which were granted, the average number of men allowed to work per permit being four.

"During the year auxiliary ventilating fans were installed in some of the mines, considerably improving the ventilation in some places where it was difficult to force the air current by the ventilating power at the surface and the ordinary stoppings and bratticing."

GREENBUSHES MINERAL FIELD, PHILLIPS RIVER GOLDFIELD, NORTHAMPTON MINERAL FIELD, ETC.

Mr. E. D. Cleland, late Inspector of Mines, has furnished a report for the first three months of the year as follows:—

"I have the honour to report that during the period from 1st January to 22nd March, the date on which my services as an Inspector of Mines came to an end, I have been engaged under your instructions in relieving Inspectors of Mines in the East Murchison Goldfield, and the Collie Coalfield, and have made an inspection of the principal mines in the Phillips River Goldfield.

"This work has entailed inspections at Waroonga, Lawlers, Maninga Marley, Sandstone, Hancock's, Youanme, Curran's, Berrigrin, Montague, Collie, and Ravensthorpe.

"The number of miles travelled was 2,434; mines inspected underground were 23, and nine inspections at surface only. Six inquiries were made into the causes of accidents. Against one mine manager I laid a complaint of breach of Section 43 of 'The Mines Regulation Act, 1906,' and obtained a conviction carrying a fine of 20s. and costs, or 36s. in all."

MINING ACCIDENTS.

Herewith are submitted tabulated statements of the mining accidents for the year ended 31st December, 1911, for the customary tables Nos. 26, 27, and 28 of your Annual Report, with the totals of the previous year for comparison, and also a diagram of the fatal accidents year by year and their causes. As in last year's report, the accidents tabulated in these returns are now restricted entirely to such as have happened to persons engaged in the occupation of mining, and which have been a result of their occupation.

The following statement, however, shows also the total number of fatal accidents recorded as having happened on mines, whether to persons employed on the mines or not, for the last five years:—

	1907.	1908.	1909.	1910.	1911.
Total fatal accidents on mines reported	46	41	37	34	44
Less accidents to persons not engaged in mining, deaths in mines due to natural causes, and accidents to persons which were not due to their occupation as miners ...	3	1	3	5	7
Fatal accidents to men engaged in mining	43	40	34	29	37
Total men engaged in mining (average)	19,113	17,266	18,336	17,711	16,596
Accident death rate, per 1,000 men engaged in mining ...	2·25	2·32	1·85	1·64	2·23

Table 26 shows that 37 persons were killed and 528 seriously injured by mining accidents during 1911, as against 29 killed and 587 injured in 1910. It also shows the distribution of the accidents in the various gold and mineral fields, and the classification of the accidents according to causes. The diagram shows graphically the totals of fatal accidents year by year since 1894.

In Table 27 the rate of deaths from accidents per 1,000 persons employed in mines is shown for the different sorts of mines, and for surface and underground workings, and the general average rate is seen to be 2.23 for 1911 as against 1.64 for 1910. The rates per 1,000 are based upon the figures in your Table 21, which gives a grand total for 1911 of 16,596 men employed at mines, above and underground, inclusive of the alluvial gold workers.

Table 28 gives a summary for 1911 of the fatal accidents above and below ground in gold mines only, with rates per 1,000 men employed, and per 1,000 tons of ore raised, and with similar figures of 1910 for comparison. The number of men on which these rates are based are taken from your Table No. 23, and do not include alluvial workers.

Hereunder is attached a general table classifying the fatal and serious accidents during 1911 according to the gold or mineral field in which they happened, and also according to causes, the totals from each cause for 1910 being given for comparison:—

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	...	7	8	26	4	8	2	232	1	76	2	21	17	370
2. Mt. Margaret	...	5	2	2	6	14	1	14	...	12	1	6	10	53
3. Murchison	1	...	...	3	...	4	...	4	...	9	...	2	1	22
4. E. Murchison	...	...	...	3	...	3	...	1	...	...	1	1	1	8
5. Coolgardie	...	...	..	..	..	1	...	1	...	1	...	1	...	4
6. Yilgarn...	...	1	...	...	2	2	...	1	...	3	...	...	2	7
7. N. Coolgardie	1	1	...	1	...	..	...	1	2	1	...	1	3	5
8. N.E. Coolgardie	...	...	1	...	...	...	...	1	...	...	...	...	1	1
9. Broad Arrow	...	...	...	1	...	...	...	1	...	...	...	...	...	2
10. Dundas	...	...	...	...	...	...	...	...	...	..	...	1	...	1
11. Pilbara	...	...	1	...	...	...	...	...	...	...	...	...	1	...
12. Peak Hill	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13. Yalgoo	...	...	...	...	...	...	...	...	...	...	...	..	..	...
14. Phillips River...	...	...	...	...	...	..	...	...	...	1	...	...	...	1
15. Collie	...	1	...	4	...	...	...	35	...	10	...	...	...	50
16. Greenbushes	...	...	...	1	...	...	...	...	1	...	...	...	1	1
17. Northampton	...	...	...	1	...	1	...	...	...	1	...	...	...	3
18. W. Pilbara	...	...	...	...	...	...	...	...	..	...	...	...	...	...
Total for 1911	2	15	12	42	12	33	3	291	4	114	4	33	37	528
Total for 1910	3	12	10	46	6	26	4	320	...	135	6	48	29	587

(The machinery accidents in the above table might properly be included in the "surface" class. They are such as have been caused by machinery in motion and boilers, and which come under "The Inspection of Machinery Act, 1906." They are usually dealt with by the Inspectors of Machinery, but have to be included as mining accidents under the Mines Regulation Act also. 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 defines "serious bodily injury" as such as is "likely to incapacitate the sufferer from work for at least 48 hours.")

As a measure of precaution in case they might prove serious, there have also been reported to the Inspectors of Mines a large number of slight accidents, which were found subsequently not to prevent the sufferer from returning to his work within 14 days, and therefore were not tabulated as "serious." Only a proportion of such accidents are reported, there being no obligation upon managers and owners of mines to do so unless the injury is "serious," and no real significance therefore attaches to citation of the figures.

Fatal Accidents.

A brief account of each of the fatal accidents reported to this office during the year 1911 is given hereunder:—

Explosions.

An accident which terminated fatally occurred at the Gladsome G.M., Cometvale. Two men were engaged in a rise drilling a hole, when there was a loud explosion which blew one of the men down the rise, inflicting fatal injuries, while the other fortunately escaped with cuts and bruises about the head and shoulders. The accident seems most probably to have been caused by the men boring into an old hole in which some explosive had remained unfired, but no direct evidence on the cause was obtainable afterwards. The coroner's jury found that deceased came by his death accidentally, and that no blame was attachable to anyone. (974/11.)

A fatal accident occurred at the Bon Accord lease at Meekatharra. The man killed, when last seen alive by the manager of the mine, was boring holes for blasting, and it is surmised as the most likely explanation of the accident that while working down the loose ground after firing he picked into a charge

which had missed fire, and so caused the explosion which killed him. As in many other cases of accidents through explosions no direct evidence of the cause could be obtained after the event. (1381/11.)

In Shafts.

Two men were ascending the shaft of the Oroya Links on a tank when they heard something falling down, and looking up to see what was the matter, one allowed his head to project so that it was caught under one of the sets of timber of the shaft. Death was instantaneous. The coroner's jury found that deceased came by his death accidentally. (278/11.)

A fatal accident occurred at the Kalgurli gold mine, Boulder, through a miner falling down the shaft. Having been lowered to the 1,650 feet level he got out on the wrong side of the cage and fell down the adjoining compartment on to the pent-house, about 200 feet below, meeting with instantaneous death. The coroner's jury returned a verdict of accidental death through evidently mistaking the compartment he was riding in. (508/11.)

At the Bullfrog lease, situated in the Bullfinch district, a man met his death while climbing up a ladder in a small prospecting shaft, about 37 feet deep; when about 15 feet up he fell and broke his back. (796/11.)

Two men who were firing shots near the shaft when opening up the No. 4 level of the Mountain Queen gold mine at Marvel Loch became affected by the fumes from their previous firing, and signalled to be hauled up in the bucket to a higher level. When nearing the No. 3 plat one was noticed by his mate to be relaxing his hold on the rope, but when questioned said he was all right; almost immediately afterwards, however, he fell out of the bucket to the bottom of the shaft, where he was picked up dead. The coroner's jury returned a verdict of accidental death. (3349/11.)

A trucker was the victim of a fatal accident at the Great Boulder Proprietary Gold Mine, Boulder, while working in the Hamilton shaft at the 1,350 feet level. While handling a truck in the plat, deceased slipped on the flat-sheet and fell down the shaft, a distance of 450 feet. The coroner's jury brought in a verdict of accidental death. (2578/11.)

A miner, while descending a ladder at the Gwalia Central mine in some way slipped, fell to the bottom of the shaft, and was killed instantly. The coroner's jury returned a verdict of accidental death, without blame attachable to anyone. (3160/11.)

An elderly man while descending the shaft of the Sons of Gwalia gold mine, on reaching his plat got out of the skip on to the central bearer between the two hauling compartments instead of stepping on to the plat. There was a handrail between the compartments of which he was seen to take hold, and then he obtained a light from the skipman, but in turning to the plat he must have let go his hold of the handrail, overbalanced, or become giddy, for he fell under the rail into the north compartment and was killed. The coroner's jury returned a verdict of accidental death, without blame attachable to anyone, but recommended that an extra light be placed at the edge of the plats. (4160/11.)

A dreadful disaster occurred at the Sons of Gwalia gold mine on May 22nd through a skip loaded with ten men getting beyond control of the winding-engine driver and rushing violently down to the bottom of the main inclined shaft. One man was killed outright, another died the same day, and a third the day following, while a fourth succumbed to his injuries six months later. The six remaining men were all more or less seriously injured, and in addition two men on the surface were slightly injured by the rope as it was torn off the drum and flew over the poppet wheels. The accident was due to the brake on the drum from which the skip depended failing to prevent it from revolving, even though screwed up till the brake blocks went on fire. It was contrary to the practice of the mine for men to be in the skip when the corresponding drum was unclutched from the engine, but there seems to have been some unfortunate misunderstanding by the engine-driver. The other skip down the shaft had by an error not been pulled up quite to its plat, and in order to adjust it for further winding the driver put the drums into single gear, leaving the surface skip depending entirely on the brake. The latter failed to hold, and the skip ran away. A rigid inquiry was held by the coroner, but no blame was laid upon any person in particular for the accident. (2073/11.)

An accident occurred at the South Kalgurli gold mine, Kalgoorlie, resulting in the death of one man and inflicting serious injury to another. The men were ascending in a cage, and when they reached the 1,600 feet level a mass of stone crashed through the roof of the cage, instantly killing deceased. From the evidence it would appear that the accident was caused by the door of the ore bin at the 1,200 feet level having been left open to the shaft, and when a trucker, believing it to be ready to receive ore, emptied a truck load of stone into the bin the rock passed right through the shoot of the bin into the shaft. The coroner's jury returned a verdict of accidental death, no blame attachable to anyone, but it is obvious that such an accident could not occur without a grave omission on someone's part in neglecting to close the door of the ore bin. (4199/11.)

Falls of Ground.

At the Lancefield gold mine, Laverton, while a man was engaged in barring down loose ground after firing, a piece of stone, weighing about 30lbs., fell upon him knocking him down and inflicting severe injuries, which resulted in death four days later. The Inspector of Mines considered that every precaution was taken to guard against accident. The coroner's jury returned a verdict of accidental death, with no blame attachable to anyone. (528/11.)

While a miner was sounding the wall at the Lily Australis lease of the North White Feather gold mines at Kanowna, about half a ton of ground fell on him and inflicted injuries from which he died next day. From the evidence at the inquest it appears that just before the men went to crib a hole had been fired which must have loosened the ground and left it just ready to fall when deceased tapped it. The coroner's jury returned a verdict of accidental death, with no blame attachable to anyone. (1112/11.)

A deplorable accident through falling ground occurred at the Golden Horseshoe gold mine, Kalgoorlie, by which one man was fatally injured, another seriously hurt, while a third escaped with minor injuries. The three men were working in a stope at the 1,600 feet level, where they had just rigged a drill on a stage, when a large piece of rock came away from the side and striking the stage fell on the men. The coroner's jury gave a verdict of accidental death. (975/11.)

At the Golden Horseshoe gold mine, Boulder, while two men were engaged shovelling into a shoot on the No. 10 level, a piece of rock, weighing between three and four tons, came away from the side of the stope, killing one of the men and slightly injuring the other. The coroner's jury brought in a verdict of accidental death, without blame attachable to anyone. (1995/11.)

Two men were killed by a fall of earth at the Eclipse gold mine, Kalgoorlie. On the previous shift stope holes had been fired out, which loosened the ground along the hanging wall. The deceased were warned that the ground was dangerous, but after examining the wall they decided to blast it down, and while in the act of doing so a fall occurred, killing them both. The coroner's jury gave a verdict of accidental death, without blame attachable to anyone. (2196/11.)

At the Sons of Gwalia mine, Leonora, a shoveller, on being told by the machine men to go to a safe place while they worked down some loose ground, went to the south end of the stope, about 25 feet away from them and sat down to wait. Some rock broke away from the back just over his head and fell, pinning him to the floor and causing his death. The ground where the fall occurred had been examined previously, and was considered safe—no cracks or openings showing. At the coroner's inquest the jury gave a verdict of accidental death, no blame attachable to anyone. (2716/11.)

At the Great Boulder Proprietary mine, Boulder, a fatal accident occurred through a fall of ground. Two men returned after firing in a stope and worked down loose ground, and had just cleared the top of their pass when they heard a crack and tried to get to a place of safety; but a rock fell and struck one of them, killing him instantaneously. Every precaution seems to have been taken, and the men waited half an hour after firing before returning to work down the ground. The verdict arrived at by the coroner's jury was accidental death. (2721/11.)

A death from a fall of ground occurred at the Golden Dream gold mine, Kalgoorlie. A miner returned after firing to work down loose ground, and while in the act of doing so a fall occurred, which killed him instantly. The coroner's jury returned a verdict of accidental death, without blame attributable to anyone. (3136/11.)

A fall of earth was responsible for one man's death at the Golden Horseshoe gold mine, Kalgoorlie. Deceased at the time was shovelling loose ground away from a rock in order to sand-blast it when a large stone fell and struck him, killing him instantly. The coroner's jury gave a verdict of accidental death, no blame attachable to anybody. (3234/11.)

A man working in the Shamrock mine at Eastern Creek was fatally injured by the fall upon him from the hanging wall of a mass of rock of about two tons in weight. The accident was investigated by the coroner, and the jury found that death was the result of an accident, without attributing blame to anyone. (3895/11.)

A fatal accident, which resulted in the death of one man, took place at the Oroya Links mine, Kalgoorlie. The deceased was one of a party of tributers working at No. 6 shaft. Four holes had been fired, and after the smoke cleared (about half an hour) the men returned and started to work down loose ground. Deceased was clearing the broken material away with a shovel when a fall of mullock occurred which knocked him down and caused his death. The ground fell from a soapy head which could not be seen before the fall occurred. The coroner's jury returned a verdict of accidental death, without blame attachable to anyone. (4581/11.)

Miscellaneous Underground.

An accident, involving the death of one miner and serious injuries to another man, occurred at the Chaffers gold mine, Kalgoorlie. The deceased and his mate were engaged sampling the back of the stope at the No. 8 level when the stage on which they were standing collapsed, and both men fell to the ground, the deceased meeting with instantaneous death. The coroner's jury returned a verdict of death through collapse of staging through some unforeseen cause, no blame attachable to anyone. (4131/11.)

At the Great Boulder Proprietary mine, Boulder, a shoveller received fatal injuries through the mullock filling in the slope running from beneath him and carrying him with it. The collapse of the filling was due to the logging of a pass having been worn through, allowing the mullock to run out through the pass, and there was insufficient care exercised to have the pass repaired at once as soon as its faulty condition was observed. The coroner's jury returned a verdict of accidental death, but added a rider that all ore passes should be examined at reasonable intervals of time, and more strict supervision exercised in this respect in future. (3261/12.)

A fatal accident occurred at the Sons of Gwalia Gold Mine, Leonora, through a small piece of rock becoming dislodged and rolling down the rill, carrying a man with it. He succumbed to his injuries two days later. The coroner's jury returned a verdict of accidental death. (4636/11.)

Surface.

A fatal accident at the Champion gold mine, Kookynie, occurred through a man who was trucking ore from the brace to the battery bins on an elevated tramline slipping and falling under the handrail to the ground beneath. The only recommendation made by the coroner's jury to ensure greater safety was that an extra light be placed at the tip, which has since been done. A verdict of accidental death was recorded. (888/11.)

An accident, for which no satisfactory explanation has been found, occurred in the mill of the Ivanhoe gold mine, Boulder. Deceased when last seen alive, about 10 o'clock p.m., was standing at his working place near the feeder at the ore bin and spoke to the shift boss to tell him that the bin was empty. The conveyor belt was stopped very soon afterwards and not set going again till next morning. In the morning the man's body, terribly crushed, was found in the mill room at some distance from his station at the ore bin lying on a platform beneath the belt conveyor. He would seem to have been carried in some way by the conveyor belt and crushed against the timbers over it, but how he got to be upon it is a mystery. The coroner's jury's verdict was accidental death: no evidence to show how deceased came upon the belt. (464/11.)

At Floyd's Gully Sluicing Claim, Greenbushes, a fatal accident occurred to the manager while working on an elevated footway beside a shoot which carries coarse gravel to the Chilian mill. He was using a pipe tongs to unscrew a tap, but as he put his weight upon it he slipped and fell through under the guard-rail on to the ground beneath, a distance of 30 feet, sustaining injuries from which he died two hours later. The coroner's jury returned a verdict of accidental death. (1924/11.)

A lad, attending to the vacuum filter press at the Menzies Milling Syndicate's works, met with a very serious accident, which resulted in his death two months later. As no one witnessed the accident it is not known for certain how it came about, and it can only be surmised that the lad placed a ladder against the tank, and when acsending it either overbalanced himself or else the ladder slipped and precipitated him to the ground. The coroner's jury gave a verdict of accidental death. (2033/11.)

A fatal accident from electric shock occurred at the Ivanhoe gold mine, Kalgoorlie. A man was at work at the back of the battery making some repairs, and while fixing a bolt had occasion to use a spanner to lever the head of the bolt outwards. The spanner came in contact with an uncovered "ceiling rose" of the electric lighting circuit, and as the man was standing on damp ground a current passed through his body with fatal results. Everything possible was done to restore animation but without success. Previous to the accident the probability of anyone receiving a shock through touching the rose was not thought sufficient to necessitate its being protected, but the accident shows that no possibility can afford to be overlooked. (2499/11.)

At the Lancefield gold mine, Laverton, an accident occurred through the breaking of the driving belt of a rockbreaker and consequent tearing away of a stage over which a man happened to be crossing, causing him to be precipitated to the ground and fatally injured. The Inspector of Machinery considered that every reasonable precaution had been taken to prevent accident, and the coroner's jury brought in a verdict of accidental death, without blame attachable to anyone. (3135/11.)

At the Great Boulder Proprietary Coy's. mill, Boulder, a bad accident occurred through the fall of an iron pulley and piece of shafting upon a man who was working under it. The pulley was on a projecting end of the shaft, and the projecting portion was being cut off close to the bearing by a fitter who was sawing through the shaft. Tackle had been sent for to sling the pulley so as to support it when the shaft was cut through, but the cutting was carried too far before this precaution was taken, and the unsawn portion of the shaft suddenly broke, allowing the pulley to fall. The injured man died six days later. The coroner's jury found that the assistant manager of the mine and the fitter were guilty of negligence in not sooner slinging the pulley, and a charge of manslaughter was laid, but was dismissed by the resident magistrate. There was obviously a bad error of judgment on someone's part. (3621/11.)

At the Youanmi gold mines while a man was occupied making repairs to the port bars of the low pressure cylinder of the cross compound Rand air compressor he was severely scalded by a rush of steam and boiling water from out of the exhaust passage. This was due to a leaky valve on a steam pipe to a pump formerly used to circulate jacket water, which allowed a little steam to leak into water standing in the exhaust pipe, causing it to boil, and from time to time to be forced out. The accident was quite unforeseen and unexpected, though easily explained after the event. The injured man died in the Sandstone hospital, the immediate cause of death being given as ulceration of the intestines. (732/12.)

Deaths in Mines recorded but not included in Statistics of Mining Accidents.

Seven deaths were reported during 1911 as happening in or about mines, which on inquiry were found not to be true mining accidents, *i.e.*, accidents to miners in pursuance of their calling, and although recorded in the Register of Accidents have not been included in the compilation of the statistical tables.

The following are brief particulars of these cases:—

A lad, while bathing with some other lads on the old Brownhill gold mine, Boulder, in a vat from which the protecting wire covering had been illegally removed by some person or persons unknown, slipped from the side to which he was holding and fell back into the water, which was about 5ft. 5in. deep. His companions being unable to swim became frightened and there appears to have been undue delay in their calling for help, and the lad was drowned before assistance came. The coroner's jury found a verdict of death by accidental drowning. (4132/11.)

The body of a man for whom the police were looking was found in the shaft of the Brownhill Extended gold mine, Boulder. From the evidence adduced at the inquest, it would appear that deceased left his friend's house on Sunday morning to go for a walk, after which nothing further was known of him till his body was found floating in the water. The shaft was well protected. The jury found that the man "met his death from shock, according to medical testimony, caused by injuries received through falling down a shaft on the Brown Hill lease." (4220/11.)

At the Golden Horseshoe gold mine, Boulder, when the day-shift men were proceeding to their work, a man, who had been on night shift, was found in a drive in an unconscious condition. He was brought to the surface and sent to the hospital, where he expired; the doctor stated death was due to a fit brought on through diseased kidneys. (1168/11.)

About the middle of the year the skeleton of a woman was found in a stope at the Cygnet lease, Brown Hill gold mine, Boulder. The coroner's jury returned a verdict to the effect that death was due to injuries received by falling, or being thrown, down the mine, there being no evidence to show how injuries were received, or how the woman got into the stope. (2448/11.)

A very sad fatal accident occurred at the Golden Pole gold mine, Davyhurst, whereby two young boys met their death. They broke into a powder magazine and spilled and set fire to a quantity of blasting powder, sustaining very severe burns in consequence, by which one was killed instantaneously, while the other succumbed to his injuries in the course of three hours. The magazine was securely locked and thought to be safe against unlawful entry, but the boys appear to have attacked it with great determination, using a hammer to smash the lock to pieces. (3549/11.)

While a set of shear-legs was being removed at the Lady Miller gold mine, Norseman, a guy slipped and the legs fell. Three boys were sitting near by watching the proceedings, and one was struck by a swinging chain block and killed instantaneously. The boys had repeatedly been warned off the ground, but on the day in question their presence had not been noticed by anyone till the accident took place. The coroner's jury returned a verdict of accidental death, no blame attachable to anyone. (12/12.)

Serious Accidents.

All accidents inflicting injuries which prevent the sufferer returning to his work within 14 days are classified as "serious" in accordance with the definition in Section 26 of the Mines Regulation Act, 1906, although many of them could not be considered such in the common acceptation of the term.

Of 370 serious accidents reported for the year 1911 in the East Coolgardie Goldfield only 32 were cases of breakage of the larger bones, permanent injury to eyes or limbs, or injuries likely to have lasting disabling effects. The others comprised a great variety of hurts of less serious description such as bruises, cuts, broken and crushed fingers and toes, scalds, burns, jarred hands, poisoned cuts, shocks, smaller dislocations, strains, wrenches, etc., sufficient to cause the sufferer to be off work for fourteen days or more, but mostly not causing any permanent disablement.

Explosions and Explosives.

During 1911 fifteen persons received injuries recorded as "serious" from explosions. Four men were injured by premature explosions, three through boring into holes in which, unknown to them, some explosive remained from a previous firing, while two men received injuries through an explosion while "bulling" holes in a stope. Two were injured through detonators exploding and four men were struck by stones from explosions.

Falls of Ground.

During the year forty-two men were more or less seriously injured by falls of ground. In eight instances the injuries were received while the men were engaged in the dangerous but necessary work of taking down loose ground after firing. In one instance the accident was due to the injured man firing too near the hanging wall although warned not to do so, and in another to working under known bad ground. The majority of instances, however, were purely accidental mishaps, unpreventable by exercise of ordinary skill and care, and of a sort inseparable from mining.

In Shafts.

Thirty-three persons were seriously injured in shafts. Two of the accidents happened to men while ascending shafts by means of the ladderways, one from the man slipping and the other through his stepping on to a runner while standing aside to allow others to pass. One man while descending the shaft in the cage allowed his elbow to project, with the result that it struck the shaft timbers; another man placed his hand beween the centres to feel for a bolt hole when a descending cage struck his hand. While a man was working in the main shaft his hand became caught between two kibbles. Another man sustained serious injuries through the knocker line breaking and striking him in falling. Two men were hurt through an ascending tank (which for the moment they had forgotten about) striking them whilst they were inspecting the timbers between the tank and skip shafts. The toe of a man's boot catching under a roller derailed the skip and threw him out, when the skip passed over him. In another case a man became nervous on account of the skip going down past the level at which he expected it to stop and jumped off while travelling at a fast speed. Four men were struck by stones falling down shafts. One accident was due to the cage bumping the bottom of the shaft, while in another two men were injured through the cage striking chairs which had inadvertently been left in the shaft. Two men fell down shafts, one through stepping out of the cage before it was stationary, another through the cage starting away before he was properly in. Six men were struck by buckets whilst working in shafts. In the accident at the Sons of Gwalia mine previously referred to as having caused the deaths of four men, there were also eight men who received serious injuries through the skip running away down the shaft owing to the brakes failing to hold the winding drum when it was thrown out of gear by the engine-driver.

Miscellaneous Underground.

Two hundred and ninety-one persons were injured by miscellaneous mishaps underground. In sixty-six cases the injuries were received while handling and loading skips and 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, large stones moving in trucks and injuring hands, and so on, the injuries being mostly wrenches, sprains, bruises, fractures of the fingers, and cuts. In sixty-two cases the injuries were caused through falling and rolling loose rocks and stones, such as runs of ore and mullock, while shovelling, or stones running down rills and ore-shoots; and twelve men received severe cuts while handling sharp stones. Thirty-nine men were injured handling rock-drills and coal-cutting machines and parts of same, and seven by the stages on which machines were erected collapsing. Other falls in the workings from stages or ladders in rills, and passes, and so on, caused injury to twenty-four persons, and fourteen were hurt by falling tools and pieces of machinery. Flying splinters of stone and steel were responsible for twenty-seven men being injured, while seven were hurt handling timber. The remaining thirty-three cases were due to various accidental causes—jarring of hands, blows from tools, strains, and so on. Several of these could have been avoided had a little more care been exercised on the part of the injured persons, but the majority must be regarded as purely accidental mishaps.

Surface (including Machinery).

In and about the surface workings of mines one hundred and forty-seven accidents occurred during 1911 from various causes. Two men were scalded by hot water and six burnt in various ways. Twenty-six persons sustained injuries from falls caused by missing their footing, slipping, and over-balancing. Twenty-two men were hurt by trucks and skips; by being jammed or struck by them; by them capsizing, or by the men sustaining strains while working them. Flying splinters injured three men, and two got their hands jarred. Falls of timber and pieces of machinery while being handled accounted for thirteen cases of injury. Thirty-three were caused by machinery in motion, eight of these being caused by handling belts in motion. Twelve men were hurt while handling timber. Other causes of twenty-eight accidents were strains from lifting heavy weights, tools slipping and inflicting cuts and bruises, and so on. Most of them were mishaps of an accidental character, the only way of preventing which is the exercise of greater care and forethought on the part of the workmen,

and were not from causes which could be effectively dealt with by restrictive regulations, with perhaps the exception of those due to handling belts in motion.

Winding Machinery Accidents.

The accidents involving injuries to persons which were due to the winding machinery employed in mines during the year have already been noted, but in addition to these there have been several reported to the Inspectors of Mines and Machinery in accordance with Regulation 11 under "The Mines Regulation Act, 1906," which fortunately were attended with no injury to men though some of them caused some damage to property. As such accidents are from their nature very liable to cause injuries to persons it is very necessary that they should be carefully investigated, so that means may be devised of preventing any recurrence of similar ones.

Overwinding.

(1.) A bailing tank was overwound, owing to unduly rapid work necessitated by a heavy inflow of water. The sheave was broken, but the detaching hooks and safety catches saved the tank from falling.

(2.) In the same mine as No. 1 an exactly similar accident occurred nine days later, with the same results.

(3.) An engine-driver under the influence of liquor allowed one of his bailing tanks to be carried up to the sheave, breaking it and knocking the tank out of shape. The tank ran down the shaft and caused considerable damage to the runners and wall plates. The driver was prosecuted and fined.

(4.) Overwind allowed to occur, but no damage resulted, the detaching hooks and safety catches acting well.

(5.) The bailing tank referred to in Nos. 1 and 2 above was overwound a third time, but was again held by the safety hooks and catches without damage except that the released rope broke the rim of the sheave.

(6.) When changing gears a driver unthinkingly pulled the north cage to the sheave. The detaching hook acted and prevented damage.

(7.) The skip in an inclined shaft was pulled up a little too far so as to strike the sheave, but no damage resulted.

(8.) Through drunkenness an engine-driver allowed a bailing tank to be overwound, but the detaching hooks acted well and there was no damage done. The man was prosecuted and fined.

(9.) A driver was intently watching the indicator of his south drum to see a mark which was somewhat faint, and failed to notice that of the north drum. The mark escaped his notice and the north skip was hung up on the detaching hooks without further damage resulting. The overwinding prevention gear had been temporarily disconnected because the ropes were newly put on and were stretching so much that the gear required too frequent re-adjustment.

(10.) An overwind was allowed to occur by a driver through his letting his attention wander from his moving engine while he lighted his pipe. The skip was hung up by the safety appliances. The driver was discharged from the mine and the accident noted by the Board of Examiners.

Falls of Cage or Skip—(A) *Through rope breaking,* (B) *Through mishaps to winding engine,* (C) *From other causes.*

(A.)

(11.) While hauling ore a winding rope broke away at the base of the socket of the shoe, the wires parting where they were turned back over the copper binding wires previous to filling the socket with white metal. The safety catches acted well and no damage was done to the shaft.

(12.) While winding ore a breakage of the rope allowed the skip to fall. The safety grippers acted to some extent but broke after ploughing into the guides for a time without stopping the fall. The skip fell from about the 800 feet level to the 2,000 feet and was smashed.

(13.) The breaking of the winding rope while bailing water caused a slight accident at one of the smaller mines without serious damage.

(B.)

(14.) Through the breaking of the clutch of the winding engine a bailing tank ran away and fell to the bottom of the shaft.

(15.) Owing to the driver neglecting to tighten his clutch it became loose and worked out, allowing the loaded cage to run to the bottom of the shaft, but without doing much damage.

(16.) A loaded skip in an inclined shaft left the rails at about No. 3 level but was dragged up to surface, where it fell from the brace, doing some damage to the headgear.

(17.) In another inclined shaft a slight accident was occasioned by an empty truck being allowed to run down the shaft.

(C.)

(18.) While a loaded skip weighing four tons was being hauled to surface, the side-straps of the skip, which were estimated to have a breaking strain of 42 tons, broke and allowed it to fall a distance of 2,344 feet. It fell upon a pent house, which withstood the shock with very little damage.

Accidents to Winding Engines.

(19.) Flange of winding drum found to be fractured.

(20.) Flange of right drum broke and allowed drum to spread.

(21.) Spokes of south drum on clutch side found to be cracked, but cause not known.

Accident to Rope.

(22.) Owing to cage becoming hung up the slack rope formed a loop and was so injured when pulled up that 120 feet had to be cut off.

Accidents to Shaft.

(23.) Forty feet of skids pulled out by skip.

(24.) Sixty feet of skids pulled out by skip.

Another shaft accident has already been included among those attended with injury to persons, but may be mentioned usefully here again. A chair in a shaft came out from its locked back position owing to a bolt working loose and falling out, and was struck by a descending cage, causing shock and bruises to a man who was in it. Chairs of a different pattern were afterwards put in, to prevent any similar accident.

Consideration of these accidents draws attention particularly to the need for much more common adoption, for all large winding engines, of devices to prevent over-winding. In Appendix No. 2 to this report particulars are given of several such devices which have lately been put upon the market, and which are well spoken of.

Another inference from the accident list is that while the safety detaching hooks and safety catches in use have been very efficient on the whole in preventing falls of cages or skips in cases of overwinding and breakage of the winding rope, the safety catches cannot be expected to act where the winding drums become detached from the operation of the engines, as when the clutch breaks or comes out. There is great need for safety catches which will come into action whenever the travelling speed of the cage or skip becomes excessive. Catches released by means of some sort of governor seem most likely to meet the case so far as inclined shafts are concerned, and possibly might serve also for vertical shafts as the fall of the cage is not free but it usually impeded to such extent as can be effected by the brakes on the winding drum. In this connection attention might again be drawn to Dean's device, described in my report of 1904, which seems to deserve extended practical trials.

PROSECUTIONS FOR BREACHES OF THE MINES REGULATION ACTS AND REGULATIONS.

(1.) A mine manager was prosecuted (*a*) for breach of Regulation II. in failing to report an accident to winding machinery, and (*b*) for breach of Section 26 of "The Mines Regulation Act, 1906," in not reporting an accident attended with serious injury to a person. He was fined 5s. on each charge, as a warning, with costs 6s. (3960/04.)

(2.) A mine manager charged (*a*) with breach of Section 29 of "The Mines Regulation Act, 1906," in allowing the scene of an accident to be interfered with before it had been examined by the inspector, and (*b*) with employing four men in the mine on Sunday, contrary to Section 43 of the Act, was fined 5s. and £1 with costs £1 7s. (3960/04.)

(3.) An engine-driver who through negligence due to use of intoxicating liquors, committed a breach of Section 57 of the Mines Regulation Act, was fined 5s. and costs £2 15s. 6d., the Court taking into account that the offender had been put to considerable expense to attend the Court. (3415/11.)

(4.) A case against a mine owner for removing ladders from an abandoned shaft, contrary to Section 51 of the Mines Regulation Act, was dismissed by the magistrate without costs on account of failure of the prosecution to prove the actual removal, although the ladders in accused's possession were sworn to as being those formerly in the abandoned mine. (4452/10.)

(5.) A coal filler was prosecuted for breach of Special Rule No. 45 by wantonly setting fire to a fuse so as to cause impediment to the ventilation of the mine. He was fined 12s. 6d. with costs £1 7s. 6d., or in default 14 days' imprisonment. (3149/11.)

(6.) A coal miner was charged with breach of Special Rule No. 24 by neglecting to report a misfire and to erect a danger signal. He was fined £2 and costs 8s., or in default two months' imprisonment. (3651/11.)

(7.) An engine-driver who, through intoxication, caused serious injury to the bailing tank and shaft by overwinding, was found guilty of negligence under Section 57 of the Mines Regulation Act and fined £7 10s., with costs £7 19s. (1283/11.)

(8.) A mine manager was fined £1 and costs 2s. for breach of Section 43 of the Mines Regulation Act by employing men in the mine on Sundays. (1585/06.)

(9.) A mine manager, charged with breach of Section 42 of the Mines Regulation Act through employing a man unable to speak the English language, was fined £5 and costs £4 3s. 6d. (1079/11.)

(10.) The manager of a large mine had three charges brought against him of breach of Section 42 of the Act by employment of foreigners unable to speak English, and was fined on each charge £10 and costs £2 15s. (3960/04.)

(11 and 12.) On similar charges to No. 2 the managers of two large mines were fined £10 and costs £2 16s., and £10 and costs 9s., respectively. (3025/11 and 3960/04.)

(13.) Four charges of endangering the safety of men by not enforcing the general rules relating to giving warning when blasting were brought against a mine manager as the responsible person in charge of the work in the mine, and he was fined £5 and costs 15s. on each charge. (3829/11.)

(14.) A manager was fined £1 and costs for breach of Section 38 of the Mines Regulation Act in employing an engine-driver for more than eight hours at a stretch. (5413/10.)

(15.) A manager charged on two counts with employment of men underground on Sundays in contravention of Section 43 of the Mines Regulation Act, was fined £1 and costs on each charge. (528/11.)

(16.) For employing aliens in a mine who were unable to speak the English language, in contravention of Section 42 of the Mines Regulation Act, the mine manager was fined £2 and costs. (528/11.)

(17.) On a similar charge to the last mentioned another manager was fined £5 and costs. (1079/11.)

(18.) For breach of Section 29 of the Mines Regulation Act in allowing the scene of a fatal accident to be interfered with before the arrival of an inspector, a manager was fined £2 and costs. (3135/11.)

(19.) On two charges of employing aliens unable to speak English a manager was fined £5 and costs for each offence against Section 42 of the Mines Regulation Act. (1881/10.)

(20.) A mine manager was prosecuted for employing men on Sunday contrary to Section 44 of the Mines Regulation Act, 1906, and fined £1 with costs 16s. 8d. (5109/10.)

(21.) Proceedings were taken against a mine manager for failing to maintain the working places in the mine in a safe condition, under General Rule 9 of Section 32 of the Mines Regulation Act, 1906. He was fined £25 with costs £2 4s. (2301/11.)

EXEMPTIONS FROM SECTION 31, SUB-SECTION 4, OF THE MINES REGULATION ACT, 1906.

Thirteen certificates of exemption were granted to uncertificated men to take charge of the machinery on small mines where certificated drivers have not been available, after the Inspectors of Mines for the districts had examined the applicants in the use of the machinery in question, and found them well able

to handle it. These exemptions, however, strictly forbid the raising or lowering of men by the machinery exempted under any circumstances, and a rule has been made that no renewal of the certificate can be obtained unless the applicant makes a *bona fide* attempt to pass the engine-drivers' examination before applying for it. These exemptions have proved very useful in the case of many small struggling mines.

SUNDAY LABOUR.

There have been only a few cases during the year of Permits being granted to managers of mines to allow of the employment of men on Sundays, and in each case the Inspector of Mines, before issuing them, has assured himself that the permit was necessary to enable the work of the mine to be carried on. In two instances mine managers were prosecuted for employing men on Sunday without first obtaining the consent of the Inspector of Mines.

SPECIAL INSPECTION OF KALGOORLIE MINES.

Owing to there having been many complaints as to the large number of accidents occurring in some of the large Kalgoorlie mines through falls of ground, and deductions popularly drawn therefrom that the methods of working must be defective, a special inspection of three of these mines was ordered to be made in September, 1911, by Messrs. Crabb and Greenard, Inspectors of Mines for the Coolgardie and North Coolgardie fields, with the object of having an independent inspection, and obtaining suggestions for improvements in the stoping methods which might conduce to greater safety of the workmen. The inspectors discussed the subject fully with Messrs. Hudson and Deeble, the inspectors in charge of the district, and in making the underground inspections invited representatives of the Federated Miners' Union to accompany them. After close investigation, however, their report did not disclose any serious fault in the mining practices, or make any notable suggestions for improvements therein, which was satisfactory in so far as it showed that they could see little or nothing to condemn or amend. Despite the accidents which have occurred it does not appear that the stoping methods in use are other than the best which human ingenuity and skill have yet been able to devise in the circumstances of the case, a conclusion which receives support from the fact that coroners' juries charged with making inquiry into such accidental deaths have rarely found reason to attach blame to any person. In Inspector Deeble's annual report previously quoted, some reasons are put forward to explain the treacherous nature of some of the apparently hard ground in certain of the mines, but whatever may be the reasons for the frequent falls of rock there seems no feasible way of securing the ground so as entirely to prevent evil consequences, and incessant care and watchfulness are the only safeguard. The filling of the stopes as closely up to the backs as can be done consistently with room to work has long been insisted upon, and there does not appear to be much more that can be done practically in this respect.

MEN WORKING UNDER ROCK-DRILL STAGES.

In some of the Boulder mines it has been rather a usual practice to send shovellers to remove broken ore from beneath stages on which rock-drills are at work, but objection having been made on behalf of the workmen to this method of working, the matter was inquired into by the Inspectors of Mines for the district, who thereupon gave notice to the mines concerned, under Section 36 of the Mines Regulation Act, 1906, that in their opinion the practice was a dangerous one, and required that it be discontinued. The Chamber of Mines took up the matter, and a demand for an arbitration as provided for in Sections 36 and 37 of the Act was made by the Golden Horseshoe Estates, Ltd., this being the first case in which advantage has been taken of the arbitration provisions of the Act. Messrs. Thomas Butement and J. A. Agnew were appointed arbitrators on behalf of the Inspector of Mines and the Golden Horseshoe Estates, Ltd., respectively, with Mr. Walter, R.M., as umpire. After hearing evidence the arbitrators agreed that the practice in question was not so dangerous as to require to be forbidden if proper precautions were taken in closely planking the stages and keeping all loose drills and machine tools in a box when not being handled.

APPENDICES.

Particulars of the transactions under "The Mining Development Act, 1902," are fully given in Appendix No. 1 to this report.

Appendix No. 2.—Apparatus for control of overspeeding and over-winding in winding engines.

Appendix No. 3.—Cage junction platforms.

I have, etc.,

A. MONTGOMERY,

State Mining Engineer.

APPENDIX No. 1.

LOANS AND SUBSIDIES UNDER "THE MINING DEVELOPMENT ACT, 1902," AND THE MINING DEVELOPMENT VOTE: ACTION DURING 1911.

(No. in italics represents No. in last year's Report.)

(*a*) *Advances for Pioneer Mining and Prospecting.*

1. *Oversight G.M.L.* 957*Y*, *Bulong* (*1*).—A small sum was realised during 1911 from sale of tools and plant, and the balance of the outstanding loan written off as irrecoverable. (4598/06.)

2. *Sunbeam G.M.L.* 1121*X*, *Kanowna* (*2*).—Early in 1911 the winding engine was sold for £60, and later on an agreement was entered into with the Last Chance Coy. to hire the bailing tanks and cage, but they were not taken over. (4748/11.)

3. *Eclipse G.M.L.* 1047*X*, *Gindalbie* (*3*).—No satisfactory tenders being received for the mine and plant the lease was gazetted forfeited. Plant to the value of £98 was sold during 1911. (4718/07.)

4. *Rollo's Reward G.M. Coy., G.M.L.* 1214*X*, *Kanowna* (*4*).—Nothing has been done on this mine during the year, and in consequence no progress has been made with repayment of the advances. The venture may be regarded as defunct. (4258/07.)

5. *Westralia Tasmania G.M.L.* 1665*T*, and *Mt. Noungel G.M.L.* 1745*T*, *Erlistoun* (*6*).—In February as no payments were being made in reduction of the loan it was decided to require 15 per cent. of the gross value of gold produced to be devoted to that object. The owner struggled with the mine all through the year, but results became poorer and poorer, and in December he gave notice that he would have to abandon the undertaking. (2427/11.)

6. *Carbine South Syndicate, Ltd., G.M.L.* 7588, *Kunanalling* (*7*).—The mine has been under exemption for the greater part of the year and no work has been done on it. At the end of 1911 the Company were reconstructing so as to raise capital to further prospect and develop the leases. (2866/07.)

7. *Emily G.M.L.* 1804 (*formerly* 1741 *and* 1510, *Cuddingwarra* (*10*).—During 1911 no progress was made with this matter. The old party broke up and two of its members took up the ground again as a smaller lease (No. 1804) and applied for further assistance to provide pumping plant, but the Hon. the Minister could not see his way to granting further advances. In January, 1912, the lease was surrendered. (3166/09 and 2066/11.)

8. *Greenbushes Prospecting and Mining Company, Ltd., Greenbushes—South Cornwall M.L.* 300 (*11*).—The mine has been let on tribute to Phillips and party as from November 1st, 1910. To end of October the tin raised realised £1,264 10s. 4d. Rent and royalty to the amount of £57 3s. 4d. were paid by the tributers. (1932/10.)

9. *North End Mines, Ltd., Kalgoorlie, G.M.L.* 4037*E*, *etc., Devon Consols South Extended* (*12*).—Towards the end of 1910 the Bank of W.A., who had a first mortgage over their mine, realised their security, and there was no balance available to repay the Government advances. Mr. H. B. Rodway undertook to repay these, and during 1911 the leases have been mostly under exemption pending arrangements for renewed working. (3461/08.)

10. *Jupiter G.M.L.* 771*M*, *Mt. Magnet* (*14*).—In February application was made for forfeiture of the lease on account of its not being worked, and it was decided to foreclose the mortgage and realise on the security. The lease was forfeited and the ground reserved and tenders invited for the mine and machinery. In October the tender of Mr. S. J. Cash was accepted, on condition of his paying the ordinary rental for the lease and 6 per cent. of the produce towards extinction of the advances made on the mine by the Government. (2892/08.)

11. *Coolgardie Redemption G.M. Co. G.M.Ls.* 3918 *and* 4052, *Coolgardie* (*16*).—In March a two months' option was given Mr. G. E. Wheatley over the mine, but at the expiration of the time he was unable to form a company to work the lease. Tenders were called for tribute, the successful tenderer being Mr. J. Corney, to take over the whole of lease No. 3918 on tribute for a period of two years. During the year the portable engine and boiler were sold for £40, also some loose iron on the mine for 10s. The tribute agreement was drawn up, and signed on 29th November. Lease No. 4052 has been gazetted forfeited and the ground reserved. (3642/11.)

12. *Dreadnought South G.ML.* 5334*Z*, *Menzies* (*17*).—A bore was put down to a depth of 127 feet, when the Company disbanded without any result having been attained. Principal and interest due on these boring operations have since been written off. (4006/09.)

13. *Wheal May Lead Mine, Northampton* (*18*).—Efforts have been made during the year to sell the plant on the mine, but without success. (1807/09.)

14. *Jourdie Enterprise G.M. Syndicate G.M.Ls.* 786*S and* 773*S*, *Jourdie Hills* (*19*).—Work on the mine has continued during the year under considerable difficulties, which have prevented more than small payments being made in reduction of the loan and interest. (2150/11.)

15. *Kanowna Prospecting Coy., Ltd., Kanowna* (*20*).—The tools on hand were sold during the year for £7, terminating this transaction. (1101/09.)

16. *W.E.G., G.M.L.* 505*G*, *Niagara* (*23*).—In July, 1911, tenders were invited for purchase of the lease and machinery, but only very low offers were received. In October the lease was declared forfeited and the ground temporarily reserved. The plant and machinery were being disposed of piecemeal by the W.A. bank, the holders of the first mortgage over the mine. (4286/10.)

17. *Alicia G.M.L.* 254*F*, *Mt. Morgans* (*24*).—During the whole of 1911 the mine has been under exemption subject to tributes being granted if required, and nothing was done towards settlement of the advances made. (4809/07 and 90/12.)

18. *Lady Florence G.M.L.* 1265, *Cue* (*26*).—No progress has been made during the year in the matter of repayment of the advances made to this mine. (363/06.)

19. *Green and Wheatley, sinking for Deep Lead at Bulong* (*27*).—In April Mr. Green notified the Department that the last crushing had not been payable, and that a new shaft would be required to go further with working the lead. No further work was done though Mr. Green advised that he hoped to return to the claim after raising some money by work elsewhere for a syndicate. (2390/00.)

20. *Gawler G.M. Coy., Ltd., G.M.L.* 418*R*, *Edjudina* (*28*).—During the year 1911 this Company have repaid their loan and interest, terminating the transaction. (4599/08.)

21. *McLellan and Smyth, P.A.* 221*W*, *sinking for Deep Lead at Waverley* (*29*).—The operations of these prospectors having been unsuccessful in finding payable gold, although the existence of a "deep lead" was demonstrated, the loan of £50 to them has been written off. (4457/08.)

22. *Baird and party, prospecting for Deep Alluvial Lead, Bulong* (*30*).—During the year the outstanding amount on this account has been recommended to be written off. (608/09.)

23. *Kalgoorlie North End Development Coy., N.L., G.M.L.* 3880*E*, *Devon Consols, Kalgoorlie* (*31*).—A large amount of development work was carried out on this lease during 1911, but the Company were unable to make the proposition pay, and at the end of the year steps were being taken to foreclose on the mortgage. (3790/10 and 2255/11.)

24. *Klondyke Boulder G.M.L.* 604, *Warrawoona* (*32*).—In August a new company was formed to continue the work in this mine. The main shaft was pumped out to the 100ft. level, and sinking expected to be resumed in December. (4548/11.)

25. *Brittania G.M.L.* 953*M*, *Mt. Magnet* (*33*).—The owners of this mine being unable to carry on the Department foreclosed, and tenders were invited for purchase of the mine and plant. Mr. A. Harold's offer of £200 for the mine and all plant thereon on a hire-purchase agreement was accepted. At the end of 1911 an agreement was in course of preparation. (4434/08 and 909/12.)

26. *Transvaal G.M.L.* 536, *Southern Cross* (*34.*)—The option holders (Messrs. Bewick, Moreing & Co.) purchased this property in August on account of the Oroya Exploration Coy., Ltd. Principal and interest were paid by them in October, 1911, thus terminating the loan. (1722/09.)

27. *The Harbour Lights G.M.L.* 1056*C*, *Leonora* (*35*).—This loan has been paid in full during the year from proceeds of the accumulated slimes lying at the State Battery, Leonora, and the transaction is terminated. (1806/04.)

28. *Water Supply to Hannan's Reward Tributers, Kalgoorlie* (*36*).—Nothing further has been done in this case during 1911. (1551/10.)

29. *V's United G.M.L.* 271*F*, *Mt. Morgans* (*38*).—Early in 1911 the Company found themselves unable to continue operations, and after a time, as there seemed no hope of the venture being resuscitated, the mortgage was foreclosed and the plant offered for sale. In December, after forfeiture of the lease, the ground was granted as a P.A. to Mr. T. B. Thomson. An offer to purchase the oil engine was received in November, but the business had not been concluded at the end of the year. (2426/11.)

30. *Balkis G.M.L.* 5354*Z*, *Menzies* (*39*).—A good deal of development work has been done on the mine during 1911, and plant to the value of £1,043 has been erected. On account of difficulties experienced by the party the time for commencement of repayments of the principal loan was extended to 1st January, 1912. The ore-shoot is rather narrow but of good value, and several payable crushings were obtained. (1029/10 and 3016/11.)

31. *Lady Seddon G.M.L.* 633*B*, *Black Range.*—Application for assistance in developing the main shaft was first received from this mine in July, 1910, the loan being asked for to purchase machinery and assist in sinking. The matter could not be dealt with until Parliament had considered the Vote to be made for Mining Development, and it was not till November, 1910, that a loan of £200 was authorised, and documents were not signed till January, 1911. A sum of £136 was drawn from the loan during the year on account of work done. The bottom level at a depth of 140 feet from surface shows good values in the hanging wall portion of the reef. (4556/11.)

32. *Princess Royal Syndicate G.M.Ls.* 222, 653, 784, 1016, 1048, *and* 1114, *Cue.*—In May, 1910, application was made for a loan of £1,000 in aid of sinking the main shaft of this mine on the underlay below the 310 feet level a distance of 150 feet, and driving on the reef from the bottom of the shaft. The loan was approved subject to a first mortgage on the mine, and an undertaking to pay 15 per cent. of all gold won in redemption of the advance. During 1910 the advances made amounted with interest to £492 8s. 3d. Sinking on the underlay to a total of 192 feet from the side of the vertical shaft, equal to 150 feet below the 310 feet level, was completed in January, 1911, and driving on the lode 90 feet towards the end of March, exhausting the advance: the reef proved to be small and of low value, and the prospects of the mine being able to repay the advance became very poor. Work was continued by the owners throughout the year without much improvement in the position, though it was estimated that about 500 tons of stone had been opened up which would pay expenses of raising and crushing. (2898/11.)

33. *Riverina G.M.L.* 123, *Mulwarrie.*—Early in the year the owner of the above mine was granted a loan of £500, on a £ for £ basis, to assist him in sinking his south shaft from 160 feet to 224 feet. Loan to be repayable by 10 per cent. of all gold won with interest at the rate of 5 per cent. Repayments to commence six months after date of termination of prescribed work. A first mortgage and bill of sale were taken over the mine and plant as security for repayment of the loan. At the end of the year the shaft had been sunk to 224 feet and timbered to 172 feet. (5648/96.)

34. *Champion South G.M.L.* 817*N*, *Nannine.*—An advance of £400 was granted the owners of above mine for the purpose of purchasing and erecting a gas producer plant, the Department taking a first mortgage and B/S over the plant, together with all plant on the mine at the time. Towards the end of the year the party applied for extension of time for beginning repayments of loan. (3381/08.)

(*b*) *Assistance in Erecting Batteries and Treatment Plants to be used for Crushing for the Public.*

35. *Spring Hill G.M.L.* 721, *Parker's Range* (*40*).—During 1911 the owner has had a hard struggle to keep the battery going owing to scarcity of water, and in consequence has been unable to repay any part

of the advances made to him. The battery has been of considerable service to the district. (3362/11.)

36. *Never Never G.M.L.* 665, *Yilgarn* (*41*).—This mine has been under exemption practically the whole of the year. Interest to the end of October, 1911, was met. In April Mr. S. B. Tatham sold his interest to the Yilgarn Gold Mining Coy., Ltd., the said Company to take over Mr. Tatham's obligations to the Government *re* loan and public crushing. (3276/10 and 4224/11.)

37. *Hidden Secret North G.M.L.* 4253, *Eundynie* (*42*).—This mine has been worked on tribute during the year with some success, but the dryness of the season caused some difficulty in getting a fresh water supply. Several payments were made in reduction of the loan, though not at the rate at first agreed, the Hon. the Minister having approved of reduced payments by the borrowers during a period of financial stress. The loan of £1,000 had been reduced to £601 4s. 7d. by the end of the year. (3245/11.)

38. *Roebourne Copper and Gold Mines, W.A., Ltd., G.M.L.* 135, *Roebourne* (*43*).—Good progress has been made during the year with repayment of the loan by the party now owning the battery, the total outstanding at 31st December being £349 10s. 9d. (1799/09.)

39. *Lady Pratt G.M.L.* 1228*X*, *Mulgarrie* (*44*).—Owing to difficulties between the owners and shortness of water, little crushing was done during 1911, but towards the end of the year the prospects were somewhat improved. (4475/11.)

40. *Royal Mint G.M.L.* 549, *Yalgoo* (*45*).—During the year the Company reported having located a large body of payable ore, and a new pumping plant had been purchased to cope with the heavy flow of water. They also stated that a sum of £600 was expended by them in purchase of plant and development work. The funds of the Company being exhausted they endeavoured to float a new company, but were unsuccessful, and in November the Department took possession of the mine and plant. Tenders were called for the property, which were being considered at the close of the year. (5046/10.)

41. *Mulga Queen G.M.L.* 1875*T*, *Duketon* (*46*).—Work was intermittently carried on by this battery during 1911, but mining in the district has been very slack, and little progress was made in repaying the loan. (1703/11.)

42. *Malcolm Prospecting Coy., N.L., Mt. Malcolm* (*47*).—A large amount of development work has been done on this Company's property. £109 19s. 6d. has been paid during the year on account of accrued interest, but no reduction of the loan effected. The prospects of the mine at the end of the year appeared to be improving. (4567/07 and 4416/11.)

43. *Randwick G.M.L.* 978*C*, *Mt. Malcolm* (*48*).—In January, 1911, the lessee found himself compelled to give up his lease of the battery and mine. There being apparently little chance of the battery being much used in the district it was decided in May to try to sell the securities. Another working party, however, then applied to be allowed to work the mine, and use the plant, on a rental of 10s. per week for the boiler and 6d. for each ton of ore crushed. The party continued working on a small scale during the year, but with only poor success. (3551/10.)

44. *The Crown G.M.L.* 1398*W*, *Black Flag* (*49*).—In March the principal and interest on this account were repaid in full and the transaction terminated. (3325/09.)

45. *The North Pole G.M.L.* 937*N*, *Nannine* (*formerly the Gibraltar* (*50*).—The battery transferred from the Gibraltar mine was re-erected and running by February 16th. Disappointments were experienced through poor returns, and influx of water, and the mine changed hands and has become the *Hornsby*. Work on the mine continued throughout 1911. Interest has been paid on the loan, and the principal reduced by £75. (4337/09.)

46. *Callion G.M. Coy., W.A., N.L., Callion* (*51*).—This property has been under exemption during the whole of 1911, and the Company has not been in a position to effect any reduction of the loan or interest. (5884/10.)

47. *Red Hill Westralia G.M. Co., Ltd., Sons of Erin Battery, Higginsville* (*52*).—No progress was made in this case during 1911. (1866/07.)

48. *Water Supply to Public Crushing Plant, Ballagundi* (*53*).—Owing to no work being done at the battery the Goldfields Water Supply removed their pipe line in November, 1910. (3921/97.)

49. *Phoenix G.M.L.* 622*N*, *Quinns* (*54*).—During the earlier part of the year the mine was worked for some time on an option of purchase, but later reverted to the original owners. A further sum of £50 was authorised to be advanced in aid of purchase of a windmill and pipes for water supply. No reduction of the loan was effected. (3911/10.)

50. *Alathea G.M.L.* 5364*Z*, *Menzies* (*55*).—In February, 1911, the mortgage was foreclosed and tenders invited for purchase of the securities. After realising these the debit balance was written off to close the transaction. (2385/10.)

51. *Lane Mill Syndicate: Princess Royal Mine, G.M.Ls.* 222, 653, 1016, 1048, *and* 1114, *Cue* (*56*).—Crushing with the Lane Mill was commenced in April, 1911, and according to the reports of the owners was very successful as regards low crushing cost and high extraction of gold by amalgamation. The tonnage crushed as yet, however, has not been sufficient to give a very reliable working test. (2923/10.)

52. *Southern Cross G.M.Ls.* 1076 *and* 1067 (*57*).—Work has been carried on throughout the year, but the returns have been generally low and there has been a good deal of difficulty in maintaining payments in reduction of the loan. A new winch was installed in place of that first used, which broke down. Towards the end of the year arrangements were made to erect a cyanide plant. (436/09 and 4726/11.)

53. *Ravensthorpe Battery Company* (*58*).—In January a new 3-horse power Allen oil engine, costing £56 1s. 3d., was installed. After a very satisfactory trial run the battery started crushing for the public on the 6th February, 1911. In June the Hon. the Minister approved of a subsidy of 2s. per ton on low-grade ore up to a total of 4,000 tons—no subsidy to be paid on more than 1,000 tons from any one mine—conditionally that tailings assay did not exceed 4dwts. per ton. In November a further loan of £300 was granted to the Company for the purpose of installing a concentrating plant, such further advance to be added to the existing loan and repayable on the same terms. At the end of the year documents were in course of preparation. 667/10 and 2325/11.)

54. *Gt. Victoria G.M.L.* 719, *Yilgarn.*—In May, 1911, the Hon. the Minister approved of an advance of £1,000 to the owners of above mine for the purpose of dismantling and re-erecting the Zoroastrian battery on the Gt. Victoria conditionally that they crush for the public at least 10 days in each month and continue

to do so for at least two years, or until the loan be repaid. A mortgage and B/S was taken over the whole of the plant and mine. The plant was satisfactorily erected and started running with five head of stamps in August. In September the Mining Registrar reported that a supply of fresh water, estimated at 20,000 gallons per day, had been struck, this being the first fresh water struck in Yilgarn lodes. The balance of loan was paid to applicants in October, 1911. (1810/06 and 3155/11.)

55. *Battaglia and Party, Battlesville G.M.L. 931R, Yundamindera.*—The Hon. the Minister agreed to assist this party to obtain a water supply for their battery from the old Washington shaft, on their undertaking to crush for the public ten days per month at not more than 1s. 6d. per ton in advance of rates ruling at the Linden State Battery. Machinery was supplied to the value of £950, secured by mortgage, etc., on the mine and plant to the extent of £300. (2120/09.)

(*c*) *Miscellaneous Advances.*

56. *Mt. Magnet Municipal Council—Water Supply (60).*—During 1911 an amount of £5 5s. 9d. was paid in reduction of the loan. (63/05.)

(*d*) *Boring.*

57. *Purchase of Carbons, Repairs to Drills, etc.*—Particulars of expenditure on these heads are given in the tables attached.

58. *Mt. Morgans Diamond Drilling and Exploration Syndicate, Ltd., Mt. Morgans (62).*—There is nothing further to report in connection with this matter for the year 1911. (1697/09.)

59. *Mt. Cassiterite M.L. 84, Wodgina (63).*—In February, 1911, the owners of this mine applied for exemption for six months in order to reconstruct their Company, and settlement of the advance of £75 made to them was allowed to be deferred. In December the Executive Council approved of the advance being written off, on account of the Company having expended a greater amount in pumping water for the township supply. (6701/03.)

60. *Leonora Diamond Drilling and Prospecting Coy., Leonora (64).*—Nothing further has been done in this case during 1911, and the balance to credit of the authority has been written off. (2425/08.)

61. *J. Rollo, Boring on North Lead, Kanowna (66).*—Mr. Rollo continued his boring operations until 7 bores had been completed, but was not successful in finding payable wash. (4397/05.)

62. *South Blackwood Prospecting Syndicate, South Blackwood (67).*—Nothing further has been done in this matter during 1911. As operations met with no success there is no prospect of any repayment of the expenditure, and the account may be considered closed. (1533/09.)

63. *Violet G.M.L. 835, Golden Valley.*—During 1911 the Department loaned this party a diamond drill for the purpose of boring on the above lease. Three hundred and twenty-two feet of boring were completed for a total cost of £308 19s. 5d., the owner paying £213 4s. 11d. towards same. The assays disclosed only a trace of gold, with pyrites and pyrrhotite. The country was greenstone schist. (812/09.)

64. *Boulder Deep Lead Prospecting Coy., Ltd.*—During 1911 this party, assisted by the Department, put down a series of bores at Boulder for the purpose of prospecting for deep alluvial. At the end of the year boring was still in progress. (7317/00 and 1415/11.)

65. *Diamond Drilling at Cue.*—The residents of Cue having requested the Government to test some portions of their district by diamond drilling, two bores were put down on the Volunteer Flat lease. The first, 600 feet deep, showed only traces of gold, and the second at the end of 1911 was down 500 feet. The cost of the work up to the end of the year amounted to £587 0s. 6d. (3887/10.)

66. *Boring for Coal at Eradu.*—Towards the end of 1910 the Hon. the Minister approved of a sum of £500 to assist in boring for coal near Eradu. The Government to bear one-third of the cost, but not to exceed 7s. 6d. per foot, to 1,000 feet; and half the cost, but not to exceed 10s. per foot, beyond 1,000 feet. A bore was put down 1,000 feet without discovering any coal and the work was discontinued. (3642/10.)

SUMMARY OF EXPENDITURE ON MINING DEVELOPMENT UNDER THE MINING DEVELOPMENT ACT, 1902, AND FROM THE MINING DEVELOPMENT VOTE, FROM 1ST JANUARY TO 31ST DECEMBER, 1911.

Mine or Owner.	Mining Centre.	Amount.	Total.
		£ s. d.	£ s. d.
A.—*Advances in Aid of Mining Work and Equipment.*			
Balkis	Menzies	44 14 3	
Brittania	Mt. Magnet	1 0 0	
Champion South	Nannine	400 0 0	
Eclipse	Gindalbie	46 3 1	
Greenbushes G.M. Co.	Greenbushes	0 15 9	
Jupiter	Mt. Magnet	1 0 0	
Kalgoorlie North End Development	Kalgoorlie	301 6 6	
Lady Seddon	Sandstone	136 0 0	
Princess Royal G.M. Co.	Cue	510 10 7	
Riverina	Davyhurst	158 19 10	
Sunbeam	Kanowna	12 1 10	
V's United G.M. Co.	Morgans	41 14 1	
			1,654 5 11
B.—*Advances in Aid of Erection and Equipment of Batteries for Public Crushing.*			
Battlesville	Yundamindera	732 3 6	
Gt. Victoria	S'thern Cross	1,000 0 0	
Lane Mill Co.	Cue	100 0 0	
Ravensthorpe Battery Co.	Ravensthorpe	521 9 9	
Roebourne Copper & Gold Co.	Roebourne	0 11 6	
			2,354 4 9
C.—*Boring Advances.*			
Boulder Deep Alluvial	Boulder	112 4 10	
North Lead, Kanowna	Kanowna	45 4 4	
South Dreadnought G.M. Co.	Menzies	88 2 3	
E. R. Tobias	S'thern Cross	308 19 5	
Diamond Drilling	Cue	587 0 6	
			1,141 11 4
D.—*Miscellaneous Expenditure.*			
Alathea Mine	Menzies	2 15 0	
Bonus on Lead Ores exported	Onslow	11 0 0	
Cartage of Wolfram	Pilbara	45 0 0	
Inspection of Properties	Various	0 6 8	
North Lead Pumping Plant	Kanowna	19 16 3	
North Pole	Nannine	1 0 0	
Ora Banda Condenser	Ora Banda	300 0 0	
Preliminary investigations	Various	17 6 10	
Purchase of Carbons	Various	953 17 2	
Purchase of Riding Camels	Various	346 14 9	
Repairs to Diamond Drills	Various	87 8 7	
Testing Collie Coal	Collie	1 1 0	
Water Supply, Griffiths G.M.	Coolgardie	51 6 0	
			1,837 12 3
Subsidies on Cartage Long Distances to Batteries.			
Burrows & party	Nannine	6 7 6	
Cameron, C. C.	Wiluna	10 15 0	
Clark, W. B.	Bridgetown	5 0 0	
Denholm	S'thern Cross	3 15 0	
Doolan, W.	Gindalbie	6 0 0	
Gayford, G.	Wiluna	2 10 0	
Harvey, A.	S'thern Cross	7 4 0	
Higgins, J.	S'thern Cross	9 0 0	
Meagher, D.	Comet Vale	3 15 0	
Messenger & White	S'thern Cross	16 0 0	
McHugh, B.	Wiluna	18 15 0	
Peppard & Privett	New England	2 14 0	
Rodda, J.	S'thern Cross	9 15 0	
Rooney & party	Marble Bar	17 12 6	
Tucker, J.	Laverton	7 15 0	
Walsh, P. J.	Comet Vale	9 12 0	
Yilgarn Prospecting Co.	S'thern Cross	18 0 0	
State Batteries.			
Recoups of Crushing Charges deducted in lieu of cartage subsidies, 12 items, viz.:—			
£ s. d. £ s. d. £ s. d.			
2 7 0 11 13 0 17 8 0			
1 9 0 20 19 0 31 18 0			
8 3 0 12 10 0 1 14 0			
2 2 0 4 5 0 3 9 0	Various	117 17 0	
			272 7 0
Carried forward	..	..	7,260 1 3

SUMMARY OF EXPENDITURE ON MINING DEVELOPMENT, ETC.—*continued.*

Mine or Owner.	Mining Centre.	Amount.	Total.
		£ s. d.	£ s. d.
Brought forward	..	..	7,260 1 3
Subsidies to Batteries Crushing for the Public.			
Bradshaw & party, 13 tons at 1s. 6d.	S'thern Cross	0 19 6	
Buhlman & McKenna, 427 tons at 1s.	Mulgarrie	21 7 0	
Bullfinch West G.M. Co., 100 tons at 1s. 6d.	Leonora	7 10 0	
Crisp, C. J., 145½ tons at 2s. 6d.	Gindalbie	18 3 9	
Howard, F. W. H., 203 tons at 5s.	Wiluna	50 15 0	
Jacoletti G.M., 2,113 tons at 1s. 6d.	Jacoletti	158 9 6	
Jameson & party, 796 tons at 2s. 6d.	Gindalbie	98 5 0	
Jourdie Enterprise, 369 tons at 1s.	Jourdie Hills	18 9 0	
Pools, H., 1,985½ tons at 2s.	Lawlers	198 11 0	
Pender Bros., 170½ tons at 2s.	Kundip	17 1 0	
Regan & party, 882¾ tons at 1s.	Waverley	44 2 9	
Smith & Langford, 1,340 tons at 2s.	Lawlers	134 0 0	
Spencer & Thompson, 354 tons at 2s.	Berrigrin	35 8 0	
Spicer, J., 93½ tons at 1s. 6d.	Tampa	7 0 3	
Two Boys' Battery, 610 tons at 2s.	Kundip	61 0 0	
Ware, C. H., 1,418¼ tons at 1s.	Kunanalling	70 18 8	
Williams, J. M. D., 140 tons at 1s. 6d.	Diorite King	10 10 0	
		952 10 5	
Less on a/c P. J. Walsh charged to above in 1910, transferred to Cartage Subsidy	..	9 12 0	
			942 18 5
Subsidies on Development Work.			
Gwynne, R.	Black Range	21 10 0	
Roberts & Truscott	Menzies	9 4 6	
Rufin, P.	Linden	3 10 0	
			34 4 6
Providing Transport for Prospectors.			
Purchase of Horses, Camels, etc.	..	..	281 14 1
TOTAL	..	..	£8,518 18 3

Note.—Refunds totalling £72 3s. not shown in this return, and credited to Development of Mining Vote, were made during the year. Net expenditure as per Treasury figures, £8,446 15s. 3d.

ADVANCES REFUNDED.

Mine or Owner.	Mining Centre.	Amount.	Total.
		£ s. d.	£ s. d.
Crown Gold Mine	Broad Arrow	142 13 9	
Gawler Gold Mine	Edjudina	117 5 10	
Horsby Gold Mine (late North Pole)	Nannine	60 12 9	
Jourdie Enterprise G.M. Syndicate	Jourdie Hills	14 14 9	
Lady Pratt Gold Mine	Kanowna	21 7 0	
Mulga Queen Gold Mine	Laverton	46 16 6	
Roebourne Gold & Copper Mine	Roebourne	242 4 9	
Southern Cross Gold Mine	Bulong	70 15 3	
Transvaal Gold Mine	S'thern Cross	325 0 0	
Hidden Secret Gold Mine	Eundynie	63 8 10	
			1,104 19 5
Recovered from Sale of Securities.			
Alathea Mine	..	57 13 0	
Brittania Lease	..	8 0 0	
Coolgardie Redemption Gold Mine	..	26 10 0	
Eclipse Gold Mine	..	98 0 0	
Greenbushes	..	32 3 4	
Harbour Lights Co.	..	612 1 6	
Kanowna Prospecting Co. Lease	..	7 0 0	
Kanowna Low Grade Lease	..	7 10 0	
Lost and Found Lease	..	5 0 0	
Oversight Lease	..	3 0 0	
Randwick Lease	..	11 17 6	
Royal Mint Lease	..	17 0 0	
Sunbeam Lease	..	70 10 0	
			956 5 4
Miscellaneous Refunds.			
Mt. Magnet Water Supply	..	7 1 3	
Cost of Camels for Prospecting Purposes	..	125 0 0	
Means of Transport for Prospectors	..	28 14 11	
Cost of Diamonds in Drilling	..	79 13 8	
Cost of Diamonds boring Golden Valley	..	357 6 11	
Cost of Diamonds, Volunteer Lease	..	299 13 4	
Whale Lease	..	7 18 0	
			905 8 1
			£2,966 12 10

"The Mining Development Act, 1902."

Advances written off to 31st December, 1911.

Year Authorised.	Name of Mine or Borrower.	Nature of Work.	Locality.	Amount of Loan and Interest written off. £ s. d.	Date written off.
1902	Manners & Gore	Battery erection	Gabanintha	285 0 4	29/5/05
1903	Cheyne, C. C.	Sinking shaft	Yandanooka	70 17 10	31/12/04
	Foran and party	Opening deep alluvial lead	Kalgoorlie	150 0 0	14/2/06
	Hannan's Reward & Mt. Charlotte G.M. Co., Ltd.	Boring for reef	Kalgoorlie	383 11 9	31/12/04
	Irwin River Coal & Prospecting Syndicate	Boring for coal	Irwin River	925 6 0	23/3/05
	Jamieson, C. A.	Opening deep alluvial lead	Smithfield	50 0 0	30/6/04
	South Fingall G.M. Co., Ltd.	Boring deep alluvial lead	Day Dawn	1,030 18 0	18/1/04
	Waite and party	Opening deep alluvial lead	Trafalgar	100 0 0	18/4/05
1904	Admiral G.M.L.	Boring for reef	Peak Hill	719 1 1	30/3/06
	Blake, McKinnon, & Muir	Working deep lead	Kanowna	50 0 0	23/9/04
	Bell, Wm.	Battery water supply	Mosquito Creek	520 12 6	31/12/05
	Jones and party	Oversight	Bulong	882 15 9	27/3/11
	Marshall, Geo.	Erection of puddler	Coolgardie	152 17 2	15/2/06
	Ninety-Eight G.M.L.	Sinking shaft	Bulong	262 2 11	13/3/07
	President Loubet	Sinking shaft	Callion	255 18 3	12/6/07
	Stuart, Rollo, & McIvor	Boring for lead	Kanowna	262 11 6	22/5/07
	Tierney and party	Sluicing alluvial	Coolgardie	150 0 0	22/10/04
	Westralia Mining & Oil Corp., Ltd.	Boring for oil	Warren River	618 14 7	20/3/06
	White Flag Consols	Sinking shaft	Wilson's Patch	48 10 5	3/10/06
1905	Battler's Hope	Sinking shaft	Greenbushes	118 18 4	6/6/07
	Brooklyn G.M.L.	Sinking shaft and purchase of machinery	Lennonville	91 1 11	18/6/09
	Chadwick's Reward	Sinking shaft	Koolyanobbing	110 3 5	30/6/08
	Gt. Northern G.M. Co.	Sinking shaft	Kalgoorlie	203 5 0	8/4/08
	Iron King G.M.L.	Water supply	Bullabulling	25 0 0	29/6/05
	Haddon G.M.	Water supply	Southern Cross	71 8 4	22/11/06
	Little Doris G.M.L.	Battery erection	Erlistoun	356 3 0	25/9/08
	Monkland G.M.L.	Sinking shaft	Gindalbie	576 7 6	28/4/09
	Mt. Ida Battery Lease	Sinking shaft	Mt. Ida	313 6 2	29/5/07
	Pakeha G.M. Co.	Sinking shaft	Paddington	149 15 5	24/4/08
	Rollo's Reward G.M. Co.	Sinking shaft	Kanowna	314 16 3	20/4/10
	Trenton G.M. Co., N.L.	Crosscutting main shaft	Day Dawn	621 4 6	4/5/10
1906	Coolgardie Opal G.M. Co.	Crosscutting main shaft	Coolgardie	102 4 6	10/10/07
	Hague & Arthur	Battery erection	Menzies	158 19 7	3/9/08
	Kalgurli G.M. Syndicate	Mining development	Paddington	239 19 11	23/4/08
	Kingsmill, W. J., and party	Driving tunnel	Ravensthorpe	204 15 8	9/3/10
	Lubra G.M.	Purchase of machinery	Kookynie	64 15 10	23/3/10
	Menzies Prospecting & Development Co.	Sinking shaft	Menzies	594 0 11	3/3/09
	M.L. 374, Lost and Found		Greenbushes	64 4 1	22/8/11
	Nicholson, Mahoney, and O'Donohue	Battery erection	Gum Creek	351 14 2	5/2/08
	W.A. Sluicing Syndicate	Water supply	Coolgardie	309 1 3	21/2/07
1907	Coady, J. H.	Making briquettes	Collie	82 3 2	29/4/08
	Corrin, J.	Sinking shaft	Nullagine	195 3 1	26/8/08

	Cross, F.	Sinking shaft	Yarri	50 0 0	28/4/07
	Dellavedora and party	Sinking shaft	Parker's Range	106 13 10	27/11/08
	Elias, T.	Driving tunnel	Greenbushes	245 17 11	24/6/08
	Just-in-Time G.M. Co.	Battery erection	Mt. Morgans	1,011 19 9	3/12/08
	Providence Copper G.M. Co.	Sinking	Goongarrie	22 5 7	14/5/08
	Robinson and party	Battery erection	Mt. Ida	136 14 9	24/6/08
	Reid, G.	Sinking	Peak Hill	25 11 3	22/6/08
	Tierney, Aldridge, and party	Crosscutting	Coolgardie	162 6 3	18/2/09
	Whale G.M.	Mining development	Niagara	129 18 3	29/12/08
1908	Chamberlain North G.M.	Extending tunnel	Wodgina	77 8 11	14/9/10
	Kanowna Low Grade	Purchase of machinery	Kanowna	93 17 3	16/2/10
	Shekleton, J. H.	Making briquettes		105 9 4	28/6/10
1909	McLellan & Smith	P.A. 221 N.B.	Broad Arrow	50 0 0	19/7/11
1910	Manton & Newson	Alathea	Menzies	195 19 11	22/8/11
				£14,651 13 1	

MINING DEVELOPMENT EXPENDITURE.

Advances Outstanding at 31st December, 1911.

No. of File.	Name of Lease, Mine, or Borrower.	No. of Lease.	District.	Amount Authorised.	Principal Moneys advanced.		Principal Moneys.		Interest.		Total Principal and Interest outstanding at 31/12/1911.
					Previous to 1911.	During 1911.	Repaid.	Balance outstanding.	Paid.	Outstanding.	
	A.—Pioneer Mining and Prospecting.			£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
4809/07	Alicia	254F	Mt. Morgans	245 0 0	195 0 0	..	..	195 0 0	4 2 6	48 13 3	243 13 3
4434/08	Brittania (security purchased by A. R. Harrold)	953M	Mt. Magnet	150 0 0	113 12 6	1 0 0	8 0 0	106 12 6	..	4 5 1	110 17 7
3016/11	Balkis	5354Z	Menzies	150 0 0	105 5 9	44 14 3	..	150 0 0	3 9 7	3 15 9	153 15 9
2866/07	Carbine South	758S	Kunanalling	500 0 0	401 10 0	..	..	401 10 0	67 4 0	20 7 9	421 17 9
3381/08	Champion South	817N 1039N	Nannine	400 0 0	..	400 0 0	..	400 0 0	8 11 0	5 14 10	405 14 10
3323/00	Coolgardie P. D. & M. Syndicate	4093, 4117	Coolgardie	1,500 0 0	904 10 5	..	..	904 10 5	19 19 10	67 16 9	972 7 2
1986/10	Coolgardie Redemption	3918, 4052	Coolgardie	1,000 0 0	1,020 16 9	..	26 10 0	994 6 9	..	52 14 10	1,047 1 7
4006/09	Dreadnought South	5334Z	Menzies	300 0 0	300 0 0	..	..	300 0 0	31 11 1	10 2 6	310 2 6
4718/07	Eclipse	1047	Gindalbi	450 0 0	452 16 0	46 3 1	98 0 0	400 19 1	62 8 11	..	400 19 1
3166/09	Emily	1510	Day Dawn	400 0 0	372 1 9	..	..	372 1 9	..	44 7 10	416 9 7
2150/11	Jourdie Enterprise	783S	Jourdie Hills	1,000 0 0	1,000 0 0	..	514 14 9	485 5 3	91 18 6	12 11 7	497 16 10
2892/08	Jupiter (A tribute over this lease has been granted Mr. S. J. Cash for a term of three years from 1st December, 1911, on payment of Royalty, etc., to go in reduction of the liability over the mine).	771	Magnet	400 0 0	400 0 0	1 0 0	40 12 4	360 7 8	5 0 0	45 11 3	405 18 11
3790/10	Kalgoorlie North End Development Co.	3880E	Kalgoorlie	1,500 0 0	1,198 13 6	301 6 6	..	1,500 0 0	20 11 3	41 11 7	1,541 11 7
735/10	Lady Seddon	633B	Sandstone	200 0 0	..	136 0 0	..	136 0 0	..	..	136 0 0
4548/11	Klondyke Boulder	604	Warrawoona	500 0 0	250 0 0	..	..	250 0 0	13 10 9	12 16 2	262 16 2
363/06	Lady Florence	1265	Cue	1,000 0 0	1,000 0 0	..	..	1,000 0 0	..	259 19 9	1,259 19 9
4000/05	Mindeloo	1518	Mindoolah	300 0 0	198 17 0	..	10 0 0	188 17 0	..	8 1 1	196 18 1
3461/08	North End Mines	4037	Kalgoorlie	1,000 0 0	436 10 0	..	..	436 10 0	..	..	436 10 0
2898/11	Princess Royal	222, 653, 1016 1048, 1114	Cue	1,000 0 0	489 9 5	510 10 7	..	1,000 0 0	..	46 3 0	1,046 3 0
5648/96	Riverina	123U	Mulwarrie	500 0 0	..	158 19 10	..	158 19 10	..	0 17 5	159 17 3
697/09	Sunbeam	1121X	Kanowna	1,000 0 0	1,032 11 1	5 13 3	279 14 0	758 10 4	116 16 6	45 13 9	804 4 1
2426/11	V's United	271F	Mt. Morgans	672 2 0	537 2 0	41 14 1	50 0 0	528 16 1	1 11 2	34 14 1	563 10 2
4286/10	W.E.G.	505G	Niagara	500 0 0	297 13 1	..	..	297 13 1	..	89 10 4	387 3 5
2427/11	Westralia Tasmania	1665T, 1745T	Erlistoun	300 0 0	300 4 9	..	51 0 0	249 4 9	51 10 8	12 13 8	261 18 5
1101/09	Kanowna Prospecting Syndicate	323X	Kanowna	750 0 0	666 9 3	..	7 0 0	659 9 3	..	..	659 9 3
1932/10	Greenbushes P. & M. Co. (Security purchased by Messrs. Phillips and party on tribute agreement).	300 M.L.	Greenbushes	1,200 0 0	1,067 11 1	0 15 9	39 3 4	1,029 3 6	..	109 10 11	1,138 14 5
1807/09	Wheal May	Loc. 6	Northampton	300 0 0	302 4 6	..	5 15 9	296 8 9	..	20 5 5	316 14 2
2825/07	Kingdom Come	112 M.L.	Northampton	200 0 0	204 14 0	..	..	204 14 0	5 8 6	15 11 0	220 5 0

	B.—Assistance in Erecting Batteries and Treatment Plants to be used for Crushing for the Public.										
2120/09	Battlesville	931	Yundamindera	950 0 0	..	732 3 6	..	732 3 6	..	18 6 10	750 10 4
5884/10	Callion	860V	Callion	1,000 0 0	1,000 0 0	..	9 2 2	990 17 10	40 0 4	103 18 3	1,094 16 1
3155/11	Great Victoria Leases	719, 944/5, 1227	Southern Cross	1,000 0 0	..	1,000 0 0	..	1,000 0 0	..	25 0 10	1,025 0 10
3245/11	Hidden Secret North	4253	Eundynie	1,000 0 0	1,000 0 0	..	324 13 6	675 6 6	144 8 8	20 15 7	696 2 1
2923/10	Lane Mill Syndicate		Cue	650 0 0	550 0 0	100 0 0	..	650 0 0	3 16 3	28 3 0	678 3 0
4475/11	Lady Pratt	1228X	Mulgarrie	250 0 0	205 4 10	..	56 11 11	148 12 11	14 9 10	3 18 2	152 11 1
3785/08	Lady Agnes	910Y	Bulong	480 0 0	486 12 3	..	88 4 9	398 7 6	..	27 7 5	425 14 11
4567/07	Malcolm Prospecting Co.	1175C	Malcolm	1,550 0 0	1,550 0 0	..	..	1,550 0 0	174 9 3	233 0 3	1,783 0 3
1703/11	Mulga Queen	1517T	Duketon	550 0 0	502 13 5	..	136 0 3	366 13 2	8 1 3	71 2 11	437 16 1
4337/09	North Pole (Name of Lease changed to Hornsby.)	937N	Nannine	728 16 0	728 16 0	..	63 14 10	665 1 2	27 9 2	17 2 7	682 3 9
3276/10	Never Never	665	Yilgarn	1,000 0 0	1,073 15 9	..	191 16 4	881 19 5	..	136 13 7	1,018 13 0
2325/11	Ravensthorpe Battery Co.		Ravensthorpe	1,000 0 0	478 10 3	521 9 9	..	1,000 0 0	..	55 13 4	1,055 13 4
3551/10	Randwick	978C	Malcolm	560 0 0	577 3 5	..	43 4 6	533 18 11	..	45 3 5	579 2 4
1799/09	Roebourne G. & C. Mines	135	Roebourne	1,000 0 0	1,030 17 3	0 11 6	723 11 6	307 17 3	..	41 13 6	349 10 9
4726/11	Southern Cross and Southern Cross South	1067, 1076, W.R. 27	Bulong	1,000 0 0	1,000 0 0	..	70 15 3	929 4 9	31 12 6	23 15 7	953 0 4
3362/11	Spring Hill	724	Parker's Range	855 0 0	855 16 5	..	215 11 10	640 4 7	137 10 7	50 0 6	690 5 1
5046/10	Mystery (Security sold to R. Harrold, who subsequently transferred to Emerald Option Co.—since abandoned.)	P.A. 157	Yalgoo	350 0 0	367 5 2	..	233 10 0	133 15 2	..	5 11 0	139 6 2
1343/07	Hodder, E.	M.A. 64	Randall's	253 3 2	253 3 2	..	148 13 0	104 10 2	6 18 4	35 11 3	140 1 5
3911/10	Phoenix	622N	Quinn's	250 0 0	200 0 0	..	..	200 0 0	12 9 8	5 2 5	205 2 5
	C.—Boring Advances.										
1415/11	Boulder Deep Alluvial	4365E	Boulder	200 0 0	..	112 4 10	..	112 4 10	..	..	112 4 10
3887/10	Diamond Drilling	..	Cue	500 0 0	..	587 0 6	..	587 0 6	..	..	587 0 6
4397/05	North Lead	..	Kanowna	100 0 0	..	45 4 4	..	45 4 4	..	..	45 4 4
483/11	South Dreadnought G.M. Co.	..	Menzies	200 0 0	..	88 2 3	..	88 2 3	..	..	88 2 3
812/09	Tobias, E. R. (Loan of Diamond Drill)	835	Southern Cross	308 19 5	..	308 19 5	213 4 11	95 14 6	..	..	95 14 6
	D.—Miscellaneous Advances.										
	Mt. Magnet Water Supply	..	..	460 17 10	460 17 10	..	146 9 3	314 8 7	..	..	314 8 7
				33,613 18 5	25,568 8 7	5,143 13 5	3,795 14 2	26,916 7 10	1,105 0 1	1,961 10 0	28,877 17 10
	A.—*Pioneer Mining and Prospecting*	..	..	17,417 2 0	13,247 12 10	*1,647 17 4	1,130 10 2	13,765 0 0	503 14 3	1,013 9 7	14,778 9 7
	B.—*Assistance in erecting Batteries, etc.*	..	..	14,426 19 2	11,859 17 11	2,354 4 9	2,305 9 10	11,908 12 10	601 5 10	948 0 5	12,856 13 3
	C.—*Boring Advances*	..	..	1,308 19 5	..	1,141 11 4	213 4 11	928 6 5	..	..	928 6 5
	D.—*Miscellaneous Advances*	..	..	460 17 10	460 17 10	..	146 9 3	314 8 7	..	..	314 8 7
				33,613 18 5	25,568 8 7	5,143 13 5	3,795 14 2	26,916 7 10	1,105 0 1	1,961 10 0	28,877 17 10

* Summary of Expenditure shows £1,654 5s. 11d.—Difference £6 8s. 7d. appeared on this return as expended during 1910.

APPENDIX No. 2.

APPARATUS FOR CONTROL OF OVER-SPEEDING AND OVER-WINDING IN WINDING ENGINES.

The following particulars of some of the appliances recently introduced for prevention of overwinding and of undue speed in winding have been obtained from the patentees and manufacturers, and are submitted in the hope that the information may be of service to mine owners and managers who may be looking for such devices.

Melling's Patent Controller for the prevention of overspeeding and overwinding in winding engines, made by the Worsley Mesnes Iron Works, Ltd., Wigan, England—

"We claim for our gear that it is absolutely reliable, and after two years' continuous working this has proved to be the case at every colliery where we have them installed. Since January, 1910, we have installed or have on order 27 of these gears. All wearing surfaces about the machine are made of ample area to prevent wear, and all pins and contact points about the machine are case hardened. The governor is extremely sensitive and is adjusted, so that if the maximum working speed of the engine is exceeded by even one revolution per minute, the gear is brought into operation, but in no case does it interfere with the engineman's control over the engines, or hamper him in any way.

"The blue print enclosed illustrates generally the method we use in coupling up our patent controller to steam brake and to the stop-valve, and also shows a general arrangement of a post brake gear, including our patent adjuster for the purpose of taking up the wear automatically on the brake-blocks.

"The Blue Print referred to is reproduced on a reduced scale as Plate I. herewith, and Plate II. shows the controller more in detail, with letters as in the following description :—

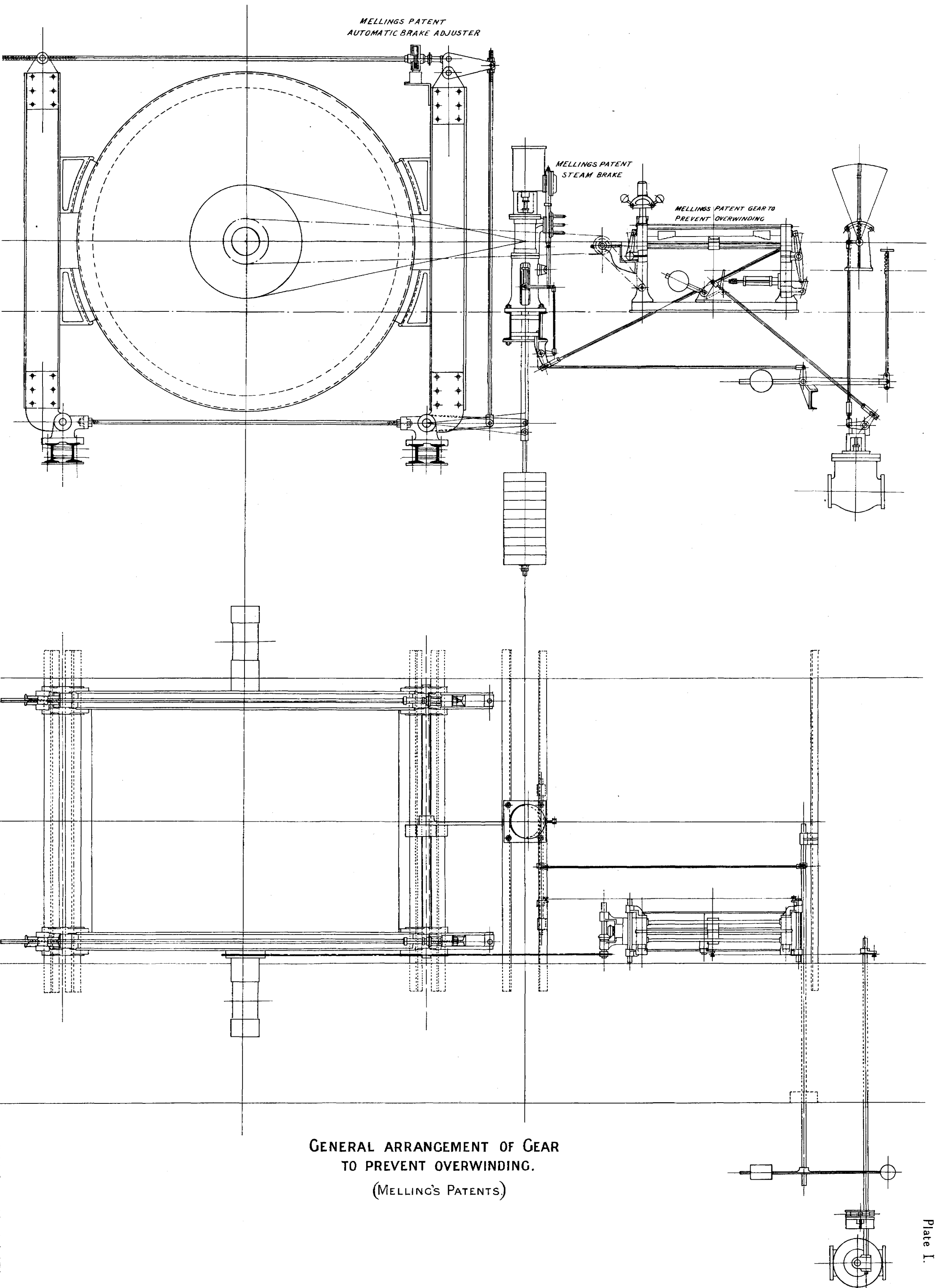
"This gear is for the purpose of making safer the working of winding engines—(1.) By providing means for controlling and stopping the engines in the event of the engineman failing to do so at the right time. (2.) By controlling the speed of the engines during the wind to that which is fixed to be the maximum. (3) By gradually reducing the speed of the engines when nearing the end of the wind if the engineman has failed to so do. (4.) By effectually stopping the engines when the extreme limit of the cage's movement is reached. (5.) By stopping the engines at once by means of the emergency portion of the gear, should the engineman start them in the wrong direction.

"The overwinding gear for the above is made by preference in the horizontal type, but can be fixed vertically if desired. The gear can be placed either at the side of the engines or between them, and can be fixed very readily on the engine-room floor.

"Motion is imparted to the machine from the engine-shaft or drag-shaft, by means of a roller chain and tooth wheels, one wheel being keyed on the crank shaft or drag shaft, and the other wheel being keyed on the shaft B (see illustration). On this shaft B there is keyed a mitre wheel which drives the screw shaft E, and also another sprocket wheel which drives the governor by means of a roller chain. On this screw shaft E is fitted the nut or block F which has on it the raised end pieces or catches F1 and F 2. During one wind, this nut F is traversed along the screw from one end to the other. In the illustration it is shown as being mid-way of its traverse, and the notched bar G (which is held in position by the governor) is shown also in its mid-position, as would be the case when the engines were running below their maximum speed. The governor is so adjusted as that the maximum working speed of winding is not sufficient to bring the notched bar G into contact with one or other of the steel catches F 1 and F 2, but if from any reason this maximum speed is exceeded, the governor rises to its top position, brings the bar G into contact with the catches F 1 and F 2 on the nut F, and is immediately traversed along the nut. When the notched bar is moved by contact with the nut, this operation immediately closes the stop valve by means of a trip mechanism (shown on the top of the baseplate in the centre, in the illustration) and applies the brake. The period of time in which this latter operation is completed can be regulated so as to bring the brake on with freedom from sudden jar or strain, and the engines can be brought to rest in from, say, three or six revolutions of the drum. If the engines run at their proper ordinary rate, and are checked at the right time, near the end of the wind, by the engineman, the notched bar G will of course be kept quite clear of the steel catches. Near the end of the notched bar G adjustable step pieces G 1 and G 2 are fitted, which are for the purpose of slowing down the speed and stopping the engines at the end of the wind, if the engineman has failed to close his stop valve at the right time.

"If desired, the gear may also be made to reverse the engines in addition, when required.

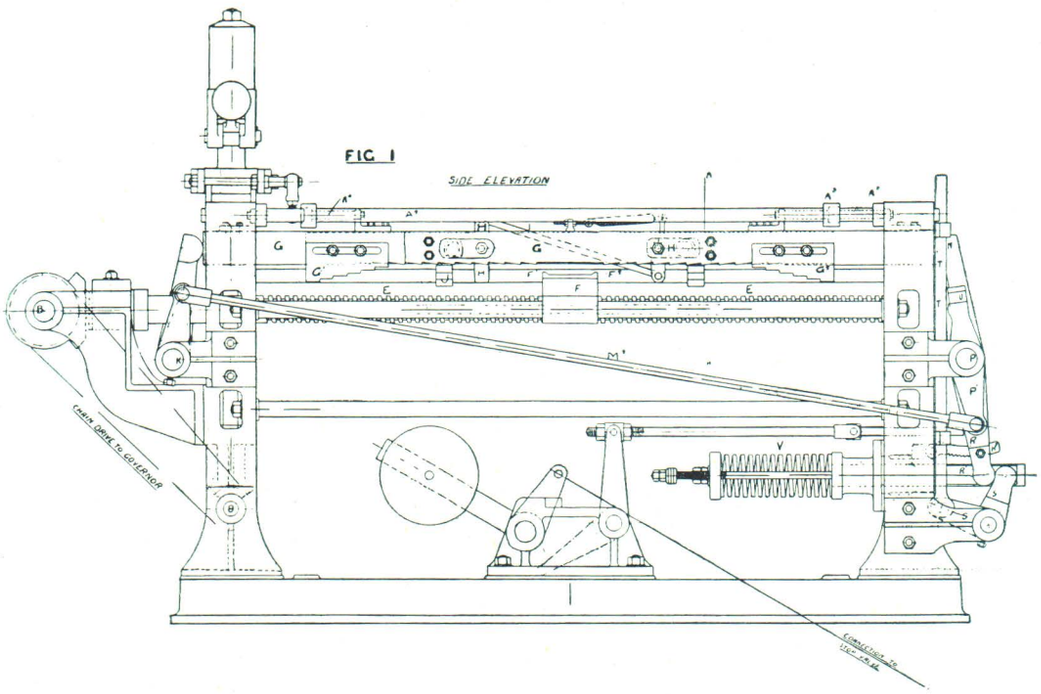
"At the end of the wind, if the engineman has failed to stop the engines before the cage has risen above the fangs or catches a predetermined distance, say two feet, then a bar, O, which is secured to the nut, comes into contact with either of the levers which are connected together by the coupling rod M 2. One of these levers P 1, *i.e.*, the one which is keyed on the shaft P, has an end, U, which is held in position under a lip or shoulder on the bar T, by the spring V. As soon as the bar O on the nut comes into contact with either of the levers coupled together by M 2 it immediately knocks the lever U out of the lip on the bar T and the spring V causes the stop valve to be instantly tripped to its closed position, and the brake immediately applied; this will cause the engines to be effectually stopped in not more than five feet above the ordinary working level. This condition of safety would also be secured if the engines were started in the wrong direction. On the lever R is carried a catch R 1, which can be held by the rack R 2 for the purpose of keeping the brake on until the rack R 2 is lifted



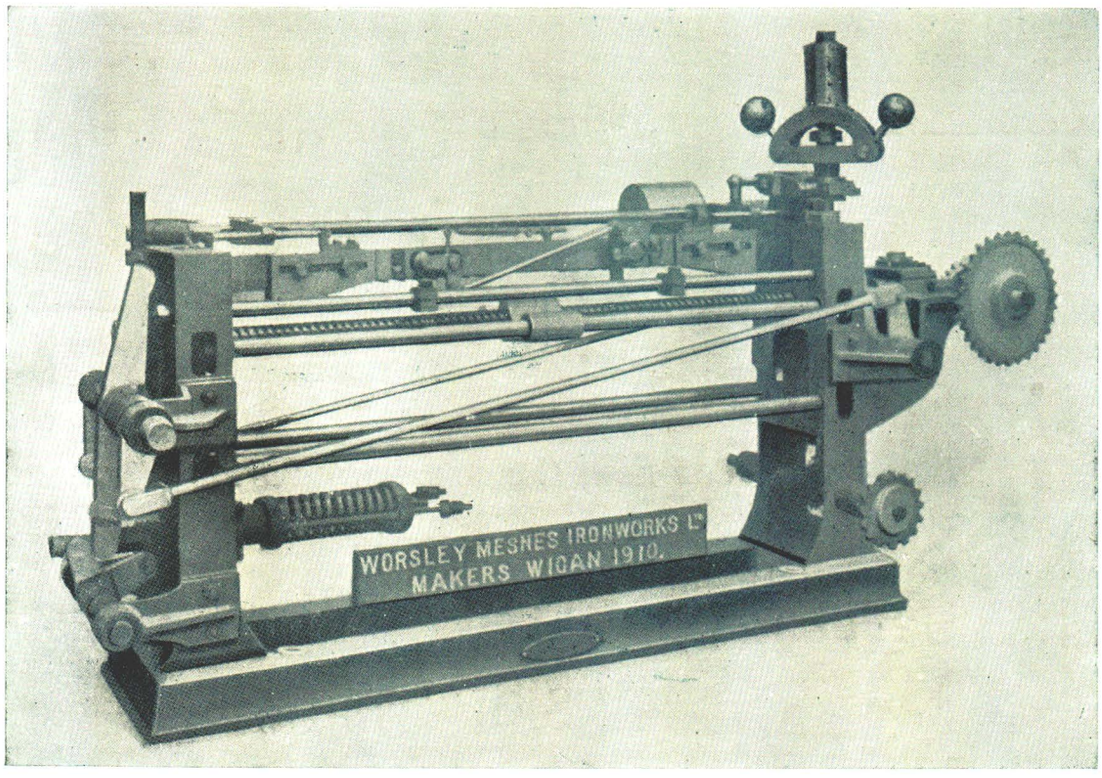
GENERAL ARRANGEMENT OF GEAR
TO PREVENT OVERWINDING.
(MELLING'S PATENTS.)

Plate I.

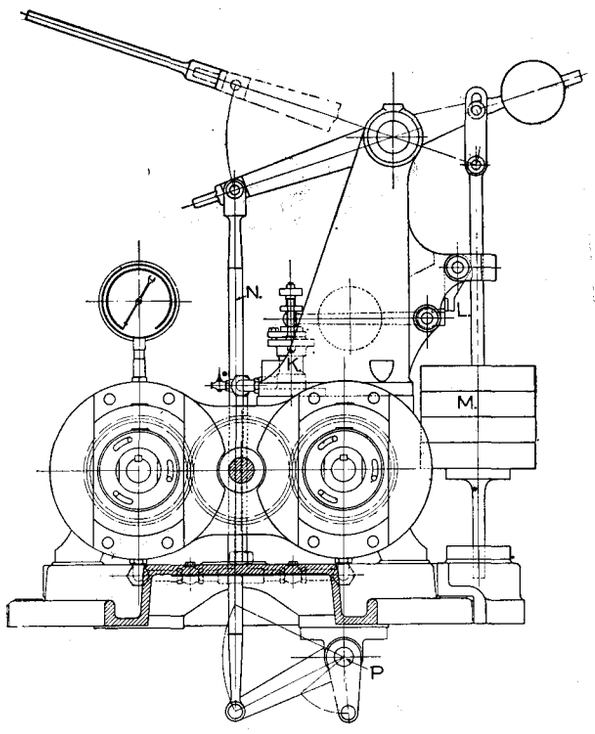
Plate 2.



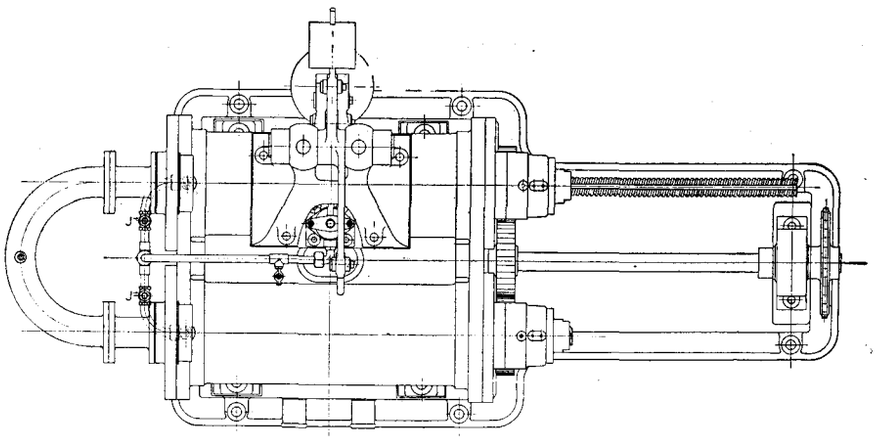
Melling's Patent Controller, for the Prevention of Overspeeding and Overwinding.



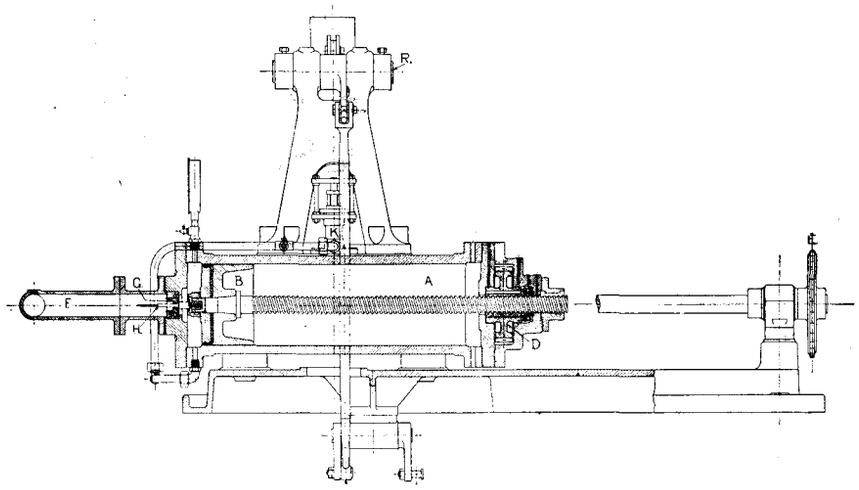
Melling's Patent Overwinding and Controlling Gear.



END ELEVATION
(to a larger scale than those on opposite page)
OF
WILDE & PETRIE'S PATENT OVERWINDING and OVERSPEED CONTROLLER



PLAN
OF
WILDE & PETRIE'S PATENT OVERWINDING and OVERSPEED CONTROLLER



SIDE ELEVATION
OF
WILDE & PETRIE'S PATENT OVERWINDING and OVERSPEED CONTROLLER

up, when, if brought into action from overspeeding only, the bar G and the controlling levers are automatically brought back again into their normal position, and the engineman is free to take his brake off and open his stop valve again. When brought into action by means of the emergency arrangement, all that is required to put the gear into its normal working condition is for the engineman or an assistant to lift up the bar T by means of a spanner, which is made to fit on the hexagonal boss of the lever P 1, until the lip T 1 again rests on the end of the lever U; the stop valve and brake are then free to be operated.

"All the parts are very compact, strong, and easily accessible for examination; the utmost care is taken in the construction of the gear, so as to render it very durable and efficient, and the space occupied is approximately 6ft. long, 1ft. wide, and 1ft. 6in. high.

"Our Melling's Patent Automatic Brake Adjuster has been designed with the object of having the engine brakes automatically adjusted without attention from the engineman, and as it is important that the brakes should act with certainty and regularity, the Brake Adjuster takes up the wear as required, so that there is not any excessive movement of the steam brake required at any time to tighten or put on the brakes. The arrangement is constructed so that the actual 'screwing up' of the brake is done during the 'off movement,' much less strain being thus put on to the gear. The movement of two of the posts or straps, combined with the bell-crank levers at the top ends, is sufficient to operate a lever which turns a toothed wheel by means of a catch; this wheel being keyed on to the main tension screw. The amount of movement of the posts or straps required, or in other words, the amount of travel of the Steam Brake Piston in order to tighten the brakes, is not much, but as the wear on the blocks increases, this travel or movement increases until the catch lever has moved the toothed wheel another tooth round. The whole arrangement in no way causes extra wear on the brake blocks, as it will be readily seen that should it so happen that the brake blocks were particularly hard or unwearable, automatic adjustment would only take place very rarely.

"The whole arrangement of the overwinding and brake gear, combined with our Melling's Patent Steam Brake, is of the most modern design, and gives by its adoption, certainty and confidence to those who use them, and is one of the best and most efficient means that could be adopted for safety in modern winding, and has been proved absolutely reliable after 12 months' continuous working."

Wilde and Petrie's Patent Overwinding and Overspeed Controller for Winding Engines, made by Walker Bros. (Wigan), Ltd., Pagefield Iron Works, England.

"The object of this gear is to prevent a winding engine running at a dangerous speed and to arrest the engines should the cage pass the keps beyond a safe limit at the termination of the wind; also to prevent the engines being started again in the same direction should the man omit, by oversight, to reverse his levers.

"The gear consists of the twin cylinders AA, in which plungers BB are moved to and fro by square threaded screws in opposite directions to each other, and at a speed directly proportional to that of the cages.

"The screws are rotated by spur wheels D in the front cylinder covers, which receive their motion from a sprocket wheel E and chain or other suitable gearing connected with the crank shaft of the engine.

"The spur wheels are fitted with ball thrust bearings on either side to take up the end thrust of the pistons. At the back end of each cylinder is a non-return valve G, opening inwards with a small orifice in the centre, and on the piston end of each screw is fixed a taper needle valve, H, which at a fixed point in the wind enters the orifice.

"The needle valve is of such a diameter as to close entirely the latter as the piston approaches the end of its stroke.

"Leading from the bottom of the back end of each of the twin cylinders are pipes communicating with a plunger K, placed above the two cylinders, and connected by means of a trip gear L, with the throttle valve and brakes, which are actuated by the descent of the weight M, and the consequent movement of the bell crank P.

"These pipes, which each contain a non-return valve, J, the space between the backs of the pistons and the connecting pipe, F, are entirely filled with oil or other suitable fluid. At the start of the wind, the piston B, which is in a position next to the spur wheels, and not as shown on the diagram, begins to force oil through the orifice in valve G, and through the pipe, F, into the other twin cylinder.

"As the velocity of the cages increases, so does that of the oil flowing through the valves G. Hence the pressure of the twin cylinders necessary to force the oil through the orifice varies with the speed of the cages.

"The method of working is as follows :—

"At the fixed point in the wind precisely when the engine winder should shut off steam and apply the brakes, the needle H enters the orifice of the valve.

"Thus the effective area for the passage of the oil from one cylinder to the other is gradually decreased, and if the speed of the engines does not vary proportionately, the pressure of the oil rises, lifts the plunger, and so closes the throttle and applies the brakes.

"In the event of starting in the wrong direction, since the needle valve completely blocks the orifice in the valve G, the slightest movement of the piston at once raises the oil pressure and actuates the mechanism.

"The connections of the trip gear to the throttle valve are such that the engine winder may regain control of the latter by simply drawing his handling lever back to the closed position, but the steam brake cannnot be released until the trip mechanism is reset.

"The main advantages of this gear are as follows:

"POSITIVE ACTION being independent of a centrifugal governor and hence ready response to any change of speed.

"SIMPLICITY OF DESIGN with the pin joints and idle parts reduced to a minimum.

"EASY ADJUSTMENT to suit varying conditions.
"SIMPLE APPLICATION to any existing engine.
(Plate III.)"

Bertram's Patent Visor for Prevention of Overwinding and Starting Engines in the wrong direction, made by John Wood and Sons, Ltd., Barley Brook Foundry, Wigan, England.

"The approximate price of the 'Visor,' packed for shipment and delivered f.o.b. Liverpool, is about £120, and the approximate weight when packed is from 16 to 20 cwts.

"We have supplied and installed up to date about 150 machines in various parts of the country, also South Africa, and have supplied the same to other engineers on this side for shipment along with engines of their own particular build.

"We may also add that the 'Visor' has been laid before the Home Office. It complies with the proposed new Mines Regulation Act now before the House of Commons, and is also referred to in the Blue Book, pages 10, 11, and 12 of our Royal Commission on Coal Mines, etc.

"As it name implies, this familiar invention has 'watched' over thousands of winding operations that have been conducted in the scores of cases where it has been installed, and it has been proved abundantly that by its action it has prevented a great many overwinds and other accidents to be met with in the driving of winding engines, which would have had disastrous results. It is obvious that if the engineman knows that he has a perfectly reliable apparatus to prevent him from overwinding, he will do his work with a greater amount of confidence, and wind more coal or ore, as the case may be; also he will be more careful and attentive when raising and lowering men, as any mistake or carelessness will be at once exposed by action of the 'Visor.'

"Its usefulness and necessity as a reliable safety device has proved itself by the number that are installed, and are at present being installed.

"As is well known, the 'Visor' not only prevents overwinding at the end of a run, but also at the beginning if the engineman starts the engines in the wrong direction.

"By the arrangement of two governors at differents speeds, the operation is as follows :—No. 1 governor is set so that if the engineman does not reduce the speed of the engines, say at four or five revolutions from the point of landing, the cams on the revolving shaft come into operation, and so shut off steam and apply the brake. If speed has been reduced and No. 1 governor allowed the cams to pass the Nebs, and the engineman does not continue to reduce the speed, No. 2 governor will come into operation at a point, say 1½ or 2 revolutions from landing. The speed of the engines now being so reduced that it is almost impossible for an overwind, but should the engines still keep revolving, an arrangement fixed in the headgear in the path of the cages would again bring the 'Visor' into operation and to stop his engines. This latter device has been arranged more particularly to prevent an accident should the engineman make a mistake by not reversing his engines, and, therefore, starting the same in the wrong direction.

"It will be seen, therefore, that the engineman can neither make a fast nor slow overwind.

"During a winding every piece of mechanism of the 'Visor' is working, therefore, there is no fear of it failing to act when required through sticking. This has been proved many times where the 'Visor' has not come into action for months and then acted when it was found the engineman had failed to do his duty.

"The 'Visor' is applicable to any class of winding engines, whether new or at present working, without necessitating a new brake, providing the present brake is efficient.

"Each 'Visor' is sent out with worm wheel and gear for driving from engine shaft, and all attachments to pit head frame, starting valve and brakes. Where it is impossible for one of our engineers to see the engines, the following particulars are required to enable us to send the 'Visor' ready for fixing :—

1. Number of revolutions of drum per wind.
2. Maximum speed of engines during wind.
3. Number of revolutions from end of wind, when steam is shut off.
4. Sketch showing methods of working starting valve.
5. Sketch showing methods of working steam brake.
6. If there is no steam brake, sketch showing type of foot brake, and how worked.
7. Sketch showing room available on crank or drag crank shaft for fixing 'Visor' driving wheels.

"The illustration (Plate IV., Fig. 1) has been specially prepared to show how the 'Visor' does its work, and it must be understood that the positions are not drawn with absolute accuracy.

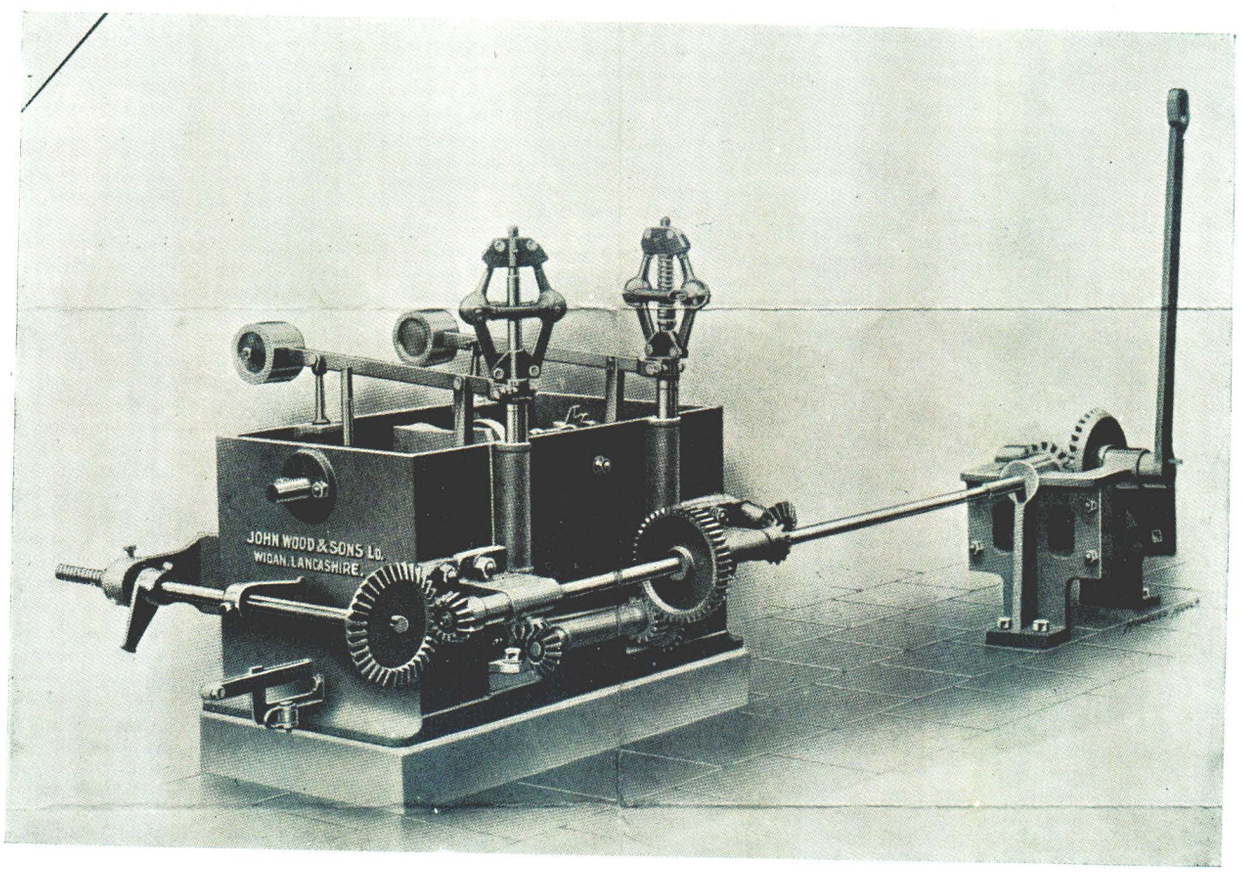
"The governors (A) which act only as speed indicators are driven by suitable gearing from the crank or drag crank shaft of the winding engines, as also is the worm wheel shaft (B); the latter shaft makes approximately one revolution per winding, and carries the beaked cams (C) which are adjusted to the exact required positions. As the speed of the engines gets up, first one and then the other governor flies out quickly, and throws (through the medium of levers D), the vertical arms (E) with hooks attached inwards, bringing the said hooks in line of contact with beaked cams (C). When nearing the end of the wind, if the engines are brought to rest in the usual manner, the governors fall, and bring back the hooks out of the line of contact.

"If, however, through any cause whatever, steam is not shut off at the usual point, or the engines not being slowed down, the hooks make contact with the beaked cams (C), and thus lift up the sliding frame and bar (F); this is connected to the pawl (G), which being lifted out of the notch in the bar (H), releases the same, and as this holds the weight (K) in suspension, these immediately fall, and respectively close the starting valve, and apply the brakes.

"The arrangement of levers for closing the Valve, or applying the brake is the one most commonly used, but it will be easily understood that local arrangements necessarily entail special designs to suit.

'The one shown acts as follows :—O. Is the actuating shaft for the starting valve or steam brake (as the case may be), and is worked by the engine through the lever N, which is keyed on. On this

Plate 4.



The "Visor" (Bertram's Patent).

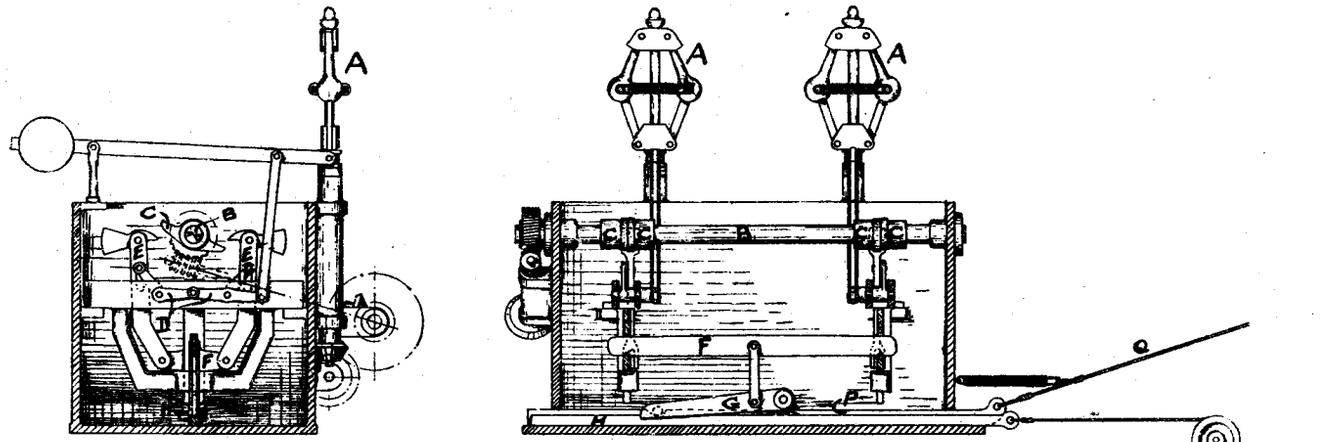
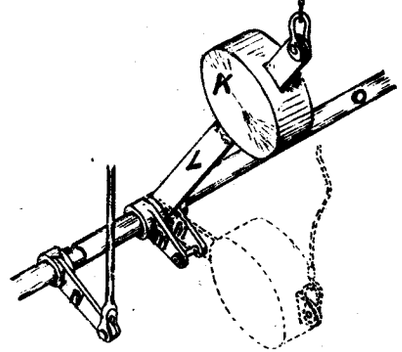


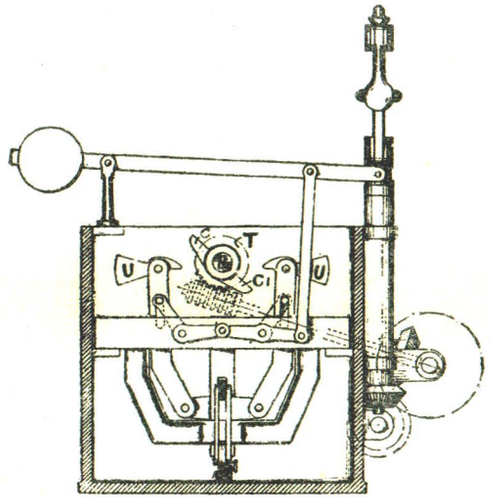
Fig. 1.



THE "VISOR."

(BERTRAM'S PATENT.)

H.J. Pether, Government Lithographer, Perth, W.A.



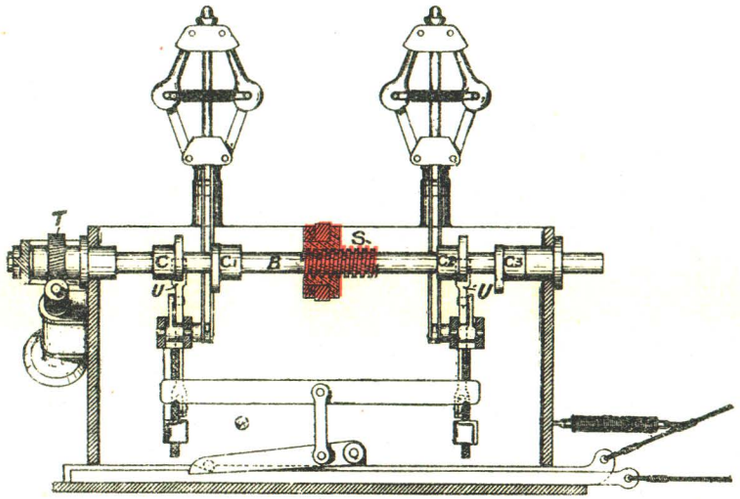
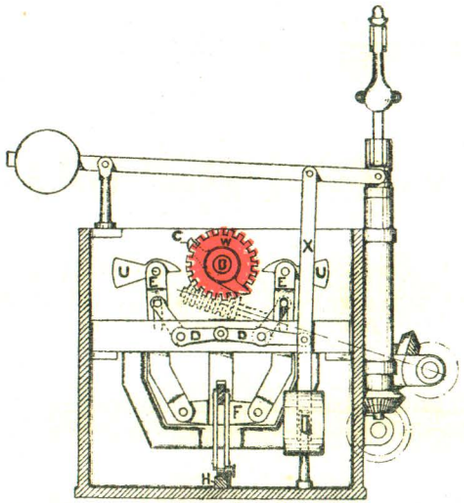


Fig. 2.



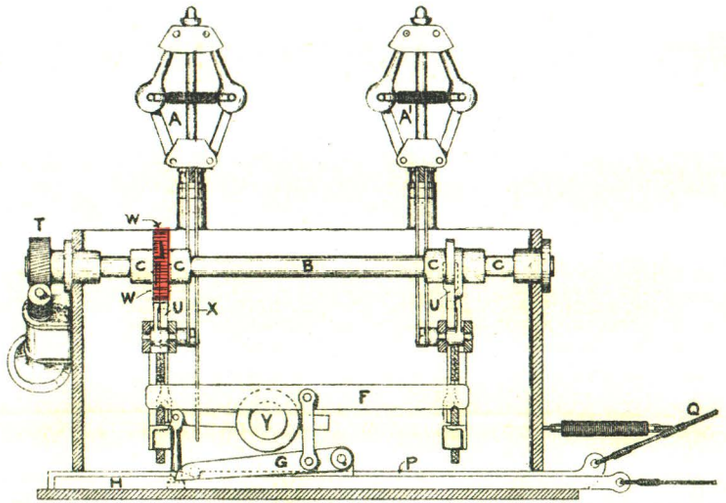
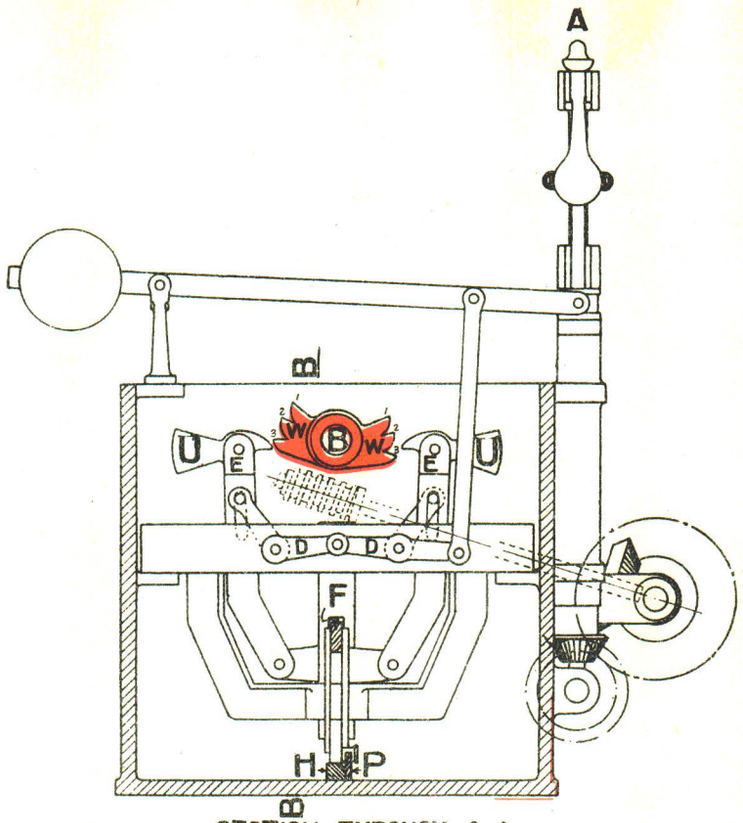


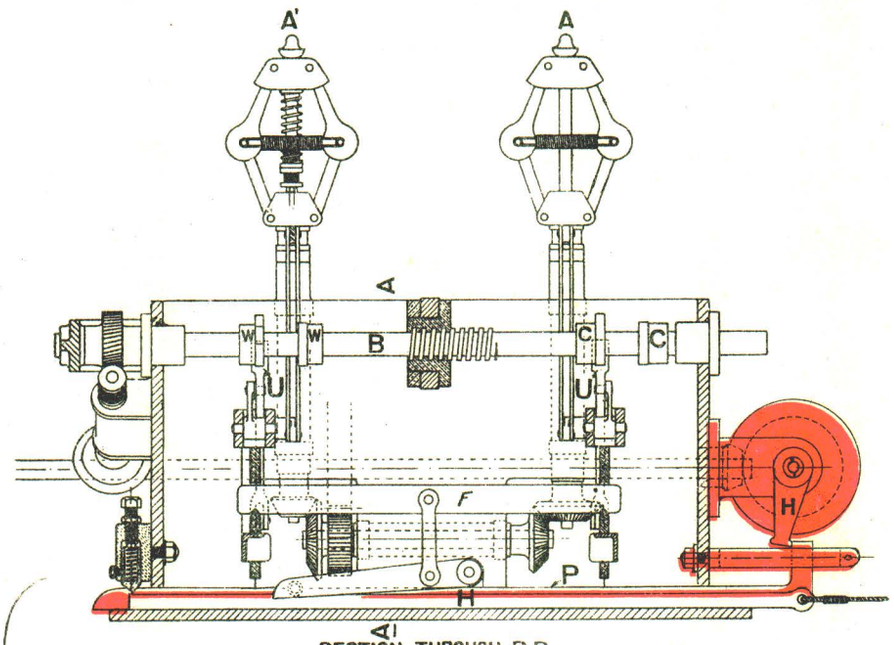
Fig. 3.

H.J. Pether, Government Lithographer, Perth, W.A.

Fig. 5

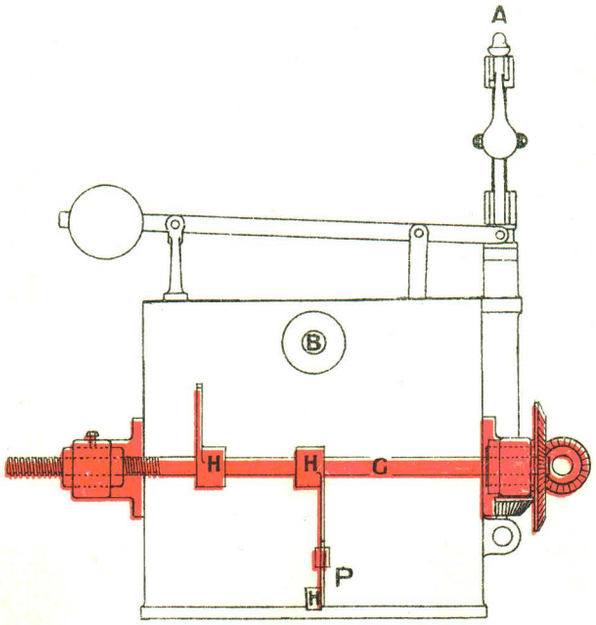


SECTION THROUGH A.A.



SECTION THROUGH B.B.

Fig. 4



END ELEVATION.

H.J. Pether, Government Lithographer, Perth, W.A.

shaft are also keyed, double levers M, with the loose lever L, between the same. On the lever L is the weight K, which is held in suspension by a cord attached to the draw bar H of the 'Visor.' When the engineman is working this shaft, the lever L is stationary, and the levers M work up and down underneath it. When the weight is released by the 'Visor' it falls and forces the lever L on to the levers M, which, being keyed on turn the shaft and close the starting valve, or apply the brake. Of course, two of these arrangements are necessary, *i.e.*, one for the starting valve, and one for the brakes.

"It will also be noticed that in the 'Visor' there is a second draw bar P, which is connected by the wire cord Q to catches in the pit head frame. These are fixed over the cages, so that, should the engines be started in the wrong direction, the draw bar P is drawn out, and will, as seen, release draw bar H, and stop the engines.

"It will therefore be seen that so long as the engines are properly controlled, nothing out of the ordinary occurs, but should the engineman neglect his duty in any way whatever, then the 'Visor' steps in and does his work."

Messrs. Wood and Sons also make an improved patented arrangement for long winds shown in Plate V., Fig. 2, applying to the worm shaft, "which is given a longitudinal traversing motion, as well as a rotating motion, thus allowing the beaked cams to move at a considerably greater speed than heretofore. In a long wind with the worm shaft making only one revolution, and merely rotating, the travel of the beaked cam is very slow, and in the event of the apparatus coming into gear, apt to allow the engines to run too far, owing to the slow release. But with the longitudinal traversing motion, the cams can be made to revolve two or three times or more during the period of the wind, thus causing the apparatus to be released very quickly, and, consequently, steam shut off from the winding engine, and the steam brake applied.

"DESCRIPTION.—The worm shaft is threaded S, and the beaked Cams C, C1, C2, and C3, are secured on the worm shaft in relatively suitable positions for the number of revolutions required. As drawn in the illustration, the worm shaft makes four revolutions per wind. The two beaked cams C and C1 are shown opposite the trips or hooks U in the positions occupied at the end of the winds. During the wind the shaft B is rotated by the worm wheel T, which is fitted on a feather key, to allow shaft to traverse through same. The screwed portion S, causes the shaft to traverse longitudinally, until at the end of the wind, the cams C1 and C3, come into line of contact with hooks U, and disengage the 'Visor,' unless the speed of the engines is suitably retarded in the usual manner."

Another improvement to prevent excessive speed of the winding engines is shown in Plate V., Fig. 3, which not only prevents overwinding and starting in the wrong direction, but also prevents the engine *being run above a predetermined* speed. To illustrate: a pair of winding engines when doing what is considered their full duty, attain a maximum speed of say, 60 revolutions per minute, or one revolution per second. It may, owing to peculiar local circumstances, be considered unsafe to run much above the speed, even when winding coal. Granted that this is so, then it is manifestly unsafe to attain a higher speed when lowering men down the pit, as, at this time, when the heaviest weight is in the descending cage, the tendency is for the engines to race. In such a case, we should recommend the Improved 'Visor' which, when the speed attained to, say, 65 to 70 revolutions per minute, would automatically come into action and stop the engines in its usual manner.

"Detailed description.—In connection with the slowest of the two governors A, there is arranged a multiple cam W, which is also secured to the worm shaft B. During a winding operation, when the engines are running at their normal speed, the hooks U are, as previously described with the original 'Visor,' thrown into the path of contact of the beaked cams C, but not sufficiently far as to engage in the notches of the multiple cam W. If, however, the speed be sensibly increased, say by five to ten revolutions per minute, then the governor A, by expanding still further, lifts the weight Y by the link X, and thus throws the hooks U into contact with the multiple cam W. This, of course, immediately releases the draw bar H, and the engines are brought to a standstill.

"It will be noted that this improved arrangement is *in gear* from the beginning to the end of the wind, so that at no point in the wind is it possible to exceed the maximum speed determined upon."

An improved device to prevent starting in the wrong direction is shown in Plate VI., Fig. 4. "A small shaft G at the end of the 'Visor' box is driven by bevel gearing from the drum shaft, and the ration of the gearing is such that the shaft G has approximately the same number of revolutions as the drum shaft. This shaft C is also given a cross traverse. Secured to the shaft C are two long cams H, which at the end of the wind (owing to the traversing motion) respectively come to rest just before the point of contact of the draw bar P. From this, it can be seen that should the cage after reaching banking out level, still continue to ascend, the cam H will immediately draw the bar P, and operate the 'Visor.' The same happens after banking out, should the engineman start the engines in the wrong direction. To show the quickness of the operation, it is only necessary to draw the bar P one-third inch. The radius of the cam H is four inches, and to illustrate—supposing the winding drum is 16 feet diameter, the radius is eight feet or 96 inches. $\frac{96}{4}$ = 24 to 1 ratio, $\frac{1}{8}$in. of 24 = 3 in. travel of cage, to operate the 'Visor.'

Yet another improvement is a device to prevent increase of speed at the end of the wind, Plate VI., Fig. 5. "After the speed of the engines at 4 to 5 revolutions from the end of the wind has decreased sufficiently for the cam to pass the hook in connection with the slow governor, there is arranged in connection with the fast governor A1, a three beaked cam W, secured to the worm shaft B. During the winding operations, when the engines are, say, from 1½ to 2 revolutions from the end of the wind, and the speed is not sufficiently decreased, the hook U comes in contact with the first of the beaks on cam W. This, of course, immediately releases the draw bar H, and the engines are brought to a standstill. If the speed be slow enough to allow of the cam W to pass the hook U, and the steam be again

applied so that the speed of the engine be increased, then the second of the beaks on cam W will be brought into the path of contact of the hook U, and the 'Visor' will be brought into operation.

"Should the speed of the engines be decreasing sufficiently to allow the first two beaks of the cam W to pass the hook, but not sufficiently to come to rest at banking level, then the last of the beaks would put the 'Visor' into operation just before the cage reaches the top."

'Simplex' Patent Overwinder, made by Robert Daglish & Co., Ltd., St. Helens Foundry, Engine and Boiler Works, St. Helens, Lancashire.

"The device, though quite new, is in successful operation in this country.

"The cost of the Overwinder is One hundred and twenty pounds (£120 nett), packed and delivered, f.o.b. Liverpool, with the Winding Indicator as shown; if without the Winding Indicator, Five pounds (£5) less.

"Full particulars should be sent of the engine with each inquiry, giving the number of revolutions per wind; depth of pit; size of drum, cylinders and stroke; steam pressure; time of winding; and if the Indicator has to be driven off the crank shaft by means of a chain and wheels, or by means of a drag crank as shown—if the former, the diameter of the shaft where the chain pulley sits on it should be sent."

This overwinder is described as follows in "The Iron and Coal Trades Review" of August 4th, 1911:

"It is a matter for serious consideration whether exception can be taken to the clause in the new Mines Bill which has for its object the compulsory adoption of one of the many devices for the prevention of overwinding. There are at the present time very many collieries, and a fair percentage of these by no means small ones, whose only preventive appliance consists of a releasing gear, and it is eloquent testimony to the care taken by the enginemen that we do not more frequently hear of fatalities resulting from overwinding.

"The release hook, though a very necessary and important unit of equipment, as tending to mitigate the disastrous effect of over-winding, cannot by itself be regarded as preventive. Such devices may, and generally do, act perfectly so far as the release of the rope and the suspension of the bull-chains is concerned, but, needless to say, they do not check the impetus of the ascending cage, and if kinging takes place with the engines running at anything approaching full speed, an accident of a more or less serious nature is inevitable. This factor of danger has become proportionately greater with the speeding up of engines, which has now become almost universal. We may not be able to wholly eliminate the danger, but we can at least reduce it so far as is humanly possible by the adoption of some form of apparatus which shall ensure a safe maximum of speed during the latter portion of the wind and the application of the brakes if that predetermined speed is exceeded, or if the engine is not brought to rest on the completion of the wind.

"There are many such forms of apparatus on the market, but the present trend of legislation cannot fail to lead to further developments in this direction. There are certain essentials in such apparatus which in many otherwise excellent devices have been overlooked. The most important is, perhaps, the advisability of the mechanism always being in gear, i.e., forming part and parcel of the winding unit; as with anything in the nature of a stand-by, only called upon in a case of emergency, it too frequently happens that, when such call is made, the apparatus has, from rust or other causes (incidental to the lying-by), become more or less inefficient, if not wholly useless. The other essentials are positiveness of action, simplicity and accessibility of the working parts, and last but not least, economy in initial cost. No maker of repute will sacrifice in the smallest degree efficiency for economical production, but at the same time the requirements of the smaller or less prosperous undertakings have to be considered.

"These are the paramount considerations which have led Messrs. R. Daglish & Company, Limited, St. Helens, Lancashire, to evolve what they appropriately call the "Simplex" Patent Over-Winder. They claim that it is the simplest and the least complicated of any that have yet been introduced, although it covers all the necessary points which have to be dealt with in an over-winder. The apparatus will retard the engine when the speed is slightly in excess of normal, and when three or four revolutions from the top. Should the engine speed be greater in the last three or four revolutions when approaching completion of the wind, or should the engineman by accident put on steam between these points, part of the braking mechanism will suddenly close the regulator or throttle-valve, and apply the brake with a pressure corresponding to the speed of the engine.

"The apparatus may be worked by gearing chain drive, or direct from the crank of the engine. This last method is shown in our illustration Fig. 1, in conjunction with which the following description explains the construction and working of the apparatus. "The mechanism is driven from the crank of the engine on the shaft A, which drives the screwed spindle D through bevel wheels B and C. On the screwed spindle are two guide nuts EE, which can be adjusted to meet the required depth of shaft or wind, while fixed on the nuts are rollers FF, which actuate the wipers HH. When the engine commences to wind the nuts travel along the screwed spindle, releasing the wipers, which move upwards, drawing down the racked lever J. At the same time, the governor will rise, pushing forward the vertical rod K. Should the speed of the cage be slightly in excess of the normal in the last three or four revolutions of the wind, the governor will still hold the vertical rod K forward, and the rollers running down the wiper will force up the lever J, and engage with the rod K, drawing forward the trip rod M through the lever L, which will suddenly close the regulator and apply the brake with a pressure corresponding to the speed of the engine.

"When the trip or braking rod is once drawn back to apply the brake, whatever may be the position of the governor, there is no release; the rod being notched at the end is held back by the sliding handle N. Should the engine from any cause creep away, or insufficient braking power be applied, and the cage reach a certain point above its normal position, one of the nuts EE will strike against one of the collars OO, fixed at opposite ends of the sliding bar G, which operates a double-movement bell-crank P, drawing back the catch lever T through the double-ended rod S, and thus quickly releasing

Plate 7.

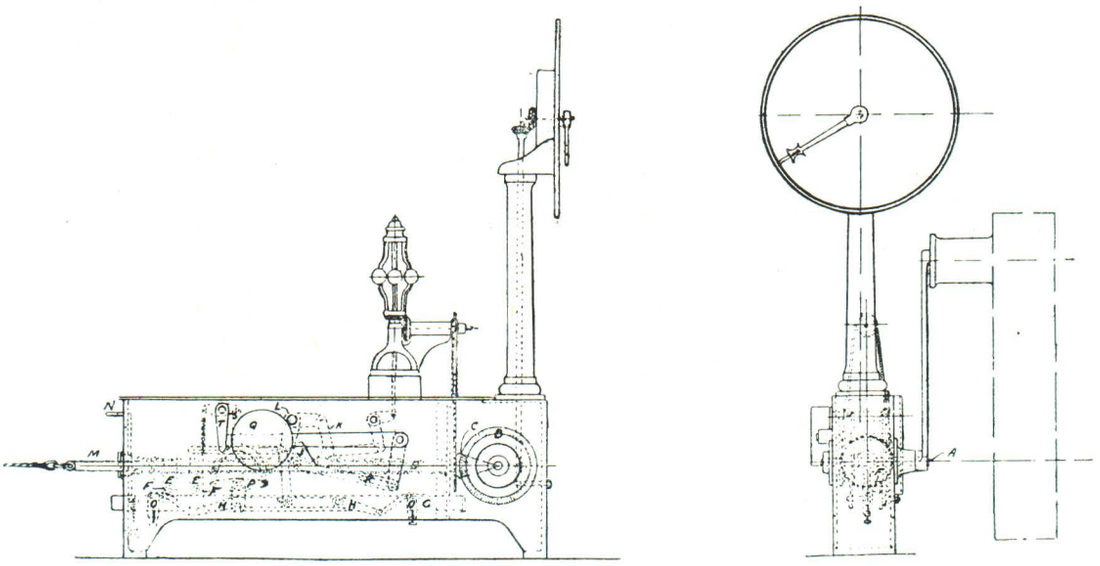
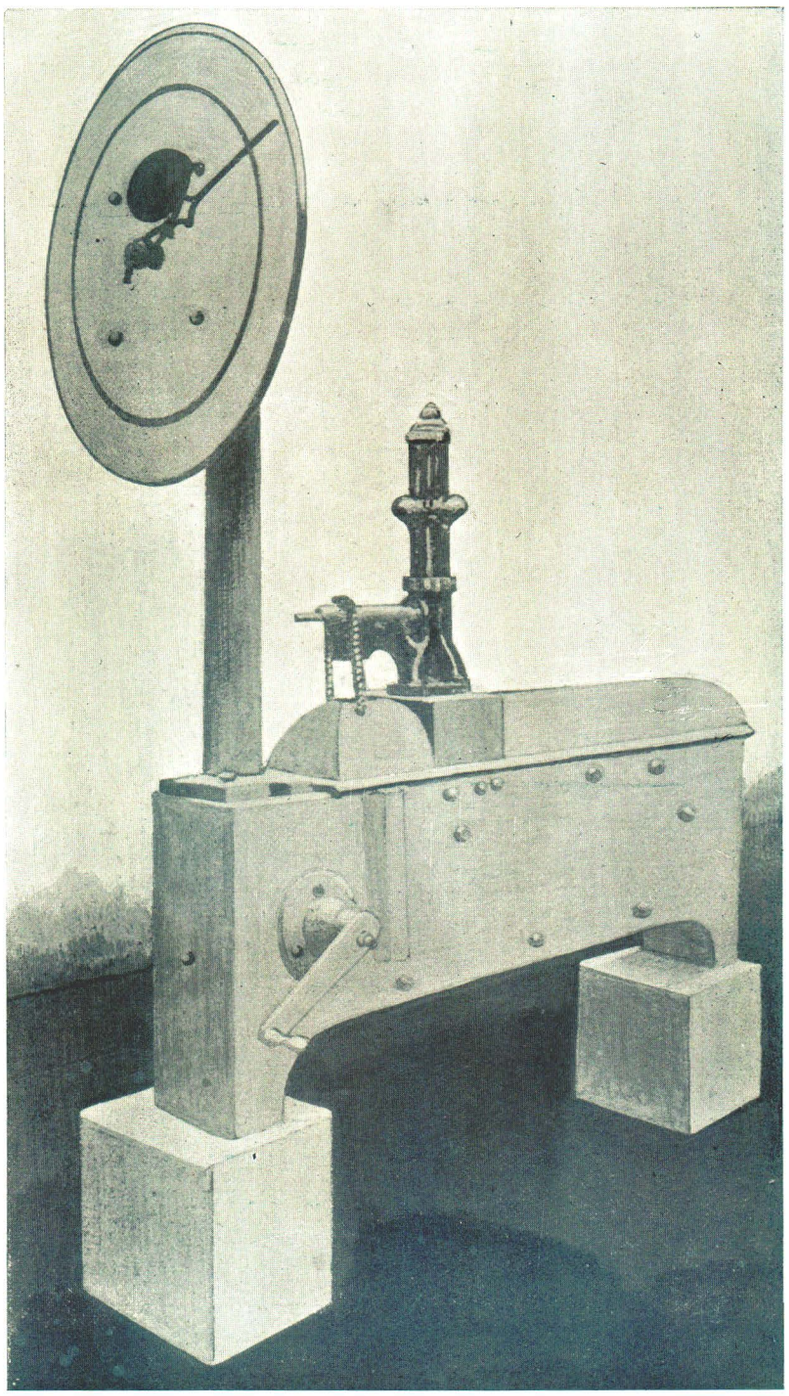


Fig. 1.

The "Simplex" Patent Overwinder.



The "Simplex" Patent Overwinder.

the weight Q, which, being connected to the braking rod M, through the lever E and the floating rod R, will close the regulator and apply full braking power to the engine simultaneously. Should the engineman start his engine in the wrong direction, the weight will be instantly released, performing the same operation as above.

"When the engine has made a partial over-wind and the cage has come to rest before reaching the surface in the last three or four revolutions, the brake is thus only partially applied according to the speed of the governor, doing away with any heavy jerking at the cage and lessening the great strain put on the ropes by the sudden application of the full brake power. To release the brake, a small handle N is raised, when the brake is released, the throttle valve being free to engage in its former position. When the engine has made an over-wind, or the engineman started it in the wrong direction, the weight which has applied the full braking power will be lifted and the engine brought back to its normal running position.

"The indicator is of the column type worked with worm and wheel from the shaft A. It is fitted with a gong and large dial, and the pointer travels seven-eights of a revolution for each wind. The 'Pickering' governor is worked from the screwed spindle by means of sprocklet wheels and a roller chain."

APPENDIX No. 3.

CAGE JUNCTION PLATFORMS.

A recent improvement in the facilities for loading tubs or trucks of ore or mineral into cages, especially those with more than one deck, at plats in deep shafts has been to provide adjustable loading platforms which enable the trucks to be rapidly adjusted to the floor level of the cage without needing to have the latter raised or lowered by the engine. The makers, the Wolf Safety Lamp Coy., Ltd., Aire Works, 37 York Place, Leeds, England, have been good enough to send the following information about these platforms :—

"The platforms possess several meritorious features, one or two of which are, the more rapid loading and unloading of the cages, the largely increased winding capacity of the plant, the entire prevention of the jamming of the cages, etc., etc.

"We might state that over 300 of these platform installations are already in use in various parts of the world, and are giving the utmost satisfaction.

"The approximate cost of a set of four platforms would be £150, but, of course, the price might vary somewhat if the platforms had to be specially made to suit local conditions.

"Loading and unloading of the shaft cages in ordinary mining practice takes place either whilst the cages are suspended freely by the winding rope or while resting on keps, fixed frames, or balance tables.

"The system of free suspension, so far as the strain on the winding engine, rope, and cage is concerned, is undoubtedly the simplest and preferable method. It can be employed without the use of any auxiliary appliances for shafts 300 to 400 yards in depth, the difficulties arising from the stretching of the rope being only encountered where greater depths are in question. The longer the rope the greater the difficulty of accurately setting the two cages simultaneously at bank and the pit bottom respectively, the difference in load invariably producing inequalities in the length of the rope. Even in shafts of moderate depth this system entails considerable wear on the cage bottoms and the tubs, especially the wheels of the latter.

"Hitherto the use of keps or other fixed resting devices has been indispensable for deep shafts, in order to enable the cages to be loaded and unloaded; but the inconveniences and defects of keps are well known. A large proportion of the accidents occurring during winding are traceable to the cage being lowered too suddenly on the keps. These latter appliances are also responsible for numerous interruptions in the work of winding, apart from the rapid wear and tear of the cage bottom and the winding rope caused by their use.

"These inconveniences are entirely obviated by the cage junction platforms, which enable the freely suspended cage to be loaded and unloaded whatever the depth of the shaft.

"The cage junction platforms, patents of which have been granted to Mr. C. Eickelberg, a Westphalian mining engineer and manager of the large and up-to-date Werne Colliery, are illustrated in the accompanying drawings. (Plate VIII.)

"As can be seen from the drawings, the platforms effect a connection between the rails at the pit bottom and those of the cage. The outer ends of the platforms rest on the rails in the cage, whilst the other end is connected with the pivot of the rail track in the pit bottom. The platform is operated from the side by means of a lever, the operation being carried out very easily by the fact that the platform is fully counterbalanced by weights.

"The end of the platform resting on the cage rails fluctuates up and down with the movement of the freely suspended cage, which is being loaded and unloaded, so that the tubs can be run in and out of the cage, even though the latter is not exactly on the same level as the floor of the pit bottom. This advantage is most apparent in deep shafts, though also appreciable when smaller depths are in question.

"When the loading and unloading of the cage is completed, the platform has to be drawn back out of the shaft. To prevent accidents arising from the omission of this precaution, the outer end of the platform is provided with pawls, which are mounted in such a manner that they always tend to assume a horizontal position, so that if struck by the descending cage they give way before it and allow it to pass by without injury. By this means any neglect on the part of the men is counteracted without interrupting the work.

"In the case of the shallow shafts, the advantages of the junction platform are manifested in a diminution in the wear and tear of the tubs and cages, and in greater speed in loading and unloading whereby the total winding capacity of the plant is augmented.

"The great advantage of the junction platforms as it is evident will be found when adopted at the pit bottom; however, they also can be used advantageously at the bank.

"In comparison with the keps and other resting arrangements for the cages hitherto in use, the junction platforms possess the following points of superiority :—

"1. The loading and unloading of the cages can be effected more rapidly, and the winding capacity of the plant largely increased.

"2. The jamming of the cages is entirely precluded; hence the life of both cages and rope is considerably increased, and the troublesome repairing of the cages is largely obviated.

"3. Increased safety in winding.

"4. Accurate adjustment of the cage decks with the level of the pit floor is no longer essential.

"5. It is no longer necessary to reverse the engine several times when getting the cage decks into position, hence a saving of steam is effected.

"6. The simple construction of the platform lessens the cost of upkeep.

"7. There is less risk of tubs falling into the shaft sump.

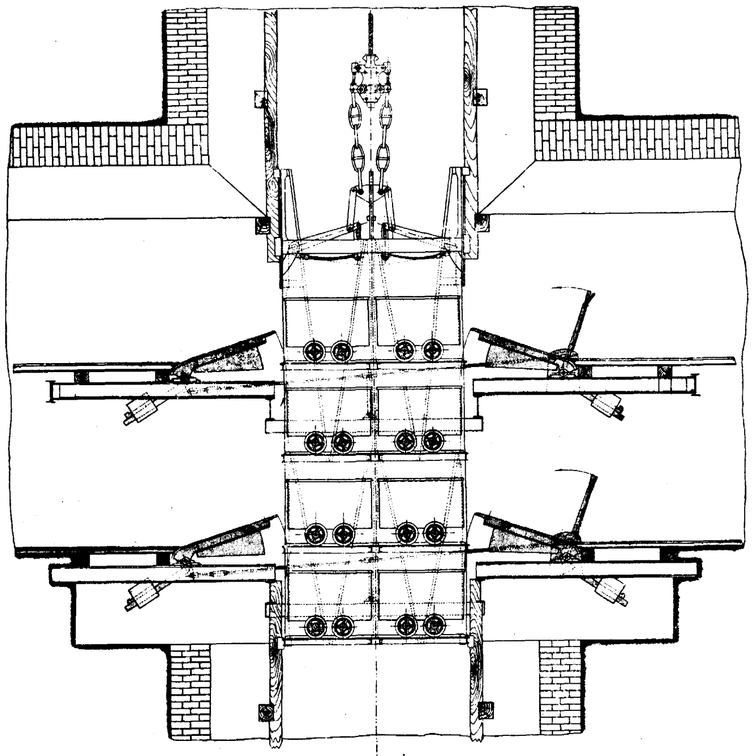
"8. The junction platforms can also be adopted at intermediate levels without any inconvenience.

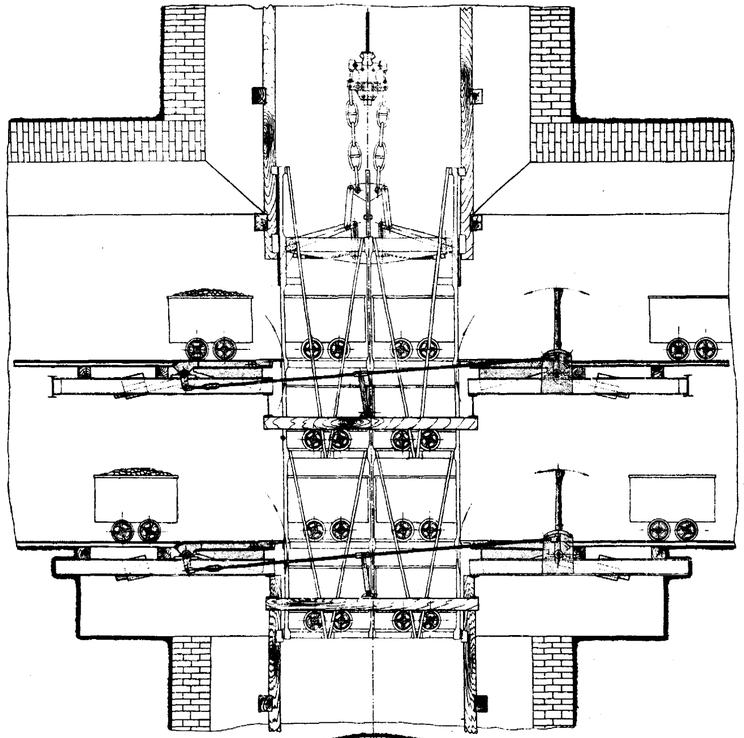
"The Patent Cage Junction Platforms have been adopted rapidly by numerous Westphalian and French Collieries, as well as by other mines. Up to the present, there are already 161 installations, with together 621 Junction Platforms in use, which, according to testimonials, are giving the highest satisfaction everywhere, fulfilling entirely the superiority claimed for and as stated above."

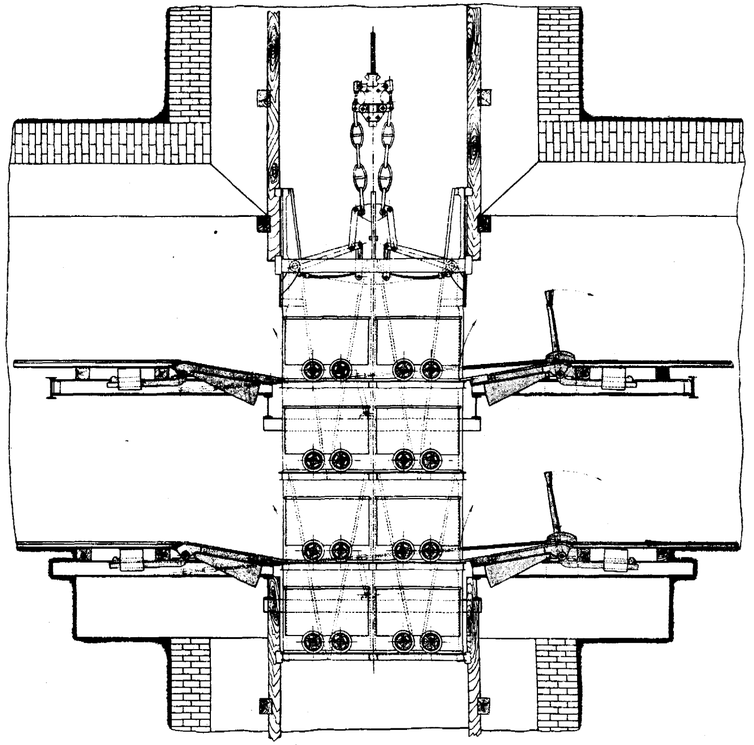
TWO-STAGE PIT BOTTOM ARRANGEMENT

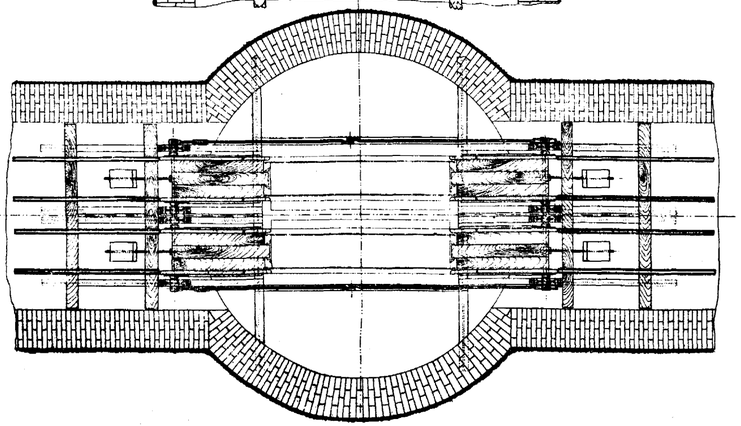
OF

CAGE JUNCTION PLATFORMS









IT IS CLAIMED BY THE SOLE LICENCEE, RICHARD CREMER, 37 YORK PLACE, LEEDS, FOR THESE CAGE JUNCTION PLATFORMS, THAT:-

THEY ENABLE THE FREELY SUSPENDED CAGE TO BE LOADED AND UNLOADED AT GREATEST DEPTH, WITH AN INCREASED OUTPUT (10% AND MORE), AND GREATER SAFETY IN WINDING.

THEY DO NOT REQUIRE KEPS AT THE PIT BANK.

THEY ENTIRELY PRECLUDE JAMMING OF THE CAGES AND EXTRA STRAIN UPON THE WINDING ROPE, HENCE THEY OBVIATE THE TROUBLESOME REPAIRS OF THE CAGES, AND CONSIDERABLY INCREASE THE LIFE OF BOTH CAGES AND ROPES.

THAT:-

THEY OBVIATE REVERSING OF THE ENGINE FOR DECKING, HENCE, BESIDES SAVING IN TIME, EFFECT A SAVING OF STEAM (7 to 10%).

THEY ELIMINATE THE NECESSITY OF ACCURATE ADJUSTMENT OF THE CAGE DECKS WITH THE LEVEL OF THE PIT FLOOR.

THEY FORM AN IDEAL MEDIUM OF CAGE JUNCTIONS AT INTERMEDIATE LANDINGS.

THAT:- THERE ARE MORE THAN 300 INSTALLATIONS OF CAGE JUNCTION PLATFORMS IN USE.

H. J. Pether, Government Lithographer, Perth, W.A.

ANNUAL REPORT OF THE BOARD OF EXAMINERS FOR COLLIERY MANAGERS' AND UNDER-MANAGERS' CERTIFICATES UNDER "THE COAL MINES REGULATION ACT, 1902."

The Secretary for Mines, Perth, W.A.

Office of the State Mining Engineer,
Department of Mines, Perth, W.A.,
31st March, 1912.

Sir,

We have the honour to submit, for the information of the Hon. the Minister for Mines, the following report of the Board of Examiners for Colliery Managers, etc., for the year 1911.

Two meetings were held during the year, on 27th April and 26th October.

Two First Class Certificates of Competency were granted to applicants on production of similar Certificates from New South Wales, and satisfactory evidence as to sobriety and character. One Second Class Certificate of Service was also granted.

An application for a First Class Certificate of Competency was received from an applicant who held an English Colliery Managers' Certificate of Service. He was informed that the Board had no power to grant a W.A. Certificate without examination, and therefore presented himself for examination, but only attempted one paper.

The following recommendations of the Board have been forwarded to the Hon. the Minister for Mines :—

(1.) Reciprocity with other States in regard to Certificates :—That the Act be amended so as to allow of reciprocity with other States of the Commonwealth in the matter of mutual acceptance of each other's Certificates.

(2.) That the whole section of the Coal Mines Regulation Act, 1902, dealing with the issue of Certificates be redrafted and amended.

(3.) That Regulation 31 be amended to read :—

Regulation 31 :—"The fees payable by applicants for Certificates shall be as follows :—

	£	s.	d.
Fee to be paid by an applicant for a First Class Certificate of Competency or Service	2	0	0
Fee to be paid on the granting of a First Class Certificate of Competency or Service	1	0	0
Fee to be paid by an applicant for a Second Class Certificate of Competency or Service	1	0	0
Fee to be paid on the granting of a Second Class Certificate of Competency or Service	0	10	0
Fee to be paid by an applicant for a first or Second Class Certificate of Competency or Service on production of an equivalent Certificate from any of the other Australian States or New Zealand	1	0	0
Fee to be paid on the issue of copy of any Certificate	1	0	0"

We have, etc.,

A. MONTGOMERY,
State Mining Engineer, Chairman.

HARRY P. WOODWARD,
pro Government Geologist, Member.

T. D. BRIGGS,
Inspector of Mines, Collie, Member.

F. A. LANE,
Acting Secretary.

DIVISION III.

REPORT OF THE SUPERINTENDENT OF STATE BATTERIES FOR THE YEAR 1911.

The Secretary for Mines.

Sir,—

For the information of the Hon. the Minister for Mines, I have the honour to submit the report on the State Batteries for the year 1911, being the fourteenth Annual Report.

Since the State Battery System was inaugurated in 1898 to the close of the year, 843,780.44 tons of ore have been milled for a yield by amalgamation of 865,220.90ozs. of gold bullion, valued at £3,146,990.41; 477,509.5 tons of sands have been treated for a return of 103,486.16ozs., valued at £429,274.14, and 92,982.75 tons of slimes treated yielded 21,996.58ozs., valued at £88,974.01.

The grand total of gold recovered from all processes since inception is valued at £3,665,238.56.

The sale of slimes at various centres has brought in revenue to the amount of £13,432, which is not included in the above figures.

Since inception to the close of the year, 51,553.5 tons of tin ore have been treated for a gross return of 723.176 tons of black tin.

Milling.

During the year 59,373 tons were milled for an expenditure of £37,343 2s., equal to a cost of 12s 6.94d. per ton, an increase of 1s. 3.61d. per ton, as compared with the cost during 1910.

The revenue from milling operations amounted to £29,284 11s. 9d., equal to 9s. 10.37d. per ton, an increase of 3.69d. per ton.

Only one mill showed a profit on milling operations, viz., Black Range, £229 11s. 11d.

Milling operations for the year show a loss of £8,058 10s. 3d.

On the Goldfields, the Department controlled 267 head of stamps, which were kept available for customers throughout the year. An additional 20-head of stamps were leased and also available for public crushing.

The total 287 stamps only had 59,373 tons to crush for the year, whereas they were capable of crushing at least 225,000 tons. It will be seen, therefore, that the stamps were only kept employed 26.38 per cent. of their time.

The tonnage milled during the year 1911 was 33.5 per cent. less than that milled during 1910. Such a serious drop in the tonnage is particularly difficult to cope with. With only two-thirds of the ore to handle and more stamps running, losses were inevitable.

Sand Treatment.

27,362½ tons of sand were treated at a cost of £8,884 2s. 5d., equal to 6s. 5.92d. per ton, an increase of 2.93d. per ton, as compared with the cost for 1910.

Considering the tonnage has decreased 37 per cent. during the year, the costs can be regarded favourably.

Sand treatment for the year shows a profit of £3,173 3s. 11d.

Slime Treatment.

28,183 tons of slimes were treated during the year at a cost of £12,613 5s. 11d., equal to 10s. 10.57d. per ton, an increase of 2s. 1.47d. per ton, as compared with the cost for 1910.

Slime treatment shows a loss of £1,666 9s. 6d.

Tin Treatment.

6,061 tons of tin ore were treated at the Greenbushes plants at a cost of £1,221 1s. 1d., equal to 4s. 0.35d. per ton, showing a decrease of 1s. 5.21d. per ton, as compared with the cost for 1910. The tonnage treated, however, showed an increase of 60.8 per cent. on last year's figures.

Tin treatment showed a loss of £187 16s. 2d. for the year.

Repairs and Renewals.

Milling.—£4,654 6s. 11d. was spent in maintaining the efficiency of the mills during the year, equal to 1s. 5.07d. per ton. The plants are in good order.

Sand and Slime Treatment.—£926 18s. 2d. was spent repairing and renewing the leaching plants, equal to 4.4d. per ton.

New Plants.

A plant was erected at *Quinn's*—5-head mill complete, removed from Messenger's Patch.

New 5-head plants have been ordered and despatched for Mt. Egerton and Payne's Find.

At Linden, a 10-head mill, removed from Kalpini, was erected, with a new 48-H.P. gas engine and producer plant.

Additions and Equipment.

During the year £750 17s. 6d. was spent under this heading as follows:—

	£	s.	d.
Burtville	92	9	10
Laverton	142	6	7
Linden	159	8	5
Marble Bar	145	3	3
Menzies	86	7	9
Mulwarrie	72	0	0
Sandy Creek	0	17	3
Yarri	38	8	7
Youanme	12	0	10
Greenbushes, S.W.G.	1	15	0
	£750	17	6

The tonnage supplied to the mills showed a great falling off as compared with the previous year, amounting to 33.5 per cent.

The following synopsis shows the results recorded from the plants during the years 1910 and 1911.

Operations.	1911.			1910.		
	Tons.	Expenditure per ton.	Revenue per ton.	Tons.	Expenditure per ton.	Revenue per ton.
Milling	59,373	12 6·94	9 10·37	89,278½	11 3·33	9 6·68
Sand Treatment	27,362·5	6 5·92	8 9·75	43,391	6 2·99	8 6·11
Slime Treatment..	28,183	10 10·57	9 5·32	28,599½	8 9·10	9 11·57
Tin Treatment	6,061	4 0·35	3 4·91	3,769	5 5·56	3 4·03

The above figures include all Head Office and General Expenses as well as—
Milling Repairs and Renewals .. .. .. £4,654 16 11 = 1s. 5·07d. per ton
Sand and Slime Treatment Renewals .. £926 18 2 = 4·40d. per ton

REVENUE AND EXPENDITURE—1911.

Operation.	Tonnage.	Revenue.	Expenditure.	Profit.	Loss.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.
Milling	59,373	29,284 11 9	37,343 2 0	..	8,058 10 3
Sand Treatment	27,362·5	12,057 6 4	8,884 2 5	3,173 3 11	..
Slime Treatment	23,183	10,946 16 5	12,613 5 11	..	1,666 9 6
Tin Treatment	6,061	1,033 4 11	1,221 1 1	..	187 16 2
Totals	115,979·5	£53,321 19 5	£60,061 11 5	£3,173 3 11	£9,912 15 11
				Less Profit	3,173 3 11
				Loss	£6,739 12 0
				Additions and Equipment ..	750 17 6
				Total Loss ..	£7,490 9 6

MANAGEMENT.

During the year the staff of managers was reduced by five, and in many cases one manager controls two or more plants.

As much economy as was possible was exercised in this direction.

I regret having to record the death of Mr. J. W. Carlyle, who was in charge of the plant at Meekatharra. Mr. Carlyle was one of the senior managers, and one of the Department's most trusted officers.

The standard of the management is really good.

Following are comments on the year's operations at the various plants:—

Black Range.

On a small tonnage good work has been done at this plant during the year.

Milling costs, 8s. 2.15d. per ton, were second on the list, a profit of £229 11s. 11d. being made. This is the only mill which made any profit on milling operations for the year.

Sand treatment costs were 4s. 6.70d. per ton, which were third on the list of plants, showing a profit of £552 6s. 2d.

Slime treatment costs, 11s. 3.80d., were high, due to the accumulations being scattered as the treatment neared the end. All the accumulations at the old sites have been treated. A loss of £348 6s. 10d. was made.

The total profit for the battery, including all operations was £436 11s. 3d. for the year.

The plant was in good order at the close of the year.

Boogardie.

Only 773½ tons of ore were milled until the end of October, when the mill was leased.

A loss of £590 6s. 2d. was recorded from this plant, which was in good order at the close of the year.

Burtville.

2,116½ tons were milled, at a cost of 12s. 8.13d. per ton, showing a loss of £229 15s. 1d. On account of an accident to the mill engine heavy repairs amounting to £325 3s. 11d. had to be met.

1,297 tons of sand were treated at a cost of 5s. 8.70d. per ton, giving a profit of £262 5s. 2d.

All operations showed a loss of £83 12s. 7d. The plant is in good order and condition.

Coolgardie.

On a greatly decreased tonnage, viz., 3,778½ tons, the milling costs were 8s. 11.78d., a loss of £249 8s. 3d. was recorded. The costs were third on the list.

Sand treatment costs were 5s. 9.33d., showing a profit of £100 16s. 4d.

The plant is in fairly good condition, and is now managed conjointly with Norseman.

Darlot.

1,660 tons were milled at a cost of 13s. 2.18d., resulting in a loss of £213 7s. 6d. The plant has been very well maintained, and is in better order now than it has been for years.

There is no cyanide plant in operation.

Desdemona.

As a result of milling 167½ tons, at a cost of 46s. 3.09d. per ton, a loss of £278 10s. 10d. was incurred.

There is no prospect of keeping this plant supplied with ore.

Laverton.

Only 383½ tons were milled for a cost of 32s. 1d. per ton, the loss being £402 16s. 8d.

270 tons of sand were treated, cost 8s. 0.3d. per ton, showing a profit of £22 8s. 7d.

The loss on all operations was £380 8s. 1d.

The plant is old, but in fair condition, and is run in conjunction with Burtville.

Leonora.

3,387 tons were milled at a cost of 12s. 3.02d. per ton, resulting in a loss of £376 12s. 6d.

1,862½ tons of sand were treated, cost 7s. 5.48d. per ton, showing a profit of £183 17s. 7d.

The slime plant was idle during the year.

The loss on all operations was £196 18s. 11d.

The plant has been well maintained, and is in good order.

Linden.

Milled 2,217 tons, at a cost of 15s. 11.10d., the loss being £517 6s. 1d.

345 tons of sand were treated at a cost of 17s. 4.52d. per ton, the loss being £133 3s. 4d.

During the year the 10-head mill was completed and put into operation. A drive was put in near the bottom of water shaft as storage for water.

Meekatharra.

1,132 tons were milled at this centre at a cost of 16s. 3.85d. per ton, the loss being £353 18s. 3d.

650 tons of sand were treated, the cost being 8s. 11.88d. per ton, and the loss £40 7s.

The loss on all operations was £394 5s. 3d. The mill and power plant are to be replaced by a new 5-head mill and gas producer plant, now on order.

Menzies.

4,305 tons were crushed at a cost of 9s. 3.59d. per ton, showing a loss of £172 18s. 3d. New battery boxes were placed in position, and this expense, together with other extensive repairs and renewals, was responsible for an expenditure of £487 6s. 8d. under the heading of "Repairs and Renewals."

1,745 tons of sand were treated at a cost of 5s. 6.7d. per ton, returning a profit of £348 4s. 4d.

The slime plant treated 9,364 tons at a cost of 9s. 7.55d., and showed a loss of £30 11s. 4d.

The profit on all operations was £144 13s. 9d.

The plant is in really good order and condition.

Marble Bar.

1,615½ tons were milled at a cost of 13s. 5.29d. per ton, for a loss of £131 18s. 8d.

There is no cyanide plant.

Mt. Ida.

2,837 tons were crushed at a cost of 12s. 8.35d., the operation showing a loss of £206 1s. 2d.

A new 5-head mill and 30-H.P. gas engine and producer plant are on order, and will replace the old mill.

Mt. Sir Samuel.

At this plant 1,484½ tons were milled at a cost of 15s. 5.04d. per ton, resulting in a loss of £372 14s. 4d.

There is no cyanide plant at present.

Mulline.

Only 2,769 tons were milled, at a cost of 13s. 11.9d. per ton, the loss being £391 17s. 10d.

The sand plant treated 1,358 tons at a cost of 9s. 7.68d., and showed a profit of £6 18s. 8d.

The slime plant was not put into commission during the year.

The plant, though old, is in fairly good order. The loss on all operations was £430 1s. 2d.

Mulwarrie.

1,459½ tons were crushed at a cost of 18s. 4.48d., the loss being £536 16s. 2d.

803 tons of sand were treated at a cost of 9s. 4.78d., a profit of £13 2s. 4d. being shown.

The plant is in fair order, and is managed conjointly with Mulline. The loss on all operations was £523 13s. 10d.

Nannine.

Only 632 tons were milled, at a cost of 19s. 10.16d., the loss being £283 3s. 4d.

No sand was treated. The plant was well maintained, and is in good order.

Niagara.

3,735 tons were milled, at a cost of 11s. 6.5d. per ton, showing a loss of £249 5s. 3d.

3,123 tons of sand were treated, at a cost of 5s. 0.02d. per ton, and showed a profit of £682 11s. 11d.

The slime plant treated 2,940 tons, at a cost of 10s. 3.32d., and a loss of £52 6s. 1d. ensued.

The profit on all operations was £381 0s. 7d.

The plant is in fair condition.

Norseman.

The tonnage milled dropped down to 2,302½ tons, and was treated at a cost of 13s. 9.67d., showing a loss of £407 10s. 3d.

1,234 tons of sand were treated at a cost of 8s. 5.53d., showing a profit of £10 8s. 11d.

The slime plant did not work during the year.

The loss on all operations was £397 1s. 5d.

Great difficulty has been experienced with the extraction at the leaching plant.

The plant is in fair condition.

Pig Well.

Only 145½ tons were crushed at a loss of £150 18s. 7d.

72 tons sands were treated at a loss of £5 18s. 4d.

The total loss at Pig Well was £156 16s. 11d.

This plant is managed in conjunction with Leonora.

Pinjin.

Only 922½ tons were milled, at a cost of 13s. 10.62d., and showed a loss of £183.

672 tons of sand were treated at the low cost of 4s. 6.57d. per ton, resulting in a profit of £1 8s. 1d.

The total loss for the year was £181 11s. 11d.

This plant, which is in good order, is managed in conjunction with Yarri.

Sandy Creek.

Only 642½ tons were milled, at a loss of £218 9s. 4d.

478½ tons of sand were cyanided at a cost of 9s. 7.60d., and showed a profit of £40 6s. 1d.

The total loss was £171 2s. 2d.

This plant is managed in conjunction with Marble Bar.

Siberia.

1,484½ tons were milled at a cost of 15s. 4.93d., and a loss of £387 2s. resulted.

733½ tons of sand were treated at a cost of 8s. 3.18d., showing a profit of £44 13s. 9d.

262 tons of slimes were treated at a cost of 10s. 10.57d., resulting in a loss.

The loss on all operations was £353 19s. 1d.

The plant is in fairly good order.

Quinns.

2,684 tons were milled at a cost of 11s. 2.65d. per ton, returning a loss of £108 8s. 9d.

There is no cyanide plant here.

The plant is in good order, and is managed in conjunction with Nannine.

Wiluna.

4,083 tons were crushed at a cost of 11s. 6.08d. per ton, resulting in a loss of £222 15s. 3d.

2,301 tons of sand were treated at a cost of 6s. 5.76d., a profit of £357 9s. 7d. resulting.

1,794 tons of slime were treated at a cost of 17s. 8.66d., the loss being £693 0s. 10d.

Extensive repairs and additions have been made at this plant. New battery boxes have been installed, also a new 48-H.P. gas producer plant. New buildings have also been erected.

Yarri.

3,610 tons of ore were milled at a cost of 10s. 11.39d. per ton, showing a loss of £93 16s. 7d.

2,756 tons of sand were cyanided, at a cost of 4s. 3.27d. per ton, for a profit of £369 14s. The cost of sand treatment at this plant heads the list.

29th April, 1912.

1,982 tons of slime were treated at a cost of 6s. 6.86d., the loss being £56 4s. 11d.

The profit on all operations amounted to £219 12s. 6d.

The plant is in good order, and is managed in conjunction with Pinjin.

Yerilla.

877 tons were crushed at a cost of 17s. 6.62d., the loss being £309 4s. 5d.

1,277 tons of sand were treated at a cost of 7s. 8.12d., the loss being £29 3s. 4d.

153 tons of slime were treated at a cost of 6s. 3.32d., the profit being £17 10s. 6d.

The loss on all operations was £320 17s. 3d.

This plant is dilapidated and is run in conjunction with Niagara.

Youanme.

4,226 tons were milled during the year at a cost of 6s. 11.08d., a loss of £132 4s. 7d. resulting. This cost is head of the list of all the batteries, and yet a loss was made, the revenue being too small.

1,532 tons of sand were treated for a profit of £324 14s. 10d., the cost per ton being 5s. 5.47d.

The profit on all operations was £192 10s. 3d.

The plant is in good order and condition.

Ravelstone.

No crushing. Loss, £152 13s. 1d.

Widgiemooltha.

Crushed 191 tons. Loss, £187 12s. 9d.

Randalls.

No crushing. Loss, £157 0s. 11d. This plant is now closed down.

MILLS LEASED.

Lennonville.

Crushed 158 tons. Loss, £54 9s. 11d.

Tuckanarra.

Crushed 289 tons. Profit, £18 19s. 6d.

TIN PLANTS.

Greenbushes, Bunbury End.

5,475 tons were treated at a cost of 3s. 4.65d. per ton, the loss being £78 15s. 5d.

Greenbushes, Salt Water Gully.

586 tons milled at a cost of 10s. 0.28d., the loss being £157 0s. 9d. This mill commenced work during the year, but, so far, has not met with much support. It is managed in conjunction with the Bunbury End plant.

The attached statements show the details of the returns from the plants.

A. M. HOWE,
Acting Superintendent of State Batteries.

Return showing the number of Tons crushed, Gold yield, Average per Ton, and Value since Inception to 31st December, 1911.

Battery.	Tons Treated.	Gold Yield.	Average Gold per ton.	Value.
		Ozs.	Ozs.	£
Black Range	48,322·15	52,267·95	1·08	188,360·50
Boogardie	42,479·65	21,443·02	·50	78,589·06
Burtville	26,127·50	57,965·71	2·21	209,982·37
Coolgardie	45,884·00	40,046·24	·87	144,223·55
Darlot	29,606·75	35,335·74	1·19	130,637·45
Desdemona	1,069·50	824·57	·76	2,968·45
Kalpini	3,679·50	2,150·35	·58	7,741·27
Laverton	11,119·25	11,447·29	1·02	42,381·97
Lennonville	30,125·39	34,250·89	1·13	128,359·94
Leonora	44,853·70	44,996·49	1·00	165,567·69
Linden	7,543·75	9,053·63	1·20	32,593·06
Marble Bar	2,954·00	3,014·15	1·20	10,850·89
Meekatharra	54,914·50	69,359·93	1·26	252,375·14
Menzies	52,320·00	42,775·47	·81	153,839·09
Mount Ida	32,913·90	46,716·46	1·41	171,481·45
Mount Sir Samuel	5,153·50	3,985·15	·75	14,022·54
Mulline	68,094·70	86,607·40	1·27	310,966·78
Mulwarrie	26,634·90	30,695·91	1·15	113,761·97
Nannine	9,756·35	5,739·49	·58	20,662·13
Niagara	52,921·00	45,949·47	·86	167,606·29
Norseman	49,318·70	51,892·37	1·05	189,995·00
Pinjin	14,842·65	11,728·22	·79	42,221·17
Pig Well	16,666·50	16,712·73	1·00	60,165·81
Quinn's	2,684·00	1,477·70	·55	5,319·72
Randall's	4,333·45	1,617·96	·37	5,798·20
Sandy Creek	7,650·65	14,730·02	1·92	53,128·04
Siberia	11,133·00	11,350·43	1·01	40,786·89
Wiluna	33,333·75	23,610·65	·70	85,143·52
Yarri	34,011·00	23,840·34	·61	85,825·05
Yerilla	8,204·00	7,303·60	·80	23,490·88
Youname	10,969·50	5,346·04	·48	19,245·74
Ravelstone	10,425·05	9,545·27	·91	35,534·21
Tuckanarra	15,444·85	20,878·31	1·35	76,785·63
Widgiemooltha	5,711·00	2,413·43	·42	8,949·40
Batteries Closed	22,578·35	18,238·52	·80	67,629·56
	843,780·44	865,220·90	1·02	3,146,990·41

TIN PLANTS.

——	Tons.	Yield Tons, Black Tin.
Greenbushes, Bunbury End ..	35,941·50	555·056
Greenbushes, North End ..	15,026·00	163·827
Greenbushes, S.W. Gully ..	586·00	4·293

Return showing the number of Tons crushed, Gold yield, Average per Ton in Shillings, and Total Value for Year ending 31st December, 1911.

Battery.	Tons crushed.	Gold yield.	Average per ton in shillings.	Total Value.
		Ozs.		£
Black Range	3,626·50	3,778·25	75·00	13,601·70
Boogardie	773·50	841·54	78·33	3,029·54
Burtville	2,116·50	3,688·00	125·45	13,276·80
Coolgardie	3,778·50	2,342·96	44·64	8,434·65
Darlot	1,660·00	1,144·10	49·62	4,118·76
Desdemona	167·50	182·37	78·38	656·53
Laverton	383·50	641·64	129·46	2,309·90
Lennonville	158·00	129·20	58·87	465·12
Leonora	3,387·00	6,576·17	139·79	23,674·21
Linden	2,217·00	2,751·45	91·29	9,905·22
Marble Bar	1,615·50	1,591·35	71·54	5,728·81
Meekatharra	1,132·00	589·71	37·50	2,122·94
Menzies	4,305·00	2,216·34	37·06	7,978·82
Mount Ida	2,837·50	3,469·55	88·03	12,490·38
Mount Sir Samuel	1,484·50	945·10	45·83	3,402·36
Mulline	2,769·00	4,291·35	111·58	15,448·86
Mulwarrie	1,459·50	2,763·65	136·33	9,949·14
Nannine	632·00	468·77	53·40	1,687·57
Niagara	3,735·00	3,057·95	58·95	11,009·02
Norseman	2,302·50	1,947·80	60·90	7,012·08
Pinjin	922·50	644·55	50·30	2,320·38
Pig Well	145·50	299·25	140·80	1,077·30
Quinn's	2,684·00	1,477·70	39·64	5,319·72
Sandy Creek	642·50	1,049·80	117·64	3,779·28
Siberia	1,354·00	2,295·77	122·07	8,264·75
Wiluna	4,082·00	2,159·75	38·09	7.775·10
Yarri	3,610·00	2,895·44	57·74	10,423·58
Yerilla	877·00	447·95	36·77	1,612·62
Youanme	4,226·00	1,231·65	20·98	4,433·93
Tuckanarra	289·00	346·50	86·32	1,247·40
	59,373·00	56,265·61	68·23	202,556·47

TIN PLANTS.

——	Tons.	Yield Tons, Black Tin.
Greenbushes, Bunbury End	5,475·00	41·403
Greenbushes, S.W. Gully	586·00	4·293

Milling.

	Tons.	Ozs.
Up to 1901 (3 years)	68,791	75,533
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
1907	95,280	97,962
1908	95,624	89,875
1909	94,218	83,127
1910	89,278	80,074
1911	59,373	56,265

Cyaniding (Sands).

	Tons.
Up to 1902	29,255
1903	32,369
1904	42,559
1905	54,420
1906	60,422
1907	63,778
1908	62,081
1909	61,265
1910	43,915
1911	27,444

Slimes Treatment.

Up to 1904	691
1905	7,028
1906	4,737
1907	8,220
1908	5,818
1909	16,848
1910	28,819
1911	20,821

Return showing Number of Tons of Sands and Slimes treated, Yield therefrom, and Value for Year ending 31st December, 1911.

Plant.	Tons treated.	Yield.	Value.
	SANDS.		
		ozs.	£
Black Range	2,660	582·31	2,473·80
Boogardie	568	171·96	730·48
Burtville..	1,297	284·22	1,207·43
Coolgardie	1,625	234·93	997·97
Laverton	270	59·62	253·25
Leonora	1,862½	796·90	3,384·89
Linden	345	136·60	580·32
Meekatharra	650	112·20	476·65
Menzies	1,745	453·51	1,926·53
Mulline	1,358	348·78	1,481·59
Mulwarrie	803	217·97	925·97
Niagara	3,123	473·60	2,011·82
Norseman	1,234	234·78	997·33
Pig Well	72	14·96	63·55
Pinjin	672	36·85	156·55
20-Mile Sandy	744½	121·42	515·80
Siberia	733½	195·63	830·98
Wiluna	2,777	984·06	4,180·35
Yarri	2,096	254·17	1,079·70
Yerilla	1,277	123·10	522·97
Youanme	1,532	423·81	1,800·32
	27,444¼	6,261·38	26,598·25

Plant.	Tons treated.	Yield.	Value.
	SLIMES.		
		ozs.	£
Black Range	4,950	1,082·21	4,597·20
Boogardie	1,137	263·89	1,121·00
Burtville..	376	124·17	527·37
Linden	168	47·77	202·97
Menzies	7,392	1,789·91	7,603·57
Niagara	2,940	453·85	1,928·04
Wiluna	1,443	526·60	2,237·00
Yerilla	153	19·86	84·42
Siberia	262	66·39	282·00
Yarri	1,982	168·54	715·94
	20,821	4,543·19	19,299·51

Return showing the number of Tons of Sands and Slimes treated, Yield and Value since Inception, to 31st December, 1911.

Plant.	Tons treated.	Yield.	Value.
	SANDS.		
		ozs.	£
Black Range ..	28,423	7,882·18	33,196·11
Boogardie	29,432	7,702·28	32,186·47
Burtville	15,046¾	5,051·34	21,040·13
Coolgardie	23,549	4,056·90	16,946·80
Darlot	23,654	2,699·17	11,042·16
Laverton	9,181	1,051·32	4,270·08
Lennonville ..	24,309	6,592·43	26,653·23
Leonora	27,538½	6,912·78	28,592·51
Linden	4,248	1,345·73	5,717·07
Meekatharra ..	32,915	6,815·56	28,332·80
Menzies	29,262½	7,515·85	31,480·75
Mt. Ida	3,570	357·97	1,423·64
Mulline	39,175	11,023·68	44,605·82
Mulwarrie	21,363	4,055·75	16,588·18
Nannine	3,650	410·12	1,742·50
Niagara	33,055	5,393·45	22,330·88
Norseman	35,908½	7,354·24	30,481·68
Pig Well	11,379	2,373·25	9,962·50
Pinjin	10,870	1,210·51	5,117·65
Sandy Creek ..	6,757¼	2,228·31	9,332·62
Siberia	4,860	1,077·84	4,579·61
Wiluna	9,283	3,642·30	15,472·68
Yarri	27,672	2,468·10	10,220·62
Yerilla	6,237	698·69	2,967·92
Youanme	4,587	1,766·34	7,503·09
Plants Closed ..	11,584	1,800·08	7,486·64
	477,503½	103,486·17	429,274·14

Plant.	Tons Treated.	Yield.	Total.
	SLIMES.		
		ozs.	£
Black Range ..	10,617	2,150·26	9,134·62
Boogardie	1,218	284·63	1,209·07
Burtville	1,476	467·94	1,987·77
Darlot	570	52·61	223·55
Laverton	142	20·17	85·67
Leonora	12,440	2,198·09	9,338·73
Linden	419	87·30	370·90
Menzies	20,820½	5,165·36	21,943·00
Meekatharra ..	1,980	462·78	1,966·08
Mulline	16,019¾	5,454·63	18,701·48
Norseman	11,671	2,843·10	12,076·78
Niagara	10,419	1,708·01	7,256·23
Pig Well	340	64·65	274·57
Sandy Creek ..	255½	60·77	258·23
Siberia	262	66·39	282·00
Wiluna	1,927	696·80	2,960·06
Yarri	1,982	168·54	715·94
Yerilla	424	44·55	189·33
	92,982¾	21,996·58	88,974·01

Expenditure from Consolidated Revenue Vote and Loan Expenditure Funds on Erection of State Batteries for Year ending 31st December, 1911, and Totals since Inception.

Battery.	From Revenue.	From Loan.	Totals.
	£ s. d.	£ s. d.	£ s. d.
Boogardie Slimes Plant, Vats, etc.	..	19 9 5	19 9 5
Quinn's Battery and removal from Messenger's Patch ..	..	750 18 3	750 18 3
Linden Battery and removal of Kalpini ten Head	..	4,320 2 6	4,320 2 6
Greenbushes—Salt Water Gully	..	396 1 10	396 1 10
Kalpini Battery and removal of Boiler to Kanowna ..	..	151 16 8	151 16 8
Mount Egerton Battery Erection	..	793 13 9	793 13 9
	..	6,432 2 5	6,432 2 5
Erection of State Batteries.			
Expenditure from Inception to 31st December, 1907 ..	91,981 1 8	..	..
Loan Expenditure from Inception to 31st December, 1910	..	192,319 9 7	..
Grand Totals	91,981 1 8	198,751 12 0	290,732 13 8

Return showing Number of Parcels Treated and Tons Crushed at State Batteries during 1911.

Plant.	No. of Parcels.	Tons.	Yield by Amalgamation.	Gross Contents of Tailings.	Total Contents.	Average per ton.	Value per ton at 80s.
			ozs. dwts. grs.	ozs. dwts. grs.	ozs. dwts. grs.	dwts. grs.	£ s. d.
Black Range	59	3,626·50	3,778 5 0	821 19 10	4,600 4 10	25 9·00	5 1 6
Boogardie	14	773·50	841 11 0	296 4 21	1,137 15 21	29 10·00	5 17 8
Burtville	27	2,116·50	3,688 0 0	447 2 0	4,135 2 0	39 1·00	7 16 2
Coolgardie	142	3,778·50	2,342 19 9	549 18 23	2,892 18 8	15 7·48	3 1 2
Darlot	19	1,660·00	1,144 2 0	204 0 17	1,348 2 17	16 5·80	3 4 11
Desdemona	7	167·50	181 17 12	56 10 11	238 7 23	28 11·00	5 13 10
Laverton	20	383·50	641 13 0	75 9 3½	717 2 3½	37 9·50	7 9 7
Lennonville	7	158·00	129 4 0	..	..	16 8·50	3 5 5
Leonora	91	3,387·00	6,576 3 12	1,374 8 13	7,950 12 1.	46 22·70	9 7 9
Linden	45	2,217·00	2,751 9 0	1,123 12 22	3,875 1 22	34 22·94	6 17 10
Meekatharra	17	1,132·00	589 14 8	178 15 15	768 9 23	13 13·82	2 13 3
Menzies	90	4,305·00	2,216 7 0	1,201 0 11½	3,417 7 11½	15 21·00	3 3 6
Marble Bar	47	1,599·50	1,591 7 0	240 15 23	1,832 2 23	22 21·00	4 11 6
Mount Ida	23	2,837·50	3,469 11 0	..	..	24 11·00	4 17 10
Mount Sir Samuel ..	24	1,484·50	945 2 0	215 4 19½	1,160 6 19½	15 15·16	3 2 6
Mulline	56	2,769·00	4,291 7 0	708 0 16	4,999 7 16	36 2·50	7 4 5
Mulwarrie	43	1,437·50	2,763 13 0	440 5 10½	3,203 18 10½	44 13·82	8 17 3
Nannine	9	632·00	468 15 12	193 1 12¼	661 17 0¼	20 22·50	4 3 9
Niagara	67	3,735·00	3,057 19 0	700 4 14½	3,758 3 14½	20 3·00	4 0 6
Norseman	61	2,302·50	1,947 16 0	685 6 10½	2,633 2 10½	16 22·00	3 7 8
Pig Well	5	145·50	299 5 0	40 5 7	339 10 7	46 16·00	9 6 8
Pinjin	12	922·50	644 11 0	73 18 8	718 9 8	15 13·75	3 1 3
Quinn's	22	2,684·00	1,477 14 0	778 2 23	2,255 16 23	16 19·00	3 7 2
Sandy Creek	26	642·50	1,049 16 0	126 9 13	1,176 5 13	36 14·75	7 6 5
Siberia	38	1,354·00	2,295 15 19	325 0 7½	2,620 16 2½	38 17·00	7 14 10
Wiluna	60	4,182·00	2,159 15 0	1,663 10 6	3,823 5 6	18 6·75	3 13 1
Yarri	64	3,610·00	2,895 9 2	593 2 21½	3,488 1 23½	19 7·75	3 17 3
Youanme	24	4,226·00	1,231 13 9	723 14 8	1,955 7 17	9 6·00	1 17 0
Yerilla	9	921·00	447 19 0	105 11 4	453 10 4	9 20·00	1 19 4
Tuckanarra	11	289·00	346 10 0	..	..	23 23·50	4 15 11
	1,139	59,479·00	56,265 4 11	13,941 17 15¼	66,161 17 2¼	22 5·90	4 8 11

				tns. cwt. qrs. lbs.	lbs.
Greenbushes, B. End ..	126	5,475yds.	.. ..	46 9 2 6	19
„ S.W.G. ..	24	586 „	.. ..	4 5 3 12	16·50

State Batteries, Cyanide, Slimes, and Tin Plants. *Cost per Ton for Year ending 31st December, 1911.*

Plant.	Tonnage.	Milling and Tin.			Plant.	Tonnage.	Cyanide and Slimes.		
		Wages.	Repairs and Maintenance.	Total.			Wages.	Repairs and Maintenance.	Total.
		s. d.	s. d.	s. d.			s. d.	s. d.	s. d.
Black Range ..	3,626·5	3 10·68	4 3·47	8 2·15	Black Range ..	2,660·	2 2·42	2 4·27	4 6·69
Boogardie	773·5	9 11·76	9 0·25	19 0·01	Boogardie	400·	2 2·80	4 6·12	6 8·92
Burtville	2,116·5	4 10·32	7 9·77	12 8·09	Burtville	1,297·	2 8·51	3 0·56	5 9·07
Coolgardie	3,778·5	3 11·63	5 0·16	8 11·79	Coolgardie	1,793·	3 1·18	2 11·22	6 0·40
Darlot	1,660·	6 2·95	6 11·35	13 2·30	Laverton	270·	4 10·31	3 1·95	8 0·26
Desdemona	167·5	39 1·35	7 1·75	46 3·10	Leonora	1,862·5	3 3·97	4 1·72	7 5·69
Laverton	383·5	19 7·23	12 5·79	32 1·02	Linden	345·	5 1·79	12 3·80	17 5·59
Leonora	3,387·	5 5·03	6 9·96	12 2·99	Meekatharra ..	650·	5 5·50	3 6·39	8 11·89
Linden	2,217·	8 6·93	7 4·17	15 11·10	Menzies	1,745·	1 7·18	3 11·68	5 6·86
Marble Bar ..	1,615·5	8 5·35	5 2·10	13 7·45	Mulline	1,358·	4 4·07	5 3·61	9 7·68
Meekatharra ..	1,132·	8 10·32	7 5·53	16 3·85	Mulwarrie	803·	3 11·85	5 4·93	9 4·78
Menzies	4,305·	3 1·80	6 1·73	9 3·53	Niagara	3,123·	2 3·30	2 8·75	5 0·05
Mount Ida ..	2,837·5	7 8·99	4 11·33	12 8·32	Norseman	1,234·	3 6·40	4 11·57	8 5·97
Mt. Sir Samuel ..	1,484·5	9 3·88	6 1·16	15 5·04	Pig Well	72·	4 9·70	6 10·02	11 7·72
Mulline	2,769·	7 9·63	6 3·18	14 0·81	Pinjin	672·	2 4·45	2 2·13	4 6·58
Mulwarrie	1,459·5	9 5·32	8 11·17	18 4·49	Sandy Creek ..	478·5	4 8·10	4 10·30	9 6·40
Nannine	632·	11 8·99	8 1·17	19 10·16	Siberia	733·5	4 0·98	4 2·21	8 3·19
Niagara	3,735·	5 2·37	6 4·13	11 6·50	Wiluna	2,301·	3 0·66	3 5·29	6 5·95
Norseman	2,302·5	7 1·52	6 8·16	13 9·68	Yarri	2,756·	2 1·47	2 1·86	4 3·33
Pig Well	145·5	22 8·49	9 7·35	32 3·84	Yerilla	1,277·	4 9·96	2 10·31	7 8·27
Pinjin	922·5	7 7·73	6 2·89	13 10·62	Youanme	1,532·	2 11·28	2 11·68	5 10·96
Quinn's	2,684·	7 6·64	3 8·00	11 2·64					
Sandy Creek ..	642·5	11 11·0	11 8·60	23 7·60	*Slimes Plant.*				
Siberia	1,354·	8 8·47	6 8·46	15 4·93					
Wiluna	4,082·	5 2·54	6 3·92	11 6·46	Black Range ..	4,950·	7 8·66	3 7·15	11 3·81
Yarri	3,610·	4 10·94	6 0·55	10·11 49	Boogardie	1,137·	7 0·90	7 7·95	14 8·85
Yerilla	877·	10 10·09	6 8·53	17 6·62	Burtville	376·	11 2·69	4 11·42	16 2·11
Youanme	4,226·	3 11·32	2 11·76	6 11·08	Linden	186·	8 8·57	8 1·56	16 10·13
					Menzies	9,364·	3 11·79	5 7·58	9 7·55
					Niagara	2,940·	6 5·33	3 9·99	10 3·32
					Sandy Creek ..	38·	3 9·97	2 8·62	6 6·59
					Siberia	262·	6 1·55	4 9·01	10 10·56
Tin Plants.					Wiluna	1,795·	10 7·06	7 1·60	17 8·66
Greenbushes, B. End	5,475·	1 7·73	1 8·92	3 4·65	Yarri	1,982·	3 5·76	3 1·12	6 6·88
„ S.W.G.	586·	8 3·20	1 8·26	9 11·46	Yerilla	153·	4 2·24	2 1·08	6 3·32

State Batteries—Working Account for Year ending 31st December, 1911 (excluding Additions and Equipment).

Goldfield.	Milling and Tin.						Cyaniding and Slimes.					
	Plant.	Tonnage.	Expenditure.	Receipts.	Profit.	Loss.	Plant.	Tonnage.	Expenditure.	Receipts.	Profit.	Loss.
			£ s. d.	£ s. d.	£ s. d.	£ s. d.			£ s. d.	£ s. d.	£ s. d.	£ s. d.
E. Murchison	Black Range	3,626·5	1,483 4 1	1,712 16 0	229 11 11	..	Black Range ..	2,660·	606 5 6	1,161 11 8	555 6 2	..
Murchison ..	Boogardie	773·5	734 17 8	356 10 3	..	378 7 5	Boogardie	400·	134 18 1	192 7 9	57 9 8	..
Mt. Margaret	Burtville	2,116·5	1,341 5 10	1,111 10 9	..	229 15 1	Burtville	1,297·	373 5 6	635 10 8	262 5 2	..
Coolgardie ..	Coolgardie	3,778·5	1,697 0 8	1,447 12 5	..	249 8 3	Coolgardie	1,793·	540 19 9	641 16 1	100 16 4	..
E. Murchison	Darlot	1,660·	1,094 18 3	881 10 9	..	213 7 6	Laverton	270·	108 6 2	130 14 9	22 8 7	..
N. Coolgardie	Desdemona	167·5	387 8 4	108 17 6	..	278 10 10	Leonora	1,862·5	696 0 6	879 18 1	183 17 7	..
Mt. Margaret	Laverton	383·5	615 4 11	212 8 3	..	402 16 8	Linden	345·	301 6 4	168 3 0	..	133 3 4
.. Do.	Leonora	3,387·	2,074 8 1	1,697 15 7	..	376 12 6	Meekatharra ..	650·	292 4 1	251 17 1	..	40 7 0
N. Coolgardie	Linden	2,217·	1,765 6 6	1,248 0 5	..	517 6 1	Menzies	1,745·	486 2 10	834 7 2	348 4 4	..
Pilbarra ..	Marble Bar	1,615·5	1,100 5 6	968 6 10	..	131 18 8	Mulline	1,358·	654 12 1	661 10 9	6 18 8	..
Murchison ..	Meekatharra	1,132·	923 15 9	569 17 6	..	353 18 3	Mulwarrie	803·	377 7 1	390 9 5	13 2 4	..
N. Coolgardie	Menzies	4,305·	2,000 13 3	1,827 15 0	..	172 18 3	Niagara	3,123·	781 8 11	1,464 0 10	682 11 11	..
.. Do.	Mount Ida	2,837·5	1,800 18 11	1,594 17 9	..	206 1 2	Norseman	1,234·	524 7 9	534 16 7	10 8 10	..
E. Murchison	Mt. Sir Samuel ..	1,484·5	1,144 11 5	771 17 1	..	372 14 4	Pig Well	72·	41 18 4	36 0 0	..	5 18 4
N. Coolgardie	Mulline	2,769·	1,947 15 2	1,555 17 4	..	291 17 10	Pinjin	672·	152 13 10	154 4 11	1 8 1	..
.. Do. ..	Mulwarrie	1,459·5	1,340 18 0	804 1 10	..	536 16 2	Sandy Creek ..	478·5	228 2 5	268 8 6	40 6 1	..
Murchison ..	Nannine	632·	627 3 6	344 0 2	..	283 3 4	Siberia	733·5	303 3 0	347 16 9	44 13 9	..
N. Coolgardie	Niagara	3,735·	2,155 10 0	1,906 4 9	..	249 5 3	Wiluna	2,301·	747 6 10	1,104 16 5	357 9 7	..
Dundas ..	Norseman	2,302·5	1,589 10 0	1,181 19 9	..	407 10 3	Yarri	2,756·	589 12 2	959 6 2	369 14 0	..
Mt. Margaret	Pig Well	145·5	235 2 9	84 4 2	..	150 18 7	Yerilla	1,277·	490 19 0	461 15 8	..	29 3 4
N. Coolgardie	Pinjin	922·5	640 9 6	457 9 6	..	183 0 0	Youanme	1,532·	452 19 3	777 14 1	324 14 10	..
Murchison ..	Quinn's	2,684·	1,505 18 9	1,397 10 0	..	108 8 9						
Pilbarra ..	Sandy Creek	642·5	759 4 7	540 15 3	..	218 9 4						
Coolgardie ..	Siberia	1,354·	1,043 7 1	656 5 1	..	387 2 0	*Slimes Plants.*					
E. Murchison	Wiluna	4,082·	2,354 19 6	2,132 4 3	..	222 15 3	Black Range ..	4,950·	2,801 1 2	2,452 14 4	..	348 6 10
N. Coolgardie	Yarri	3,610·	1,977 19 5	1,884 2 10	..	93 16 7	Boogardie	1,137·	837 18 5	568 10 0	..	269 8 5
.. Do. ..	Yerilla	877·	769 12 11	460 8 6	..	309 4 5	Burtville	376·	304 2 8	188 0 0	..	116 2 8
E. Murchison	Youanme	4,226·	1,463 0 10	1,330 16 3	..	132 4 7	Leonora	..	4 4 0	..	..	4 4 0
N.E. Coolgardie	Kalpini (dismantled) ..	..	196 7 8	..	..	196 7 8	Linden	186·	156 13 2	93 0 0	..	63 13 2
Murchison ..	Lennonville	158·	71 9 2	16 19 3	..	54 9 11	Menzies	9,364·	4,508 10 4	4,477 19 0	..	30 11 4
Coolgardie ..	Randall's	..	157 0 11	..	..	157 0 11	Mulline	..	45 2 0	..	..	45 2 0
Peak Hill ..	Ravelstone	..	152 13 1	..	..	152 13 1	Niagara	2,940·	1,510 14 8	1,458 8 7	..	52 6 1
Murchison ..	Tuckanarra	289·	..	18 9 6	18 9 6	..	Sandy Creek ..	38·	12 8 11	19 0 0	6 11 1	..
Coolgardie ..	Widgiemooltha	..	191 0 0	3 7 3	..	187 12 9	Siberia	262·	142 10 10	131 0 0	..	11 10 10
							Wiluna	1,795·	1,590 10 10	897 10 0	..	693 0 10
							Yarri	1,982·	651 8 6	595 3 7	..	56 4 11
	Tin Plants.						Yerilla	153·	48 0 5	65 10 11	17 10 6	..
	Greenbushes, Bunbury End	5,475·	927 7 4	848 11 11	..	78 15 5						
	Greenbushes, S.W.G...	586·	291 13 9	134 13 0	..	157 0 9						
	Greenbushes, North End	..	2 0 0	50 0 0	48 0 0	..						
		65,434·	38,564 3 1	30,317 16 8	296 1 5	8,542 7 10		5,545·5	21,497 8 4	23,004 2 9	3,405 17 6	1,899 3 1

State Batteries.

Statement of Receipts and Expenditure for Year ending 31st December, 1911.

Plant.	No. of Stamps.	Tonnage.	Milling and Tin.										
			Management.	Wages.	Stores.	Total Working Expenditure.	Per Ton.	Repairs and Renewals.	Sundries.	Gross Expenditure.	Per Ton.	Receipts.	Per Ton.
			£ s. d.	£ s. d.	£ s. d.	£ s. d.	s. d.	£ s. d.	£ s. d.	£ s. d.	s. d.	£ s. d.	s .d.
Black Rang	10	3,626½	111 10 0	593 17 9	428 10 6	1,133 18 3	6 2·89	207 3 4	142 2 6	1,483 4 1	8 2·15	1,712 16 0	9 5·35
Boogardie	10	¾773½	148 13 11	237 6 0	190 17 7	576 17 6	14 10·96	91 11 10	66 8 4	734 17 8	19 0·01	356 10 3	9 2·64
Burtville	10	2,116½	87 0 0	427 6 10	404 9 1	918 15 11	8 8·18	325 3 11	97 6 0	1,341 5 10	12 8·09	1,111 10 9	10 6·04
Coolgardie	10	3,778½	238 4 1	511 11 11	699 7 8	1,449 3 8	7 8·04	104 6 8	143 10 4	1,697 0 8	8 11·79	1,447 12 5	7 7·95
Darlot	10	1,660	348 0 0	170 8 4	360 12 8	879 1 0	10 7·09	132 4 8	83 12 7	1,094 18 3	13 2·30	881 10 9	10 7·45
Desdemona	2	167½	288 0 0	39 11 5	47 19 1	375 10 6	44 10·06	2 9 6	9 8 4	387 8 4	46 3·10	108 17 6	13 0·00
Laverton	10	383½	90 0 0	285 17 7	113 10 6	489 8 1	25 6·26	61 15 1	64 1 9	615 4 11	32 1·02	212 8 3	11 0·93
Leonora	10	3,387	214 5 0	703 9 7	644 2 1	1,561 16 8	9 2·67	323 14 11	188 16 6	2,074 8 1	12 2·99	1,697 15 7	10 0·30
Linden	10	2,217	289 6 9	661 10 6	537 3 10	1,488 1 1	13 5·08	175 17 4	101 8 1	1,765 6 6	15 11·10	1,248 0 5	11 3·10
Marble Bar	5	1,615½	210 6 6	471 17 10	252 18 0	935 2 4	11 6·92	89 8 10	75 14 4	1,100 5 6	13 7·45	968 6 10	11 11·85
Meekatharra	10	1,132	230 19 5	270 10 10	280 8 4	781 18 7	13 9·77	78 15 3	63 1 11	923 15 9	16 3·85	569 17 6	10 0·82
Menzies	10	4,305	97 16 4	580 6 4	626 4 3	1,304 6 11	6 0·71	487 1 8	209 4 8	2,000 13 3	9 3·53	1,827 15 0	8 5·89
Mount Ida	10	2,837½	312 0 0	787 8 4	506 15 7	1,606 3 11	11 3·85	76 11 8	118 3 4	1,800 18 11	12 8·32	1,594 17 9	11 2·89
Mount Sir Samuel	5	1,484½	310 0 0	382 0 2	231 7 4	923 7 6	12 5·28	137 2 1	84 1 10	1,144 11 5	15 5·04	771 17 1	10 4·78
Mulline	20	2,769	220 14 11	859 10 7	482 19 3	1,563 4 9	11 3·49	259 14 6	124 15 11	1,947 15 2	14 0·81	1,555 17 4	11 2·85
Mulwarrie	10	1,459½	93 4 3	595 18 7	275 12 4	964 15 2	13 2·64	228 18 7	147 4 3	1,340 18 0	18 4·49	804 1 10	11 0·21
Nannine	5	632	147 8 1	223 17 6	150 19 3	522 4 10	16 6·31	59 0 6	45 18 2	627 3 6	19 10·16	344 0 2	10 10·63
Niagara	10	3,735	109 17 7	860 16 10	671 12 1	1,642 6 6	8 9·53	343 7 7	169 15 11	2,155 10 0	11 6·50	1,906 4 9	10 2·49
Norseman	10	2,302½	259 0 0	561 8 9	558 3 5	1,378 12 2	11 11·69	114 7 3	96 10 7	1,589 10 0	13 9·68	1,181 19 9	10 3·20
Pig Well	10	145½	11 0 0	154 4 1	29 7 5	194 11 6	26 8·94	5 2 3	35 9 0	235 2 9	32 3·84	84 4 2	11 6·89
Pinjin	5	922½	63 19 7	288 12 3	157 5 2	509 17 0	11 0·64	61 16 0	68 16 6	640 9 6	13 10·62	457 9 6	9 11·01
Quinn's	5	2,684	163 13 0	850 3 7	251 18 7	1,265 15 2	9 5·18	63 10 4	176 13 3	1,505 18 9	11 2·64	1,397 10 0	10 4·96
Sandy Creek	10	642½	144 3 6	238 13 3	210 14 7	593 11 4	18 5·72	65 18 6	99 14 9	759 4 7	23 7·60	540 15 3	17 0·91
Siberia	5	1,354	106 3 5	483 5 1	267 5 11	856 14 5	12 7·85	110 2 7	76 10 1	1,043 7 1	15 4·93	656 5 1	9 8·32
Wiluna	10	4,082	134 3 3	929 12 3	736 0 6	1,799 16 0	8 9·82	348 3 8	206 19 10	2,354 19 6	11 6·46	2,132 4 3	10 5·36
Yarri	10	3,610	202 16 8	683 14 10	573 12 8	1,460 4 2	8 1·08	381 19 10	135 15 5	1,977 19 5	10 11·49	1,884 2 10	10 5·26
Yerilla	5	877	73 12 0	401 15 3	193 5 9	668 13 0	5 2·98	33 16 1	67 3 10	769 12 11	17 6·62	460 8 6	10 6·00
Youanme	5	4,226	229 10 0	603 14 9	339 9 3	1,172 14 0	5 6·59	117 19 3	172 7 7	1,463 0 10	6 11·08	1,330 16 3	6 3·57
Kalpini (Dismantled)	..	..	..	90 16 10	98 19 5	189 16 3	..	..	6 11 5	196 7 8	..	..	..
Lennonville	10	158	..	71 9 2	..	71 9 2	..	..	..	71 9 2	..	16 19 3	..
Randalls	10	..	..	151 10 11	..	151 10 11	..	..	5 10 0	157 0 11	..	..	..
Ravelstone	10	..	48 0 0	56 7 11	..	104 7 11	..	30 5 10	17 19 4	152 13 1	..	..	..
Tuckanarra	10	289	..	..	..	..	..	..	..	..	..	18 9 6	..
Widgiemooltha	10	..	..	116 0 0	..	116 0 0	..	..	75 0 0	191 0 0	..	3 7 3	..
Totals	..	59,373	4,983 8 3	14,344 15 10	10,321 12 1	29,649 16 2	9 11·85	4,517 9 6	3,175 16 4	37,343 2 0	12 6·94	29,284 11 9	9 10·37
Tin Plants.													
Greenbushes, Bunbury End	..	5,475	180 0 0	270 0 9	250 11 5	700 12 2	2 6·69	128 1 2	98 14 0	927 7 4	3 4·65	848 11 11	3 1·20
Greenbushes, Salt Water Gully	..	586	165 0 0	77 4 6	29 17 3	272 1 9	9 3·43	9 6 3	10 5 9	291 13 9	9 11·46	134 13 0	4 7·14
Greenbushes, North End Dismantled	..	..	..	..	..	..	..	..	2 0 0	2 0 0	..	50 0 0	..
Totals	..	65,434	5,328 8 3	14,692 1 1	10,602 0 9	30,622 10 1	9 4·31	4,654 16 11	3,286 16 1	38,564 3 1	11 9·44	30,317 16 8	9 3·19

STATE BATTERIES.

Statement of Receipts and Expenditure for Year ending 31st December, 1911.

Plant.	Tonnage.	CYANIDING AND SLIMES.											
		Management.	Wages.	Assays.	Stores.	Total Working Expenditure.	Per Ton.	Renewals.	Sundries.	Gross Expenditure.	Per Ton.	Receipts.	Per Ton.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	s. d.	£ s. d.	£ s. d.	£ s. d.	s. d.	£ s. d.	s. d.
Black Range	2,660	110 10 0	182 8 2	36 2 8	153 12 5	482 13 5	3 7·54	5 10 7	118 1 8	606 5 6	4 6·69	1,161 11 8	8 8·78
Boogardie	400	17 5 5	27 8 4	30 9 3	24 15 11	99 18 11	4 11·95	1 0 6	33 18 8	134 18 1	6 8·92	192 7 9	9 7·43
Burtville	1,297	38 10 0	135 4 2	29 4 5	83 8 3	286 6 10	4 4·97	14 0 5	72 18 3	373 5 6	5 9·07	635 10 8	9 9·60
Coolgardie	1,793	131 15 11	136 12 7	35 17 8	149 5 8	453 11 10	5 0·69	5 2 9	82 5 2	540 19 9	6 0·40	641 16 1	7 1·89
Laverton	270	17 0 0	47 19 8	3 12 8	23 3 8	91 16 0	6 9·60	2 6 6	14 3 8	108 6 2	8 0·26	130 14 9	9 8·20
Leonora	1,862½	132 0 0	260 0 6	48 14 6	130 14 6	571 9 6	6 1·63	18 3 10	106 7 2	696 0 6	7 5·69	879 18 1	9 5·38
Linden	345	40 10 0	48 6 8	24 14 8	57 13 3	171 4 7	9 11·11	76 10 2	53 11 7	301 6 4	17 5·59	168 3 0	9 8·97
Meekatharra	650	93 3 2	84 4 10	15 18 8	52 8 1	245 14 9	7 6·73	8 14 6	37 14 10	292 4 1	8 11·89	251 17 1	7 8·97
Menzies	1,745	38 17 5	100 11 5	44 16 7	175 2 1	359 7 6	4 1·42	13 18 7	112 16 9	486 2 10	5 6·86	834 7 2	9 6·75
Mulline	1,358	55 4 9	231 2 2	97 17 0	177 1 1	561 7 0	8 3·20	21 1 6	72 3 7	654 12 1	9 7·68	661 10 9	9 8·91
Mulwarrie	803	38 9 4	119 8 4	46 2 10	115 5 5	319 5 11	7 11·43	9 12 6	48 8 8	377 7 1	9 4·78	390 9 5	9 8·70
Niagara	3,123	50 13 4	282 11 0	69 4 5	231 8 11	633 17 8	4 0·71	9 11 5	137 19 10	781 8 11	5 0·05	1,464 0 10	9 4·51
Norseman	1,234	61 0 0	127 4 8	80 12 7	156 9 4	425 6 7	6 10·72	35 5 1	63 16 1	524 7 9	8 5·97	534 16 7	8 8·02
Pig Well	72	3 0 0	14 6 3	2 14 8	9 5 11	29 6 10	8 1·80	..	12 11 6	41 18 4	11 7·72	36 0 0	10 0·00
Pinjin	672	15 11 5	64 2 0	4 16 1	39 12 3	124 1 9	3 8·31	1 4 9	27 10 4	152 16 10	4 6·58	154 4 11	4 7·08
Sandy Creek	478½	49 11 1	62 6 6	11 18 6	53 16 8	177 12 9	7 5·09	17 4 2	33 5 6	228 2 5	9 6·40	268 8 6	11 2·62
Siberia	733½	49 3 10	71 14 8	65 5 2	59 19 1	246 2 9	6 8·53	1 19 9	55 0 6	303 3 0	8 3·19	347 16 9	9 5·80
Wiluna	2,301	79 8 5	272 0 2	62 15 0	146 5 3	560 8 10	4 10·44	15 6 6	171 11 6	747 6 10	6 5·95	1,104 16 5	9 7·23
Yarri	2,756	77 3 4	209 11 3	39 1 1	125 4 5	451 0 1	3 3·26	31 8 7	107 3 6	589 12 2	4 3·33	959 6 2	6 11·53
Yerilla	1,277	120 13 6	181 11 0	28 17 5	86 11 7	417 13 6	6 6·49	11 15 7	61 9 11	490 19 0	7 8·27	461 15 8	7 2·78
Youanme	1,532	95 16 8	129 6 6	21 14 8	107 7 8	354 5 6	4 7·50	9 12 8	89 1 1	452 19 3	5 10·96	777 14 1	10 1·82
Totals	27,362·5	1,315 7 7	2,788 0 10	800 12 6	2,158 11 5	7,062 12 4	5 1·94	309 10 4	1,511 19 9	8,884 2 5	6 5·92	12,057 6 4	8 9·75
SLIMES PLANTS.													
Black Range	4,950	143 0 9	1,766 3 7	155 4 6	514 10 1	2,578 18 2	10 5·04	4 0 0	218 3 0	2,801 1 2	11 3·81	2,452 14 4	9 10·91
Boogardie	1,137	53 12 3	348 13 7	87 1 0	221 16 10	711 3 8	12 6·11	65 16 3	60 18 6	837 18 5	14 8·85	568 10 8	10 0·00
Burtville	376	50 10 0	159 3 10	7 1 1	60 9 3	277 4 2	14 8·93	9 12 9	17 5 9	304 2 8	16 2·11	188 0 0	10 0·00
Leonora	..	..	2 14 0	..	..	2 14 0	..	..	1 10 0	4 4 0	..	..	..
Linden	186	43 0 0	38 0 10	16 7 10	50 19 8	148 8 4	15 11·49	..	8 4 10	156 13 2	16 10·13	93 0 0	10 0·00
Menzies	9,364	225 16 3	1,644 4 9	142 1 6	1,750 17 10	3,763 0 4	8 0·44	335 9 0	410 1 0	4,508 10 4	9 7·55	4,477 19 0	9 6·93
Mulline	..	..	27 2 0	..	..	27 2 0	..	18 0 0	..	45 2 0	..	..	..
Niagara	2,940	72 13 1	839 15 4	102 13 2	351 16 1	1,366 17 8	9 3·58	21 11 5	122 5 7	1,510 14 8	10 3·32	1,458 8 7	9 11·05
Sandy Creek	38	3 0 7	4 5 0	0 10 9	2 18 8	10 15 0	5 7·89	0 15 3	0 18 8	12 8 11	6 6·59	19 0 0	10 0·00
Siberia	262	36 12 9	38 15 3	15 10 1	40 17 4	131 15 5	10 0·70	..	10 15 5	142 10 10	10 10·56	131 0 0	10 0·00
Wiluna	1,795	134 8 4	815 17 6	42 14 5	403 1 8	1,396 1 11	15 6·66	95 17 11	98 11 0	1,590 10 10	17 8·66	897 10 0	10 0·00
Yarri	1,982	73 10 0	263 10 5	41 14 10	120 12 4	499 7 7	5 0·46	66 5 3	85 15 8	651 8 6	6 6·88	595 3 7	6 0·07
Yerilla	153	..	32 0 7	0 8 4	9 14 0	42 2 11	5 6·10	..	5 17 6	48 0 5	6 3·32	65 10 11	8 6·81
Totals	50,545·5	2,151 10 10	8,768 7 6	1,412 0 0	5,686 5 2	18,018 3 6	7 1·55	976 18 2	2,552 6 8	21,497 8 4	8 6·09	23,004 2 9	9 1·23

WESTERN AUSTRALIA.

STATE BATTERIES.

Balance Sheet from Inception of Scheme to 31st December, 1911.

	£ s. d.	£ s. d.		£ s. d.
To Capital Expenditure—			By Batteries, Cyanide Plants, etc., as per Valuation, 31st December, 1911	101,627 0 0
From General Loan Fund	198,751 12 0			
From Consolidated Revenue	91,981 1 8	290,732 13 8		
„ Net Loss (excluding Depreciation)		144,115 12 10	„ Gross Loss (including Depreciation)	333,221 6 6
		£434,848 6 6		£434,848 6 6

Profit and Loss Account.

	£ s. d.	£ s. d.		£ s. d.	£ s. d.
To Working Expenditure—			By Stock on hand ..	8,259 14 0	
Head Office and all Batteries as per Treasury	827,540 7 7		„ Revenue received ..	784,531 8 10	
„ Sundry Creditors ..	3,151 16 11	830,692 4 6	„ Sundry Debtors ..	6,057 11 6	798,848 14 4
„ Interest at 3½ per cent. and Sinking Fund at 1 per cent. on Capital Expenditure	112,272 2 8		„ Gross Loss (including Depreciation)		333,221 6 6
„ Depreciation, as per Balance Sheet.. ..	189,105 13 8	301,377 16 4			
		£1,132,070 0 10			£1,132,070 0 10

Profit and Loss Account for the Year ending 31*st December,* 1911.

	£ s. d.	£ s. d.		£ s. d.	£ s. d.
To Expenditure, as per attached Statement—			By Revenue, as per attached Statement—		
„ Batteries and Tin Plants	38,564 3 1		Batteries and Tin Plants Charges	30,317 16 8	
„ Cyanide and Slimes Plants	21,497 8 4	60,061 11 5	Cyaniding and Slimes Charges	23,004 2 9	53,321 19 5
		60,061 11 5	„ Loss on Working carried down		6,739 12 0
					60,061 11 5
To Loss on Working brought down..	6,739 12 0				
„ Additions and equipment (paid from Revenue)	750 17 6	7,490 9 6	„ Net Loss on Year's operations		7,490 9 6
		£7,490 9 6			£7,490 9 6

DIVISION IV.

REPORT OF THE ENGINEER FOR MINES WATER SUPPLY.

To the Secretary for Mines.

ANNUAL REPORT, 1911.

Mines Department Water Supply Branch,
Perth, 10th February, 1912.

I have the honour to submit, for the information of the Hon. the Minister for Mines, my report for 1911:—

The work of the Mines Water Supply for the year consisted of surveys for, and construction of, tanks, reservoirs, pipe lines, and conservation of water generally; boring for water and minerals; sinking wells for towns, roads, prospectors, and mining camps; construction of stock routes; clearing tracks and roads; collection of revenue from water sales; investigations and reports on requests relative to water supply on or about the mineral belts of Western Australia; maintenance of all existing water supplies.

The attached tabulated statements show the principal works done:—

Hand Boring.—The summary shows 169 bores put down for a total depth of 11,622 feet (or nearly 2¼ miles). Of this total 139 bores for 9,037 feet were put down in search for water, and 30 bores for 2,573 feet were for the Boulder Deep Lead Prospecting Company.

Diamond Drilling.—Six bores have been sunk, aggregating 1,901 feet, as follows:—

Menzies.—On Dreadnought G.M.L.: One bore put down 67deg. from the horizontal 127 feet deep. Average cost per foot, 29.834s.

Golden Valley.—Two bores were sunk on the Sons of Wales G.M.L. and one on the Violet lease. Total depth bored 643 feet. Average cost per foot 28.366s.

The cost per foot of this boring would not have been so heavy, but owing to Runner's carelessness 8 17/64 carats of diamonds, valued at £128 2s. 4d., were lost in Bore No. 2.

Cue.—On Volunteer South and the Volunteer South Extended leases: Two bores for total depth of 1,131 feet. Average cost per foot 13.752s.

The average cost per foot for the whole of the diamond drilling for the year works out at 20.29s.

New Wells.—Fourteen new wells have been put down for a total depth of 993 feet, the majority of which are 5ft. x 3ft. in the clear.

New Tanks.—Ten new tanks have been in progress during the year, the capacities of which range from 40,000 to 4,000,000 gallons. Two of these were carried out for the Agricultural Department, and the balance are on mineral belts. Four tanks lined with asphalt composition and roofed are under construction between Southern Cross and Mt. Jackson, and will be completed early in 1912.

Maintenance.—The majority of water stations under my control have been inspected, and repairs made where necessary; also equipments made good.

Loan of Boring Plants.—Fifteen hand boring plants have been loaned in the various districts, also three diamond drills, as shown under "Diamond Drilling."

General.—Miscellaneous small works have been carried out which do not call for special mention except perhaps the erection of windmills, tanks, and tank stands, etc., at Murrin Murrin, Golden Ring well, and Wiluna town well.

Staff.—With deep regret I have to record the death of Mr. C. Palmer, late Assistant Engineer at Coolgardie and latterly in charge of the Yilgarn district.

Water Stations leased	49
Caretakers employed	10
Pumpers employed	11
Number of Watering Stations on our lists	1,353
Average number of men employed ..	250

P. V. O'BRIEN,
Engineer for Mines Water Supply.

WATER SUPPLY BRANCH.

ANNUAL REPORT, 1911.

WORKS COMPLETED, UNDERTAKEN, AND INITIATED.

Boring.

Item.	Boring for Water.	Locality.	General Description.	Remarks.
		Eastern Goldfields.		
1	For Prospectors..	Marda	8 bores, totalling 638 ft.	No water.
2	Do. ..	Manningu-Koolyanobbing Track	6 „ „ 390 „	Salt water in Bores Nos. 5 and 6.
3	Do. ..	Metzke's Find	4 „ „ 507 „	Fresh water in Bore No. 4.
4	Battery Water ..	Flat Rocks	9 „ „ 554½ „	Salt water in Bores Nos. 6, 8, and 9.
5	For Prospectors..	Boodalin	15 „ „ 835 „	Stock water in Bores Nos. 9, 11, 12, and 14. Salt water in Bore No. 13.
6	Do. ..	Ennuin	10 „ „ 407 „	Stock water in Bore No. 10.
7	For Tank ..	Ennuin	4 „ „ 212 „	Testing tank sites
8	For Prospectors..	Yarbu	3 „ „ 480 „	Salt water in Bore No. 3.
		Total ..	59 bores = 4,023½ „	
		Murchison District.		
9	Domestic Supply	Meekatharra	14 bores, totalling 900 ft.	Fresh water in all bores. Good quality.
10	For Prospectors..	10 miles S.E. of Meekatharra ..	7 „ „ 609 „	No water located.
11	Road Supply ..	Paynesville-Youanme Road ..	9 „ „ 524½ „	Boring in progress.
12	For Prospectors..	Poona Tinfield	6 „ „ 345½ „	Fresh water in Bore No. 5. Well sunk on this bore.
13	Road Supply ..	Youanme-Anketell Road ..	5 „ „ 281 „	Salt water in No. 3. Fresh water in No. 5. Well sunk on Bore No. 5.
14	Do. ..	Sandstone-Youanme Road ..	1 „ „ 56½ „	Fresh water in bore. Well sunk.
15	For Prospectors..	Mt. Keith	4 „ „ 422 „	Fresh water in Bore No. 4. Well on this bore.
16	Do. ..	10 miles S.W. of Youanme ..	5 „ „ 180 „	No. 5 equipped as a bore well.
17	Do. ..	Coffin Rock	5 „ „ 179 „	No. 5 equipped as a bore well. Good water.
18	Do. ..	6 miles N.E. of Ruby Well ..	4 „ „ 229 „	Nos. 2 and 4 Bores equipped as bore wells.
19	Do. ..	Goodingnow	9 „ „ 618½ „	Good water in Bores Nos. 6 and 7. Fair water in Bore No. 4. Salt water in Bore No. 9.
		Total ..	69 bores = 4,345 „	
		Pilbara District—Nil.		
		Stock Routes.		
20	Leonora-Nullagine S.R.	Opal Well	2 bores, totalling 111 ft.	Fresh water in both bores.
21	Do. ..	Near Deep Well	2 „ „ 147 „	Fresh water in both bores.
		Total ..	4 bores = 258 „	
22	Cue-Ashburton S.R.	5 miles W. of Farquharson's Spring	6 bores, totalling 380½ft.	Fresh water in Bore No. 6.
23	Do. ..	Wandry Creek	6 „ „ 42 „	Good water ; 220 gallons per hour.
		Total ..	7 bores = 422½ „	
		Total for all Stock Routes	11 Bores for 680½ feet.	
		Miscellaneous Boring.		
24	Boring for deep alluvial for "Deep Lead Prospecting Company"	Boulder	30 bores, totalling 2,573ft.	Plant supplied and Foreman paid by Department ; the Company finds other expenses.

Summary.

Hand Boring Plants—	Eastern Goldfields	59	bores,	totalling	4,023½ feet
	Murchison District	69	„	„	4,345 „
	Pilbara District		*Nil*		
	Stock Routes	11	bores,	totalling	680½ „
	Miscellaneous	30	„	„	2,573 „
	Totals	169			11,622 „

WORKS COMPLETED, ETC.—*continued.*

DIAMOND DRILLING.

Item.	Purpose.	Locality.	General Description.	Remarks.
25	For Minerals ..	Menzies. (On Dreadnought G.M.L.)	1 Bore, 127ft. deep. Bored 67 deg. from horizontal	Average cost per foot, 29·834 shillings.
26	Do. ..	Golden Valley	3 Bores.	
			No. 1 Bore, Angle 45 deg., 77ft. deep	On Sons of Wales G.M.L.
			No. 2 Bore, Angle 24 deg., 241ft. deep	On Sons of Wales G.M.L.
			No. 3 Bore, Angle 18 deg., 325ft. deep	On Violet G.M.L.
			Total depth bored—643ft.	Average cost per foot, 28·366 shillings. $8\frac{1}{8}\frac{1}{2}$ carats of diamonds, valued at £128 2s. 4d., were lost in Bore No. 2 through Runner's carelessness.
27	Do. ..	Cue	2 Bores.	
			No. 1 Bore, 601ft. deep ..	On Voulnteer South G.M.L. No. 1044.
			No. 2 Bore, 530ft. deep ..	On Volunteer South Extd. G.M.L. No. 739
			Total depth bored, 1,131ft.	Average cost per foot, 13·752 shillings.

Summary.

Diamond Drilling—Menzies	1 bore,	Total Depth	127 feet
Golden Valley	3 bores	„	„	643 „
Cue	2 „	„	„	1,131 „
	6 „	„	„	1,901 „

WELL SINKING.

Item.	Well Sinking.	Locality.	General Description.	Remarks.
		Eastern Goldfields.		
28	For Prospectors, etc.	"Ida H." (on No. 5 Bore) ..	6ft. x 4ft. x 71ft., with drive 6ft. x 3ft. x 10ft.	240 gals per hour. Fresh water.
		1 Well for 71ft. depth.		
		Murchison District.		
29	For Prospectors..	Mt. Keith No. 1 Well ..	Sunk by Prospectors	See Wells and Shafts acquired.
30	Do. ..	Mt. Keith No. 2 Well ..	Sunk on Bore No. 4	In progress.
31	Road Supply ..	Youanme-Anketell Road ..	5ft. x 3ft. x 84ft. (sunk on Bore No. 5)	50 gals. per hour. Good water.
32	Do. ..	Sandstone-Youanme Road ..	5ft. x 3ft. x 60ft. (sunk on bore)	50 gals. per hour. Fresh water.
33	For Prospectors..	Poona Well	5ft. x 3ft. x 80ft. (sunk on No. 6 Bore)	40 gals per hour. Fresh water.
34	Do. ..	Callie Well (Extension) ..	5ft. x 3ft. x 50ft. (Old Road Well)	20 gals. per hour. Fresh water.
35	Domestic Supply	Quinn's	5ft. x 3ft. x 72ft. (sunk on No. 6 Bore)	30 gals. per hour. Fresh water.
36	Do. ..	Sugarstone	5ft. x 3ft. x 129ft. (sunk on No. 6 Bore)	15 gals. per hour. Fresh water.
37	For Prospectors..	Curran's Find	5ft. x 3ft. x 133½ft. (sunk on No. 2 Bore)	100 gals. per hour. Fresh water.
		7 Wells for 608½ft.		
		Pilbara District.		
38	Domestic Supply	West Wodgina Well	5ft. x 3ft. x 35ft. Sunk by miners and purchased for £70	300 gals. per hour. Fresh water.
39	Road Supply and Prospectors	Cadjiput Spring, near Nullagine	5ft. x 3ft. x 53ft. Timbered 40ft.	200 gals. per hour. Fresh water.
40	Travelling Public and Prospectors	Lower Mosquito Creek ..	5ft. x 3ft. x 79ft. 6in. Timbered 73ft.	30 gals per hour. Fresh water.
		3 Wells for 167½ft.		

COMPLETED WORKS, ETC.—*continued.*

WELL SINKING—*continued.*

Item.	Well Sinking.	Locality.	General Description.	Remarks.
		Stock Routes.		
41	Cue - Ashburton S.R.	No. 6 Well (near original No. 6)	6ft. x 4ft. x 65ft., and drive 6ft. x 3ft. x 11ft.	Fresh water. 400 gals. per hour.
42	Do. ..	Ethel River (not yet numbered)	6ft. x 4ft. x 43ft. No drives ..	Sweet water. 1,000 gals. per hour.
43	Do. ..	Junction Wandry Creek and Murchison River	6ft. x 4ft. x 38ft. Storage 6,500 gals.	Fresh water. 220 gals. per hour.
44	Do. ..	Yalgar Pool Well	.. ..	In progress.
45	Leonora-Nullagine S.R.	No. 25 Well	.. ..	In progress.
		3 Wells for 146ft.		

Summary.

Eastern Goldfields	1	Well for 71	feet
Murchison District	7	Wells for 608½	„
Pilbara District	3	Wells for 167½	„
Stock Routes	3	Wells for 146	„
Totals ..	14	Wells for 993	„

WELLS, TANKS, ETC.—GENERAL MAINTENANCE.

This covers repairs and additions, such as cleaning out, re-timbering, putting in new ropes, buckets, etc. The following wells have Received attention :—

Item.	General Description.
46.	*On the Eastern Goldfields.*—Norseman No. 1, Norseman No. 2, Wingarnie, Trough Well, Gnabberdocking Soak, Waverley, Mulline, Cockatoo, Strawberry Rocks, Lawlers, Kalpini, Higginsville, Menzies No. 2, 42-Mile, Kunanalling, Black Flag, 45-Mile, Buldania Rocks, Binty Binty, Eucalyptus, Jubilee, Mulgabbie, Reidy's Tank, Davyhurst, Goongarrie, Dodger's Well, Parker's Range-Hatter's Hill, Trough Rock Tank, Mt. Jackson.
47.	*In the Murchison District.*—Meekatharra, Nannine, Sandstone, Youanme, Hancock's, Six Miles West of Curran's Find, Sugarstone, Quinn's, Coffin Rock, Trig Hill, Poona, Paynesville-Youanme Road, Anketell-Youanme Road, Sandstone-Youanme Road, Lawlers-Lake Way Road, Boogardie, Nannine-Wiluna Road, Wiluna-Maninga Marley, Yaloginda, Callie, Gullewa, Anketell, Day Dawn, No. 15 Well on Leonora-Nullagine Stock Route, Cue-Fortescue Stock Route.
48.	*In the Pilbara District.*—Carbana, Spinaway, Hale's Grave, Middle Creek, Berne's Flat, Strelly, Talga Crossing, Nullagine Town Well, 5-Mile Sandy, Petersen's, Murphy's Gap, Pippingarra, Lower Middle Creek, 42-Mile, Turkey Camp, Box Creek, Poondina, Old Shaw, Shaw Patch, Cooglegong, Black Range, Sharks, Marble Bar Town Well, Marble Bar No. 2, 3-Mile, Big Schist, Soak at Nullagine.
	STOCK ROUTES.
49.	*Cue-Ashburton Stock Route.*—This Stock Route has been improved between No. 6 Well and the Ashburton River. Boring has been carried out to locate water at Wandry Creek and Farquharson's Springs, and new wells have been sunk near original No. 6, at Ethel River and Wandry Creek. Further well sinking is in progress. When completed this route will be good for 400-head mobs of cattle. Feed is very scarce owing to the severe drought.
50.	*Leonora-Nullagine Stock Route.*—During the year a party has carried out repairs and improvements between Wells Nos. 17 and 39, increasing the storage where nesessary and fixing notice boards showing supply, storage, and distances between wells. Boring and well sinking in progress for a new well No. 25 on deviation about five miles North of Ruby Well. The work is still in progress and will take about five months to complete through to Nullagine, when the party will return and do any further improvements required. The country is in a very bad state due to the long spell of dry weather, necessitating the carriage of feed for the stock in addition to equipment, stores, etc.
51.	*Wiluna-Kimberley Stock Route.*—No maintenance work has been done on this route during the year. Reports have been sent in about the damage done by natives to the equipment at some wells. Some drovers were murdered by natives at Well No. 37, about 500 miles from Wiluna, and a Police expedition was supplied with seven pack and four riding camels with all equipment. The expedition arrived at Hall's Creek safely, and the camels and equipment are returning along the Rabbit Proof Fence.

WORKS COMPLETED, ETC.—*continued.*

MISCELLANEOUS WORKS.

Item.	Class of Work.	Locality.	General Description.	Remarks.
		Eastern Goldfields.		
52	Road Clearing ..	Carrabin to Boodalin	Track 12ft. wide, cleared and grubbed. Total distance about 7¾ miles	Road fairly level.
53	Domestic Water Supply	Murrin Murrin	12ft. Aermotor on 30ft. tower on late M.H.L. 22c Well. 5,000 gal. corr. iron tank on 10ft. jarrah stand. Standpipe erected. Door placed on well.	Completed 23rd Feb., 1911.
54	Water Supply to Mines	Menzies	500ft. of fluming and 3,500 gal. storage near Railway, opposite No. 2 Pumping Station, etc., for pumping direct from Railway to Mines. Laying 3in. main to Woolgar.	
55	Domestic Water Supply	Golden Ring Well	14ft. "Alston" mill on 30ft. tower, with 5,000 gal. corr. galvd. iron tank on 10ft. jarrah stand, standpipe, troughing, etc.	
56	Water Supply for Prospectors and Road Clearing	West of Mt. Ida	32 miles of track. Four soaks covered and stoned up, two large gnamma holes cleaned and covered, and two bore wells.	
57	Surveys for Battery Water Supply, etc.	Ora Banda	Flat Rocks to Ora Banda, nine bores put down at Flat Rocks. Surveys from Black Flag, Lady Bountiful, etc., to Ora Banda. Testing shafts at Black Flag.	
58	Surveys	Ravensthorpe	From No. 3 Tank to Elverdton G.M. for Pipe Track.	
59	Do.	South of Southern Cross ..	(*a.*) Marvel Loch Rock Tank. (*b.*) Tank at Parker's Range.	
60	Surveys and Boring	North of Golden Valley ..	Tanks at Marda, Ennuin, Currajong, and Yackie Yackine, and boring for sites for same.	
61	Road Clearing, etc., for Prospectors	Manningu-Koolyanobbing ..	About 33 miles of track cleared. Boring for water 390ft. Cleaned out one native soak and stoned up two gnamma holes.	
62	For Prospectors, etc.	Ryan's Gnamma Holes and Yarbu	Cleaning out and fixing up three gnamma holes and wire netting same.	
63	Surveys	Gordon's Tank, near Mulgarrie	Site for 50,000 gallon Tank, drains, catchment, etc.	
		Murchison District.		
64	Domestic Water Supply	Wiluna	Erection of windmill, tank, stand, etc., completed on 24th October, and plant handed over to Road Board	
65	Diamond Drilling	Cue	Two bores were put down for a total depth of 1,131ft. for the purpose of testing the ground for minerals on Volunteer South and Volunteer South Extended G.M. Leases	
66	Removal of Water Supply Department	Day Dawn to Cue	.. ..	In progress.
67	Domestic and Battery Water Supply	Meekatharra	New reticulation of town, removal of pumping plant, etc., from Garden Gully to a new site about five miles North-East of Town. New 4in. main to Service Tanks at Luke's Trig Hill, etc.	In progress.

WORKS FOR CONSERVATION OF WATER.

Item.	Class of Work.	Locality.	General Description.	Remarks.
68	Marda Tank ..	About 10 miles West of Mt. Jackson	500,000 gallons excavated tank lined with asphalt and roofed. About three miles fencing, etc.	In progress.
69	Golden Valley Tank	At Golden Valley	40,000 gallons excavated tank lined with re-inforced concrete and roofed. About 130 chains of fencing.	

WORKS COMPLETED—*continued.*

WORKS FOR CONSERVATION OF WATER—*continued*

Item.	Class of Work.	Locality.	General Description.	Remarks.
70	Nevoria Tank ..	Between Nevoria and Marvel Loch	2,000,000 gallons excavated tank, the bottom and sides puddled with clay up to 9ft. 6in., and the whole lined with metal. Inlet and bywash concreted. About six miles of fencing, 4½ miles of drains and about 18 miles of plough furrows.	
71	Norseman No. 2 Tank, Enlargement	John's Tank, Norseman ..	John's tank purchased and enlarged, new drains cut, catchment improved. Connected to No. 2 tank by channel. Openings made in drains for private tanks, etc. Capacity 3,985,852 gals.	
72	Tank for Agricultural Water Supply	Salmon Gums, about 64 miles on Norseman-Esperance Road	263,000 gallons excavated tank.	
73	Do. ..	Grass Patch, about 45 miles on Norseman-Esperance Road	263,000 gallons excavated tank.	
74	Menzies No. 1 Tank	Menzies	Roofing tank to reduce evaporation.	
75	Ennuin Tank ..	About 40 miles North of Southern Cross	200,000 gallons excavated tank lined with asphalt and roofed. Fencing, etc.	In progress.
76	Currajong Tank	About 61½ miles North of Southern Cross	200,000 gallons excavated tank lined with asphalt and roofed. Fencing, etc.	In progress.
77	Yackie Yackine Tank	About 75½ miles North of Southern Cross	123,000 gallons excavated tank, lined with asphalt and roofed. Fencing and drains, etc.	In progress.

WELLS AND SHAFTS ACQUIRED BY PURCHASE, ETC.

Item.	Name, etc.	Locality.	General Description.	Remarks.
78	"Bounty" Shaft "Bounty South"	Lawlers (2 miles West) .. Lawlers (2 miles West) ..	The "Bounty" Shaft is being equipped as a Stock Route Well in place of the old No. 6 Well at Lawlers	Old No. 6 Well is now used for travellers only.
79	"Musich's" Well	Laverton-Erlistoun Road ..	Well on abandoned W.R. 111T.	
80	"McKenzie's" Well	Erlistoun (4 miles North) ..	Well on abandoned W.R. 39T.	
81	"Line" Soak ..	10 miles N.E. of Hopetoun ..	Water brackish. Fit for stock only.	
82	Shaft (fresh water)	Norseman (¾-mile S.E. from Lady Miller G.M.)	Reserve one chain square. Water to be used by prospectors only.	Fresh water.
83	"Baneygo" Well	Erlistoun (1½ miles West) ..	Reserve 10 acres. Old W.R. 32T.	
84	"New Woman" Shaft	½-mile South of Ogilvie's, 4½ miles North of Lawlers	This shaft is equipped and is now No. 7 Stock Route Well	This well takes the place of Ogilvie's No. 7 Stock Route Well.
85	"Mt Keith" Well	About 20 miles S.S.E. of Wiluna	5ft. x 3ft. x 25ft. deep. Sunk by prospectors. Equipped by Mines Water Supply Department	Purchased by Mines Water Supply Department for £75.
86	"Royal Arthur" Shaft	8 miles N.E. of Mt. Clifford ..	113ft. deep. Shaft irregular. 120 gallons per hour. Shaft re-timbered and equipped.	Good stock water, and men could live on it easily.

WORKS CARRIED OUT FOR OTHER DEPARTMENTS.

Pilbara District.

Item.	Class of Work.	Locality.	General Description.	Remarks.
87	Erection of Morgue at Hospital	Marble Bar	.. ..	Completed.
88	Additions to Hospital	do.	.. ..	do.
89	Do. ..	do.	Refrigerating paint on roof	do.
90	Do. ..	do.	New shelving in kitchen	do.
91	Do. ..	do.	Repairs to Underground Tank ..	do.
92	Doctor's Quarters	do.	Repairs to drains, etc.	do.
93	Police Quarters ..	do.	Connecting to Town Water Supply, painting, etc.	do.
94	School	do.	Erection of buildings	In progress.
95	Post Office Blocks	Nullagine	Fencing	Completed.
96	Warden's Office..	do.	Repairs and renovations	do.

MINES WATER SUPPLY.

RETURN OF REVENUE AND EXPENDITURE FOR THE 12 MONTHS, JANUARY TO DECEMBER, 1911.

Name of Watering Station.	Capital Cost.	Revenue.	Working Expenses + 8 per cent. Interest and Sinking Fund
	£	£ s. d.	£ s. d.
Davyhurst Water Supply	18,085	577 13 6	1,940 3 1
Menzies Water Supply	33,137	3,477 6 4	5,885 19 10
Norseman Water Supply	33,117	1,613 8 6	4,391 17 6
Jaurdie Hills Water Supply	6,193	204 13 3	793 3 9
Meekatharra Water Supply	14,307	1,991 12 5	2,438 6 9
Ravensthorpe Water Supply	14,401	339 4 11	1,792 17 6
		8,203 18 11	17,242 8 5
Minor Water Stations on which 8 per cent. Interest and Sinking Fund is not added, also Railage of Water	..	5,569 12 8	7,844 7 8
		£13,773 11 7	25,086 16 1

DIVISION V.

ANNUAL PROGRESS REPORT

OF THE

GEOLOGICAL SURVEY

For the Year 1911.

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ANNUAL PROGRESS REPORT OF THE GEOLOGICAL SURVE FOR THE YEAR 1911.

The Secretary for Mines.

The Annual Report of the Geological Survey for the calendar year 1911, which is submitted herewith for the information of the Hon. the Minister for Mines, follows the general plan and arrangement of its immediate predecessors.

THE STAFF.

The work of the Department has been carried out during the period under review by 19 officers.

The additions to the numerical strength of the staff, referred to in the previous annual report, were made during the year, and comprised three field geologists, one assistant field geologist and a petrologist, together with an assistant mineralogist and assayer for work in the laboratory. These additions will enable a great deal of field and other incidental work to be carried out over a large area with greater rapidity than has been the case in the past.

FIELD WORK.

The field work of the year 1911 has been carried out in different portions of the State as the exigencies of the situation seemed to require.

A. GIBB MAITLAND.—A very large portion of my own time has been, as is usual in an office of this nature, devoted to administrative routine. I was absent from duty, through illness, from the 21st of February to the 8th of April, and took my accumulated recreation leave immediately thereafter, returning to office work on the 13th of May. Despite this lengthy absence, opportunity presented itself for devoting a little time to work in the field.

In the month of January I accompanied, as Government representative, the Scottish Agricultural Commission on their visit of inspection to Kalgoorlie and Boulder.

February found me in Meekatharra, in connection with the question of mining on the water reserve at Garden Gully.

In accordance with the special instructions of the Government, a more or less detailed investigation of the underground water resources of the belt of wheat-growing country lying to the south of Norseman, the existence of which had been previously reported by the members of the Railway Advisory Board, was made by myself during the months of August and September.

The period between the 29th of October and the 10th of November was spent in Kalgoorlie upon an inspection of the field work carried out by Messrs. Blatchford, Jutson, and Feldtmann.

The interval between the 3rd and the 21st of December found me at Kanowna and Kalgoorlie in connection with the work at the former centre being carried out by Messrs. Blatchford and Jutson.

Short visits were also paid to the Darling Range, where, when opportunities presented themselves, the mapping of the high level laterites was in progress.

Geological Survey Office,
Perth, 15th January, 1912.

This latter work forms part of that which has been carried out more or less intermittently during a number of years past, in connection with a detailed geological survey of the metropolitan area. Altogether I was absent from Perth on field duty 108 days during the year.

H. P. WOODWARD.—On the 19th of January this officer left Perth to rejoin his party with the camels at Mount Magnet, at which place they had been left on the termination of the field work of the months of November and December, referred to in the annual report of last year. The work carried out by Mr. Woodward on the flying survey was brought to a conclusion at Burracoppin on the 4th of March. The middle of March found this officer at Meekatharra investigating the questions of mining on the water reserve at Garden Gully. In May short visits were paid to Southern Cross in connection with the work being carried out at that centre by the recently appointed members of the field staff: to Rottnest Island in connection with its underground water supply: and to Eradu, on the Greenough River, regarding boring for coal.

In June visits were paid to Cue, in connection with the selection of sites for suggested boring for quartz reefs on Volunteer Flat: to Pinjarrah regarding the purchase of land containing limestone deposits.

July found Mr. Woodward in Albany with the object of inspecting the site of some coal-boring operations on the Fitzgerald River.

In August visits were paid to Donnybrook to report upon some supposed coal finds: to Armadale, in company with the Federal naval officers, regarding a quarry site.

Between the 1st and 11th of September Mr. Woodward was engaged on a trip of inspection to Mount Jackson, on the Yilgarn Goldfield.

A large portion of the month of October was spent on the Murchison and Peak Hill Goldfields, visiting Meekatharra, Nannine, Stake Well, Tuckanarra, and Cue.

The month of November was mostly taken up with work for the Lands Resumption Office with regard to some brick pits at Bellevue.

December was occupied with short visits to Marvel Loch in the Yilgarn Goldfield, to Rottnest Island in regard to its water supply, and to Kelmscott in connection with the site of the proposed State brickworks.

During the twelve months under review, Mr. Woodward spent 145 days in the field, in addition to which he also carried out the other multifarious duties incidental to the administration of the office during my absences therefrom.

TORRINGTON BLATCHFORD.—This officer, who had previously occupied the position of Assistant Government Geologist, was appointed Field Geologist for a period of two years. Mr. Blatchford reported himself on the 30th of March, and after a few days pre-

paratory work in the office left for Coolgardie to make an examination of the country in and around Coolgardie, with the object of fixing suitable sites for locating auriferous ore channels by means of boring operations. The necessary field work occupied him until the 20th of May.

In June instructions were issued to Mr. Blatchford to proceed to Coolgardie to extend to the southward, beyond the old Londonderry gold mine, the detailed survey which he carried out at that centre in 1897-98, when an officer of the Survey. Between the dates June 17th and 26th, Mr. Blatchford accompanied the petrologist, Mr. Farquharson, to the mining centres of Coolgardie, Gibraltar, Burbanks, Kalgoorlie, Kanowna, and Boorara (Golden Ridge) in order that he might become acquainted with the occurrence of the more important types of rocks in the field. The time between the 28th June and the 4th July was spent at the Majestic and Mount Monger in connection with proposals to throw open the timber reserves to a private wood and timber company. For a few days at the later end of July Mr. Blatchford accompanied myself in an inspection of the leading features of the country in and about Burbanks and Gibraltar, with the view to deciding the exact lines upon which his field work should be carried out.

On August the 16th Mr. Blatchford had completed in more or less detail some 60 square miles in and around Burbanks, when he proceeded to Gibraltar, from which centre he started a survey of the country extending from Bullabulling on the north to Victoria Rocks on the south, and eastwards as far as the old Norseman-Coolgardie coach road. This work, which occupied Mr. Blatchford up to the end of September, has been laid down on a map on the scale of one inch to the mile, and roughly embraces an area of 900 square miles.

After a brief visit to Perth, Mr. Blatchford completed some underground work in the mines at Burbanks in the month of October, and thereafter accompanied Mr. Feldtmann to Kalgoorlie.

Early in November I joined the party and laid out the lines upon which the work was to be extended as far as Kanowna, and the surrounding district.

From the 8th to the 17th of November Mr. Blatchford was at headquarters preparing the necessary field plans for this work, which occupied him, in conjunction with Mr. Jutson, Field Geologist, until the 21st of December.

During his nine months' service Mr. Blatchford spent 233 days in the field.

E. C. Saint-Smith.—This officer, who had been appointed from the staff of the New South Wales Survey to one of the newly created positions of Field Geologists, reported himself on the 3rd of April. On the 24th of the month he proceeded to Southern Cross, where until the 9th of August he was mainly engaged, with the assistance of three of his colleagues, in a more or less detailed geological survey of the district and the preparation of a geological plan, on the scale of 100 feet to the inch, of the area traversed by the main ore channel in the more immediate vicinity of Southern Cross itself. During the period in question Mr. Saint-Smith examined several areas at Marvel Loch, Lake Koorkoordyne, Mount Rankin, Southern Cross, etc., in connection with the alienation of mineral lands. On the 13th of May an inspection was made of a supposed asbestos discovery at Golden Valley.

Three days at the end of June were spent in accompanying Mr. Farquharson over the Southern Cross and Bullfinch districts to enable that officer to become personally acquainted with the rocks in the fields, which he had under examination. The 18th of August was devoted to assisting Mr. Woodward in sampling the Maori Lass lease, near the New Zealand Gully dam, in connection with an application for a subsidy.

From the 13th of September to the 19th of December, Mr. Saint-Smith was engaged on an examination of the Donnybrook Coal Series, between that locality and the South Coast. Preparatory to this a short time was spent in acquiring a general knowledge of the geology of the country between Perth and Bunbury; and two days were spent by him on the Collie Coalfield.

During his term of service Mr. Saint-Smith was engaged 216 days in the field.

J. T. Jutson.—It was not until the 22nd of August that this officer reported himself at headquarters, so that very little opportunity was afforded for carrying on any extended field work. On the 30th of August Mr. Jutson proceeded to Kalgoorlie, where he was engaged for some time in acquiring a knowledge of its structural geology, with a view to the mapping of the auriferous series to the northward in the direction of Broad Arrow, Kanowna, etc. This work occupied Mr. Jutson until the 13th of November, when he returned to Perth, where plans in connection with the survey of certain mines at Kanowna were prepared. On the 20th of November Mr. Jutson proceeded to Kanowna, where, in conjunction with Mr. Blatchford, he was engaged until the 21st of December on work in connection with the mining geology of the Kanowna Main Reef line. Since the date of his appointment Mr. Jutson spent 92 days in the field.

H. W. B. Talbot.—On the 8th of February Mr. Talbot was promoted to the position of Assistant Field Geologist. From February 8th to March 10th this officer was engaged in the Darling Range, in the vicinity of Kalamunda, on work connected with the geological map of the Metropolitan area. Between March 27th and April 12th Mr. Talbot was at Southern Cross taking part in the detailed mapping which was being carried out at that centre. Mr. Talbot spent the whole of the time between the 23rd of May and the 7th of November in a flying geological survey of the tract of country which lies between the Murchison and East Murchison Goldfields, in the vicinity of Lake Barlee. A few days in December were spent at Kelmscott in connection with investigations regarding the proposals to establish State Brickworks.

The total number of days Mr. Talbot spent in the field was 230.

F. R. Feldtmann.—This officer joined the staff in the capacity of Assistant Field Geologist on the 1st of March. Four days were spent with Mr. Talbot at Kalamunda in the Darling Range, whilst from the 27th of March to the 9th of August Mr. Feldtmann was at Southern Cross assisting Mr. Saint-Smith. The time between the 24th of October and the end of December was spent in field work at Kalgoorlie, attention being concentrated at the North End working out the structural features in considerable detail.

C. S. Honman.—This officer, who was appointed Topographical Surveyor, formally commenced his duties on the 10th of April.

Up to the end of May Mr. Honman was engaged on the survey of the Southern Cross Field, whilst between the 22nd of May and the 7th of November he assisted

Mr. Talbot in his examination of the country around Lake Barlee. On his return to Perth Mr. Honman proceeded to Cookernup in connection with matters arising out of the boring for artesian water, and after completing this he was engaged in continuing the survey of the high level laterites which cap the Darling Range in the neighbourhood of Kalamunda.

R. A. FARQUHARSON.—This officer, who was appointed to the newly-created post of Petrologist, reported himself on the 20th of April. Mr. Farquharson's first duty was naturally to make himself as fully conversant as possible with the character of the rocks and minerals of the State, such as could be ascertained by carefully going over the numerous rock specimens and micro slides already in the Survey collection. As opportunity offered during the routine inseparable from an office of this nature a careful revision was made of the collection with the view to bringing the classification of the material into line with the modern system of nomenclature, and the formation of a reference collection for the use of the field staff and the general public.

In addition to this very necessary work, a large number of petrographical determinations have been made of the rocks collected by the field geologists in the course of the year's work.

Between the dates of June 16th and June 30th Mr. Farquharson devoted his time to acquiring a personal acquaintance with the rocks, in the field, at Kalgoorlie, Coolgardie, Southern Cross, and Bullfinch.

July was devoted to an examination of the rocks from Warrawoona, in the Pilbara Goldfield; bore cores from Whim Creek; and cores from the Cookernup artesian water bore. Investigations were also commenced into the origin of the so-called banded hematite schists which make such a marked stratigraphical feature in most of the Western Australian Goldfields.

August was chiefly devoted to determinations of specimens sent in by Mr. Blatchford from Coolgardie; a report on several rocks from Mons Cupri mine, on the West Pilbara Goldfield; whilst a report was prepared on the material collected by Mr. Saint-Smith in the course of his work at Southern Cross, the results of which will be incorporated in the Bulletin of that field, which is in the course of preparation.

The naming and description of various rocks from Kalgoorlie occupied the greater part of September; the balance of the time being spent in the petrographical description of the rocks associated with the ore body in the Ingliston Extended mine at Meekatharra; of some specimens from Three Springs and bore cores from Kellerberrin. A short time was spent in work in the field at the end of the month.

October was largely devoted to routine work in the office, and in preparing material for a forthcoming Bulletin, containing a further instalment of Miscellaneous Reports. The latter half of October was spent on the Murchison Goldfield, examining the ore bodies and adjacent rocks in several of the mines. The results of these observations will be shortly issued in Bulletin form.

November was devoted to routine work, in preparing several reports for publication, and in drawing up a brochure on rocks and rock-making minerals for the use of prospectors and others.

A portion of December was taken up with work connected with a petrographical description of rocks from the deep mines at Kalgoorlie for the Royal Commission on Miners' Lung Diseases, and in miscellaneous determinations for the officers of the field staff.

The attached table shows the disposition of the field staff during the year and the time each officer spent in the various districts:—

Table showing the Distribution of Field Work during the Year 1911.

Goldfield or Land Division.	H. P. Woodward.		T. Blatchford.*		E. C. Saint-Smith. †		J. T. Jutson. ‡		H. W. B. Talbot.		F. R. Feldtmann.‖		C. S. Honman.§	
	No. of days in the field.	Percentage of working days.	No. of days in the field.	Percentage of working days.	No. of days in the field.	Percentage of working days.	No. of days in the field.	Percentage of working days.	No. of days in the field.	Percentage of working days.	No. of days in the field.	Percentage of working days.	No. of days in the field.	Percentage of working days.
East Murchison	3	1·0	..	..	..	..	..	..	75	24·0	..	..	75	24·0
Murchison..	28	8·9	..	..	..	..	..	..	..	..	..	..	..	..
Yalgoo	16	5·1	..	..	..	..	..	..	..	..	..	..	..	..
North Coolgardie	8	2·6	..	..	..	..	..	..	73	23·3	..	..	73	23·3
Broad Arrow	..	..	..	..	..	..	2	·6	..	..	..	..	..	..
North-East Coolgardie	..	..	34	10·9	..	..	40	12·8	..	..	..	..	..	..
East Coolgardie	2	·6	28	8·9	..	..	62	19·8	..	..	69	22·0	..	..
Coolgardie	..	..	171	54·6	..	..	2	·6	6	1·9	..	..	6	1·9
Yilgarn	63	20·1	..	..	118	37·7	..	..	50	16·0	131	41·9	50	16·0
South-West	25	8·0	..	..	98	31·3	..	..	26	8·3	..	..	34	10·8
Totals	145	46·3	233	74·4	216	69·0	106	33·8	230	73·5	200	63·9	238	76·0

*Appointed, 30th March, 1911. † Appointed, 3rd April, 1911. ‡ Appointed, 22nd August, 1911. ‖ Appointed, 28th February, 1911. § Appointed, 5th April, 1911.

LABORATORY WORK.

Mr. E. S. Simpson has, as usual, continued in direct charge of the Survey Laboratory. During the year 1911 the total number of samples dealt with amounted to 1,999 as against 1,733 in the previous year.

The assay work required by the State Battery Branch has been, as heretofore, carried out in the Survey Laboratory by an officer, Mr. Murray, whose salary becomes a charge upon the State Battery vote. The total number of assays performed in this connection is included in and forms the bulk of the work done for "Other Departments," set out at length in the attached table, showing the routine work performed during the year 1911.

Table showing Routine Work of the Geological Survey Laboratory during 1911.

Description.	Public.		Official.		
	Pay.	Free.	Geological Survey.	Other Departments.	Totals.
Samples Registered.	126	687	121	1,065	1,999
Assays for Gold	104	459	23	1,045	1,631
„ Silver	2	108	12	32	154
„ Copper	10	63	..	17	90
„ Tin	1	22	1	1	25
„ Lead	..	9	..	..	9
„ Tungsten	..	2	5	..	7
„ Nickel	..	5	..	..	5
„ Other Metals	4	16	..	1	21
Analyses complete	3	3	53	5	64
„ partial and proximate	5	4	33	1	43
Determinations and reports on minerals	4	226	28	13	271
Miscellaneous Examinations	6	15	41	5	67
Totals	139	932	196	1,120	2,387

Reporting, at my request, upon the work carried out under his more immediate supervision, Mr. Simpson states:—

At the beginning of the year there were two vacancies in the professional staff as shown by the Public Service List, viz., those of Senior and 3rd Assistant (Nos. 629 and 631). The former position was filled by the appointment of Mr. A. J. Robertson, B.Sc., who entered upon his duties on the 5th May. The other position (631) has not yet been filled. As the doubling of the field staff of the Survey during the year has greatly increased the work of the Laboratory, the logical outcome is that this work is getting far into arrears, with no immediate prospect of overtaking it. Extra assistance is urgently needed.

Details of such routine work as is capable of tabulation are shown in the accompanying table. In addition much time is spent in giving prospectors and others verbal information as to the value and uses of minerals, methods of preparing for market, etc.

Fees are charged for all umpire and check assays and for some few other classes of work done for the public. No fees are collected for the work done for other Government Departments nor for those numerous investigations made for prospectors under the "Free Assay Section" of the Regulations. Were the Laboratory credited with the value of this work as it should be, its finances would bear a very different aspect as the following figures show:—

	£	s.	d.
Revenue actually received for Pay Assays	106	11	6
Value at schedule rates of work done free for other Government Departments	833	0	0
Value at schedule rates of work done free for the General Public ..	733	0	0
Total expenditure of Laboratory on salaries and supplies	£1,265	0	0

In February the manuscript of a monograph on the Minerals of Kalgoorlie was handed to the Government Geologist. Later in the year several short articles were written for insertion in a Miscellaneous Bulletin.

At the request of the Museum authorities a revised Census of Minerals of the State was prepared for publication in a new issue of the Natural Science Section of the official Year Book.

By permission of the Government Geologist, a paper was read before the Natural History and Science Society describing some unusual petrifactions from Dandarragan. It described the conversion of coniferous wood of Mesozoic age into fluor-apatite (fluophosphate of calcium), and dufrenite (hydrated phosphate of iron).

Several collections of local minerals were prepared for distribution abroad.

Opportunity was found during the year to initiate an investigation into the clays of the State. Practically no official information is available with regard to these, though they are destined to form the basis of many permanent industries as time goes on.

Further information was obtained as to the actual quality of the gold in some locally-made jewellery. It was found, as on previous occasions, that the metal in some examples was well below the fineness stamped upon them.

During previous years some samples of Fergusonite (tantalate of yttrium) from Cooglegong were distributed with a view to opening up a market for the mineral. One of these samples was subjected to examination by Prof. E. Wedekind of Strassburg University. In conjunction with W. Maas, Prof. Wedekind published an article in the *Zeitschrift fur angewandte Chemie* (*Journal of Applied Chemistry*), which concluded thus:—

> As the result of our experience up till now, we feel justified in recommending the Australian fergusonite as a starting point for the preparation of tantalum salts, all the more because the preparations at present on the market are just as expensive as they are impure.

Since the new radio-active mineral, PILBARITE, was discovered at Wodgina, a keen lookout has been kept for other radio-active minerals. At a greater depth in the same lode, two further minerals have been found containing uranium, radium, and thorium. These minerals resemble, and may be identical with, two minerals, mackintoshite and thorogummite, previously

recorded from Texas, U.S.A. The chief constituents of the three Wodgina minerals are:—

	Mackintoshite?	Thorogummite?	Pilbarite.
Thoria, ThO_2	24·72%	24·46%	31·34%
Uranium dioxide, UO_2 ...	35·60%	none	none
Uranium trioxide, UO_2 ...	trace	37·33%	27·09%
Radium by calculation, centigrams per ton	11	10	7

All three minerals are of high commercial value, and representative samples have been requisitioned from England, France, and Germany for experimentation on industrial lines. A detailed description of their occurrence, composition, and properties is now in course of preparation.

RUTILE (oxide of titanium) has been known for some years to occur at Yulgering Spring in the Avon district. Recently a typical sample has been shown to contain:—

Titanium dioxide, TiO_2	94·97%
Iron sesquioxide, Fe_2O_3 ...	2·81
Chromium sesquioxide, Cr_2O_3	·33
Silica, etc.	2·36
	100·47

Its comparative purity having thus been established, efforts are now being made to open up the deposit and export the mineral. Its chief application is in the manufacture of titanium-steel rails.

AMBLYGONITE, a commercially valuable fluo-phosphate of lithium and aluminium, has been detected in specimens from a pegmatite vein at Ravensthorpe. It has previously been recorded from Ubini.

BARYTES (sulphate of barium) was discovered at Cardup Brook near Beenup, but samples submitted were not sufficiently pure to be of commercial value. A bulk sample yielded:—

Barium Sulphate, $BaSO_4$ ...	55·33 %
Silica, SiO_2	36·98 %

Three new metallic METEORITES have been examined during the year, two being from Premier Downs in the Eucla Division, the third from Mt. Dooling in the Ularring district. Descriptions of two of these have been prepared for inclusion in a Bulletin.

PETROLOGICAL WORK.

Mr. Farquharson, who had been specially appointed at Petrologist to assist in undertaking the whole of such work required in connection with the field operations carried out by the Department, reports upon his year's work in the following terms:—

My first care, after entering upon the duties of my office on the 20th April, 1911, was naturally to become as fully conversant as possible with the state of knowledge of the geology, and in particular of the petrology, of the colony in so far as it could be gathered from the specimens and publications of the Survey. Accordingly, with the exception of determining various specimens for the Mines Department, I spent the month of May in going over both the mineral and rock collections of the Survey in the Museum and the large collection of rock slides in the office. It was soon apparent that many of the identifications of rocks were not quite up to modern nomenclature. From May onwards, therefore, as opportunity has permitted, I have devoted considerable attention to naming the collections, with the object of ultimately forming an arrangement of the rocks of the State that will serve as a reference for the officers of the field staff and as a guide for the general public.

Apart from this work, from June to the end of December I have been busily engaged along a variety of lines. To begin with, there have been many determinations to be made of both minerals and rocks for prospectors and mining men, and even for settlers. One group of specimens identified is specially worthy of mention, viz., that sent down at intervals from a locality about 40 miles west of Mount Magnet and a mile or two north of Yoweragabbie. These included massive fibrous tourmaline—schorl rock—and corundum. When it is remembered that these minerals are very frequently associations of cassiterite, it will be obvious that a careful prospecting of the locality for tinstone is highly desirable.

There has further been a considerable amount of material reported on in connection with bores put down for water. In particular, the cores of the Cookernup bore down to a depth of 2,215 feet have all been carefully examined and described, and it has been shown that, while the supply got has, up to the present, been limited, bedrock has not yet been reached. Various specimens from other bores have been reported on, and in several cases information and advice have been given direct to those who have come for it. During the former half of the month of June I was occupied chiefly in determinations of numerous specimens from Southern Cross for Mr. St. Smith's report. Some of the results have already appeared in the Preliminary Report on that field. The striking feature of these rocks was the very large number of hornblendic varieties. From a consideration of them, it is certain that many are altered forms of gabbros and dolerites in which the original augite has been changed by dynamic action to hornblende or uralite, while the felspars have been bent, broken, or faulted. It would, therefore, appear that many of these rocks are very old plutonic intrusions, and that, subsequent to their consolidation, they have been acted on by great earth movements, evidences of which exist all over the State. As the result of these movements, large anticlined and synclined faults and fault-planes, as well as fissures, have probably been produced, and these planes of weakness thus produced have allowed of the penetration of orebearing solutions, which have doubtless accompanied late acid and basic intrusions. Sufficient evidence is not yet available to enable a theory, properly worked out and based on the results of modern petrological work, to be put forward, but there can be little doubt that the outcome of the more or less regional survey of the Kalgoorlie field at present being undertaken, together with the deductions of the all-important petrological work, will go far towards clearing up the structure of the interior of the State and towards a true explanation of the genesis of the ore-deposits, and thus tend to materially assist the mining industry. Determinations of a number of Kimberley rocks also occupied part of my time in June. The detailed results of the examination of these will appear in the Kimberley Bulletin. Suffice it to say here that conspicuous among the specimens are various fresh and amygdaloidal dolerites, some ferruginous sandstones, and three specimens of highly epidotic rocks, one an epidosite, the other two probably epidotised diorites or related rocks. One of these two has a mineral which, pending a chemical analysis, is to be referred to glaucophane.

The latter half of June, in accordance with instructions, I spent in a brief examination of the rocks of some of the mines on the Eastern Goldfields.

During July attention was paid to some rocks from Warrawoona, two of which are described in detail for a forthcoming Bulletin. The interest of these rocks is that the existence of metamorphosed sediments in this district has been definitely established and the views previously held by the Government Geologist as to the origin of the formations at least partly confirmed.

An investigation was also begun into the origin of the so-called Banded Ironstones, which form such a peculiar feature of the landscape and geology of the State. So far as the results of this research, extending at long intervals from August to December, have shown, some at any rate would appear to be weathered and altered forms of heavily pyritised hornblendic rocks. Very similar formations, called Amphibole-Magnetite rock, have been described in particular, from the Cuyuna Iron Range, Minnesota, in association with cherty iron carbonates, ferruginous cherts, etc. On a recent visit I paid to the Nemesis Mine at Tuckanarra in the Murchison Goldfield, specimens were obtained which appeared to show the passage from the ferruginoid schists on the surface to a rock almost identical with the amphibole-magnetite rock of the Cuyuna. The actual mineralogical determination of the amphibole has not yet been made out but it is probably, in part at least, the species grünerite. According to F. S. Adams, "this amphibole-magnetite rock was produced by partial anamorphism of the original iron formation due to heat and pressure developed by con-

tact with intrusive and by acute folding." It is important to note that in several instances these banded rocks are auriferous, especially where they are intersected or interrupted by quartz reefs. Unfortunately, owing to the large amount of work to be done for the field staff, a continuation of the investigation has had to be deferred.

In August, besides a considerable number of determinations for Mr. Blatchford and a report on other Southern Cross rocks, an examination was made of several specimens from the Whim Well Copper Mine, West Pilbara Goldfield. These were all highly altered rocks, now consisting some almost wholly of chlorite and secondary quartz, others of kaolinised felspars and quartz.

Following on a determination in September of an obscure rock for Mr. Turner of the Ingliston Extended Mine, Meekatharra, a batch of the country rocks of the lode formations in this field was sent down, and since hitherto descriptions of these rocks had been couched in the vaguest terms, a thorough petrological examination of them has been made and an attempt to arrive at some conclusions as to the original rock and the original of the lode material. The results will be published in a forthcoming Bulletin. From the 13th to the 14th I visited Kelmscott to report on a supposed building stone in the vicinity. In spite of a diligent search, none of any quality was discovered. From the 19th to the 22nd, inclusive, I was at Collie with a view to the examination of the district.

From the beginning of October to the middle of November, my time was largely spent in reporting on rocks from Coolgardie and Burbanks for Mr. Blatchford, on specimens from the Yilgarn and Yalgoo Goldfields for the Government Geologist, on some Meekatharra specimens, and on rocks from Recovery G.M.L. The results will very shortly be published.

About the middle of November, seeing that for months previously it had been pretty evident that there was considerable confusion with regard to rock terminology and the principles on which it is based, I undertook to write a paper which should contain not only descriptions of the more important rock-forming minerals from the point of view of those characters which would enable an identification of them to be made with the naked eye or a lens and a pocket-knife, but also a rock classification with the names and a brief account of the chief rocks of general occurrence. This paper will be published in the forthcoming Bulletin containing the various miscellaneous Reports. During December the paper was finished, numerous determinations were made for Mr. Woodward's Report on the Peak Hill District, for Mr. Talbot's Report on his flying Survey of the North Coolgardie Country, and a report was made on a collection of specimens from the deep mines of Kalgoorlie for the Royal Commission on Miners' Lung Diseases. These latter rocks, though very much altered, can be roughly classified under two or three heads, and a close comparison of them with others in the collection will throw a considerable amount of light on the original rock facies of that field.

PALAEONTOLOGICAL WORK.

During a short visit to the Collie Coalfield in the month of September, Mr. Farquharson collected several fossil leaf impressions at West Collie, of which a more or less preliminary examination has been made. The results of this investigation have once more raised doubts as to the Permo-Carboniferous Age of the Coal Measures. No impressions demonstrably of *"Glossopteris browniana"* were obtained by Mr. Farquharson; on the other hand there were one or two extremely like those of certain Upper Mesozoic and Early Tertiary plants from New South Wales. It is contemplated making a fuller collection before any definite conclusions on the question are published.

LIBRARY.

As has been the case in the past, the Library has received a considerable number of additions during the year under review, having been increased by 741 presentations and 95 purchases.

GEOLOGICAL SURVEY COLLECTION.

The additions to the Survey Collection during the year 1911 amounted to 761, bringing the total number registered up to 12,097. The accessions comprised 174 minerals, 535 rocks, 39 fossils, and 13 bore-cores. Of microscope slides 228 were prepared during the year, and added to the collection under the care of the Petrologist, bringing the total number now on the books up to 1,675.

The officers of the Survey have, in the ordinary course of their duties in the field and the office, taken 87 photographs of geological and mining subjects, bringing the total number of negatives now registered up to 789.

In the Annual Report for 1908 reference was made to the transfer of the National Geological Collection to the Survey. In consequence of the passing of the Public Library, Museum, and Art Gallery of Western Australia Act, whereby all property, other than that which was on loan, became vested in trustees, the collection transferred was handed back to the trustees and the Survey specimens rearranged in our own cases, which are at present housed in the mineral gallery of the Western Australian Museum. Three show cases containing the Survey collection of fossils have been lent to the trustees, pending other arrangements being made regarding the housing of the Geological staff and its belongings.

A duplicate collection of about 1,200 minerals and rocks has been presented to the Museum trustees, and arrangements made whereby further duplicates will be donated as opportunity offers.

PUBLICATIONS.

During the past year the following publications were issued to the public:—

Annual Progress Report for the Year 1910.

Topographical Map of Meekatharra.

Bulletin No. 41—The Geology and Ore Deposits of the West Pilbara Goldfield: by H. P. Woodward.

In addition to the above, there are now in the hands of the Government Printer:—

Bulletin No. 42.—Contributions to the Study of the Geology and Ore Deposits of Kalgoorlie. Part I.: by E. S. Simpson and C. G. Gibson.

whilst the following Bulletins, which represent the results of last season's field work, will very shortly be in the hands of the Printer:—

Bulletin No. 43.—Petrological Contributions to the Geology of Western Australia. I.: by R. A. Farquharson.

Bulletin No. 44.—A Geological Reconnaisance of a portion of the South-West Division of Western Australia: by E. C. Saint-Smith.

Bulletin No. 45.—Geological Investigations in the country lying between Latitude 28° and 29° 45′ South and Longitude 118° 15′ and 120° 40′ East, embracing part of the North Coolgardie and East Murchison Goldfields: by H. W. B. Talbot.

Bulletin No. 46.—A General Description of the Northern Portion of the Yilgarn Goldfield and the Southern Portion of the North Coolgardie Goldfield: by H. P. Woodward.

Bulletin No. 47.—The Mining Geology of the Kanowna Main Reef Line, Kanowna, North-East Coolgardie Goldfield: by T. Blatchford and J. T. Jutson.

Bulletin No. 48.—Miscellaneous Reports, 9-32: by various members of the Staff.

And the following are rapidly approaching completion:—

The Geology and Ore Deposits of Coolgardie: by T. Blatchford.

The Southern Cross Auriferous Belt: by E. C. Saint-Smith.

Good progress has been made with the preparation of the general index to the whole of the geological and mining reports published by the Government, and it is hoped that this much felt want will be finally completed before the close of the present financial year.

In order that the index might be speedily completed, the services of Mr. J. J. East, whose literary and technical attainments render him well qualified for special work of this nature, were enlisted, and his temporary appointment dated from the 15th of August.

GENERAL.

In addition to what may be called the ordinary work of the Department there were made during the year 30 reports connected with the alienation of mineral lands: some of these entailed special visits to the districts in which the land was situated: others it was possible to deal with by the information already acquired in the ordinary course of the work of the office.

There were also eight reports connected with proposals to grant subsidies under the Mining Development Act.

In bringing this report of the year's operations to a close, it affords me much pleasure to record the fact that the various members of the staff have, without exception, continued to discharge their respective duties not only with assiduity and efficiency but also with enthusiasm, and have never hesitated to extend their labours far beyond official hours whenever the exigencies of the work demanded.

I have, etc.,

A. GIBB MAITLAND,
Government Geologist.

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DIVISION VI.

SCHOOL OF MINES OF WESTERN AUSTRALIA.

DIRECTOR'S REPORT, 1911.

The Under Secretary for Mines.

Kalgoorlie, 31st March, 1912.

I beg to forward, for the information of the Hon. the Minister, my report for the year 1911.

During the past year the School of Mines has continued to accomplish good results, the standard of instruction has been well maintained, and additional facilities have been provided in the Engineering Department.

The enrolment of students and the attendance at classes have been approximately the same as during 1910. To obtain the full benefit from the classes, it is necessary that students should join at the beginning of the first term and attend regularly throughout the whole year, but unfortunately many students find this impossible, and as new students are not encouraged to join during the last term the losses in enrolment are not made good until the following year.

The Preparatory Classes which have been established in Mathematics, Physics, Chemistry, Geology, and Drawing are proving successful and are attracting a number of students who are able to attend regularly throughout the whole year. By attendance at these classes the younger students obtain an excellent preparation in elementary principles which will enable them to proceed with advantage to the more advanced work of the regular courses. Boys leaving the State schools may attend the Preparatory classes, either during the day time or at night, and so have the opportunity of obtaining a training in science which might well be embraced not only by the youths who intend to follow mining as a profession but also by those who desire to obtain some secondary education before entering upon the serious business of life. As the best students at the regular classes of the School of Mines are those who come equipped with a knowledge of the fundamental principles underlying the class work, the Preparatory classes deserve every encouragement, and it is gratifying to find that during the past year they have attracted a fair number of students, many of whom have done excellent work.

As in previous years a day class in Physics for between twenty or thirty State school scholars has been regularly conducted throughout the year, and by means of the practical demonstrations which have been given, students attending the classes have gained an introduction into scientific knowledge which they could not have obtained elsewhere on the Goldfields. Now that science rooms have been built in connection with two of the primary schools of the district, this class will be discontinued, but it is to be expected that the instruction in the elements of Science, which will be given to scholars attending the State schools, will induce a large number of youths to enter upon the Preparatory classes at the School of Mines.

The School of Mines was established in the first place to give instruction to those engaged in mining occupations, and its laboratories have been equipped and the classes arranged so as to give a thorough technical and practical training, enabling students to qualify to hold responsible positions connected with the industry, but the School also offers facilities for general education, more particularly in elementary science, which might very well be taken advantage of by youths who do not intend to enter upon mining pursuits. The preparatory classes that have recently been established are very suitable for boys of fourteen years and upwards, who have just left the State schools, and afford an introduction to science, which will be of great value to these youths, whatever may be their future occupations. The advanced classes will enable students to obtain a training in the earlier portions of a University course, and when, by affiliation of the School of Mines with the University now proposed to be established in Western Australia, work done at the School of Mines receives due recognition, considerable benefit will result to the students resident on the Goldfields.

At the beginning of the year a Mechanical Engineering Laboratory was erected and equipped with an experimental engine, a boiler, a surface condenser, an absorption dynamometer, steam engine indicators, a carpenter's calorimeter and all the necessary appliances for the determination of steam consumption, mechanical efficiency, and the conditions for maximum economy. In all large mining centres the question of economy in power production, leading to the reduction of working costs, is receiving increased attention, and it is of the highest importance that the mining engineer should possess thorough knowledge of all questions bearing upon the economical running of the engines under his charge, and also that he should be able to locate and remedy defective conditions which lead to losses in actual practice. Students at the School are given practice in taking indicator diagrams, in testing the quality of the steam by means of the steam calorimeter, and in carrying out actual working tests on efficiency, which together with periodical visits to the engine rooms of the mines will give the students a thorough grounding in the fundamental principles of Mechanical Engineering.

The extra equipment installed during 1911 has enabled a strong class in the second course of Mechanical Engineering, including laboratory practice, to be formed, and considerable enthusiasm in their work has been evinced by the students throughout the year.

Gas engines have begun to play an important part in the development of mines in the out districts, and

owing to the scarcity of skilled men to superintend their working, the necessity has arisen for the establishment of special courses of instruction at the School of Mines, whereby the students may have opportunities of gaining a thorough acquaintance with the theory and practice of gas producer plants. The installation of a small gas producer plant at a comparatively low cost would be greatly appreciated, not only by the students, but also by mine owners who are now handicapped by the existing conditions.

The equipment provided in the Electrical Engineering workshops enables students to obtain a thoroughly practical course of instruction. The rapidly increasing demand for the electrical driving of sections of mining and manufacturing plants and for the reduction of maintenance costs requires that the student should be thoroughly familiar with the various classes of machines and their operation under all conditions of load, and tests dealing with the efficiency, regulation and registration of the machines and instruments used in the electrical distribution of power are regularly conducted by the students as part of their course work. The results accomplished throughout the year have been satisfactory, and students on leaving the class are able to undertake responsible work in connection with electrical plants outside.

In connection with the Engineering courses it is proposed to establish partial courses designed to meet the requirements more particularly of workers who are unable to attend the complete course for the diploma. The preparatory work of the first year will be arranged to form a foundation for the workshop practice of the second year, and practical instruction in Mechanical and Electrical Engineering, Fitting and Turning, and Gas Producer work will be given, which will afford students the opportunity of gaining a sound working knowledge of the various classes of machines.

Under the system by which the School makes free assays of material obtained from Crown lands not held under lease for mining purposes, a considerable amount of useful information has been given to prospectors. During the year these free assays and mineral determinations reached a total of 526, made up as follows:—

Assays for gold and silver	485
Assays for copper	3
Determinations of minerals, rocks, etc.	38
	526

The assays and mineral determinations have all been made by responsible members of the staff, who have spared no pains to ensure accuracy in the results and to give full information to the prospectors.

The Museum, which contains representative collections of rocks and minerals, set out in such a way as to be of interest not only to the students, but also to prospectors, has been kept open each afternoon and besides being of great educational value to the students has been a source of instruction to visitors.

Numerous donations of mineral samples, catalogues, and reports, lists of which are attached, have been made to the School during the year.

The scholarships offered by the Mines Department fully meet the requirements of the local students and afford youths resident outside of the Kalgoorlie district facilities of attending the School and obtaining a training in School of Mines subjects. In addition the School has been fortunate in securing valuable gifts of prizes and scholarships from these interested in the work of the institution. The editor of the *Australian Mining Standard* grants two prizes each year to the senior scholars. The Chamber of Mines gives several scholarships, and Mr. Neil McNeil has kindly donated a scholarship for yearly competition. The Mechanics' Institute grants free membership to four of our senior students, and Messrs. Bewick, Moreing, & Company, through their general manager, Mr. J. A. Agnew, grant the valuable concession of including the Western Australian School of Mines in the list of institutions from which senior scholars will be selected and provided with employment. The mine managers have afforded students every opportunity of gaining practical experience in the mines and batteries and have shown their appreciation of the work of the School by their readiness in giving employment to the students.

The Students' Association, an active body embracing the majority of the students, continues to accomplish good results. The Science Society has held regular monthly meetings at which original papers relating to the mining industry have been read and discussed. The papers generally have shown considerable merit, and there can be no doubt that very great good will result to students from the preparation of the material necessary for the writing of the articles. The two issues of the School Magazine have each been creditable productions which have afforded space for several of the papers read at the Science Society and have given students the opportunity of free debate of questions particularly affecting their own interests. These activities in a school are helpful in binding together students who otherwise do not often come into very close contact with one another, and the Secretary and the Committees of the Association, the Science Society and the *Magazine* are to be commended for the large amount of labour expended in bringing these matters to a successful issue.

The students continue to secure responsible positions, which in many cases have been obtained directly as a consequence of the technical training given at the School. During the year several students, who have taken the course for the Mine Surveyor's Certificate, have obtained positions as assistant surveyors. Several other students have obtained positions in connection with the electrical plants, and several have been appointed metallurgists and assayers on the mines. It is distinctly encouraging to the present students, and those who in the future will take up a course of study at the School, that those students who have been through a set course of study at the local School of Mines are so well able to take their place in outside practice.

It is with feelings of profound regret and sympathy for his widow and relations that the untimely death of Mr. Philip Adams in a mining accident has to be recorded. Mr. Adams was one of the first Associates of the School of Mines, who after a very creditable course of study became a member of the teaching staff and afterwards filled the position of surveyor on one of the leading mines. With his high qualifications, Mr. Adams gave promise of quickly rising to a still more responsible position, and the School deeply mourns the loss of an excellent student who held the respect of all who knew him.

Practical Classes and Examinations.

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, Metallurgy, and Engineering in the well-equipped laboratories. Models for the Mechanics, Engine-driving, 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 increased accommodation has been 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 for 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.

On several occasions throughout the year the class-rooms of the School have been used for the conduct of examinations for Engine-drivers' certificates, Teachers' "A" and "B" certificates, Pharmacy and Public Service examinations.

2nd March, 1912.

Throughout the year the Assistant Director and the members of the School staff have rendered excellent service, and my thanks are due to them for their cordial co-operation in the proper conduct of the work of the School.

Annual Dinner.—The members of the Western Australian School of Mines Students' Association held their eighth annual dinner on Saturday, December 2nd, 1911. The President, Mr. J. Grigg, occupied the chair, and among those present were the Minister for Mines, the Hon. P. Collier, M.L.A., the Mayor (Mr. C. Cutbush), the Resident Magistrate (Mr. A. G. Walter), the General Manager of the Great Boulder (Mr. R. Hamilton), the General Manager of the Golden Horseshoe (Mr. J. Sutherland), the Acting Secretary of the Chamber of Mines, the Editor of the *Kalgoorlie Miner* (Mr. E. H. Irving), the Director (Mr. F. B. Allen), the Assistant Director (Mr. T. Butement), and the members of the Staff of the School of Mines.

The Minister for Mines gave an interesting address dealing largely with the benefits to be derived from a course of training at a School of Mines, and the advantages offered by the local School.

During the evening an appreciative reference was made to the support accorded to the School by the late Minister for Mines (Mr. H. Gregory). Mention was also made that Mr. L. K. Ward, B.E., formerly Lecturer in Geology at the School of Mines had been appointed Government Geologist of South Australia, and that the present Lecturer in Geology, Mr. C. O. G. Larcombe, F.G.S., had recently published a treatise on the Geology of Kalgoorlie.

F. B. ALLEN,
Director School of Mines.

ANNUAL REPORT OF THE CHIEF INSPECTOR OF MACHINERY AND CHAIRMAN OF BOARD OF EXAMINERS FOR ENGINE-DRIVERS FOR THE YEAR ENDING 31ST DECEMBER, 1911, WITH STATISTICS.

OPERATIONS OF "THE INSPECTION OF MACHINERY ACT, 1904."

OFFICE OF THE CHIEF INSPECTOR OF MACHINERY,
TREASURY BUILDINGS,
PERTH, 15TH APRIL, 1912.

The Secretary for Mines, Mines Department, Perth.

Sir,—

I have the honour to submit, for the information of the Hon. the Minister for Mines, the following Report on the operations of "The Inspection of Machinery Act, 1904," in the districts proclaimed thereunder, together with statistical tables for the year ending 31st December, 1911.

During the year no change has been made affecting the duties imposed by the Act. The usual inspection work has been carried out in as satisfactory a manner as could be expected, taking into consideration the short-handed condition of the staff, the abnormal difficulties which have been experienced, and the additional duties involved.

For convenience of reference, the operations reported on will be dealt with under the following divisions:—

(1.) Inspection of Boilers.
(2.) Inspection of Machinery.
(3.) Machinery accidents to persons.
(4.) Engine-drivers' examinations and inquiries.
(5.) General.
(6.) Extracts from Inspectors' Reports.

DIVISION I.

Inspection of Boilers.

The number of useful boilers on the registers at the end of the year was 3,000, showing a decrease of 342 as against last year's figures.

The decrease in the number of useful boilers is unusually great, and is accounted for in two ways:—

(1.) All "floating boilers" have now been written off the registers of this Department, their control, in accordance with instructions, having been handed over to the Harbour and Light Department, and all files dealing with such boilers and the machinery attached have been transferred to the Department mentioned.

(2.) The registers have been very carefully gone through with the view of eliminating old boilers which have been temporarily condemned for years and to which the required repairs have not been executed. In all cases where it has been ascertained that there is no intention on the part of owners to execute the necessary repairs, these boilers have been written off the registers as no longer useful and have therefore been permanently condemned.

In many dozens of such cases the expense of repairing did not compare favourably with the cost of new boilers. Many boilers thus thrown aside have been lying for years uncared for, till they have so deteriorated that repairs are now impossible.

Of the above 3,000 registrations of useful boilers there were 1,347 out of use at the end of the year as against 1,314 at the end of 1910, showing an increase of 33.

The large number of boilers out of use at the end of the year is due to the following causes:—

Firstly.—Many plants were temporarily closed down.

Secondly.—Several boilers were temporarily condemned for repairs.

Thirdly.—The number of electric motors, oil and gas engines, and suction gas engines is increasing every year, and to some extent these motors are replacing boilers and steam engines which formerly did the work.

New boilers registered.

Seventy-four (74) new boilers were registered during the year, as follows:—Cornish (9), Vertical Stationary (19), Vertical Multitubular Stationary (3), Vertical Patent Tubular (1), Locomotive (10), Loco., Type Stationary (2), Loco. Type Portable (20), Water Tube (7), Return Multitubular Internally Fired (2), and (1) Digester.

Boilers constructed in this State.

Sixteen (16) of the above boilers were locally made. These comprise the following:—Cornish (9), Vertical Stationary (4), Locomotive (1), Return Multitubular Internally Fired (1), Digester (1). The above locally constructed boilers represent rather over 21 per cent. of the total number of new boilers.

I have repeatedly called attention to the very low percentage of locally made boilers as against those imported. This is, however, largely accounted for by the fact that by far the greater number of imported boilers consist of types, often patented, which well-known firms have been making for years, in such numbers that local competition in these particular types, especially when engines and boilers are combined, as in the case of portable locomotive boilers, is almost impossible.

The following return shows the classification of the various types of useful boilers on the registers at the end of the year:—

RETURN No. I.—*Return showing Classification of the various Types of Useful Boilers in each District, on 31st December,* 1911.

Types of Boilers.	Districts.											Total.	
	South-Western.	Coolgardie and Yilgarn.	Dundas.	East Coolgardie.	North-East Coolgardie.	Broad Arrow.	North Coolgardie.	Mt. Margaret.	East Murchison.	Murchison, Peak Hill, and Yalgoo.	Pilbarn and West Pilbara (not proclaimed.)	1911.	1910.
Lancashire	17	5	...	43	3	...	*15	9	3	19	...	114	127
Cornish	78	86	21	151	30	13	82	†90	70	114	...	735	797
Semi-Cornish	18	4	1	5	2	...	4	...	4	24	...	62	75
Vertical, Stationary	247	76	15	78	16	14	67	71	49	76	...	709	815
Do. Portable	58	4	...	2	...	1	2	...	...	7	...	74	94
Do. Multi Stationary	21	2	...	10	1	...	1	2	4	4	...	45	75
Do. Multi Portable	11	...	...	...	...	...	1	2	...	...	...	14	16
Do. Patent Tubular	6	...	...	...	...	...	...	...	...	...	...	6	11
Loco. Type, Rectangular, Firebox, Stationary	58	13	1	15	5	7	6	9	5	14	...	133	182
Do. do. do. Portable	260	14	6	16	5	...	5	7	8	13	...	334	354
Do. Circular Firebox, Portable	122	1	...	3	...	...	1	...	...	...	...	127	118
Locomotive	55	10	...	13	3	...	...	7	4	4	...	96	96
Water Tube	95	15	2	106	..	...	3	23	10	...	...	254	244
Return Multitubular, underfired, Stationary	75	15	2	43	3	4	9	5	6	9	...	171	169
Do. do. do. Portable	1	4	...	3	...	...	1	...	...	2	...	11	15
Do. do. internally fired, Stationary	28	4	...	3	1	...	...	1	...	5	...	42	78
Do. do. do. Portable	1	...	...	...	...	...	...	...	...	1	...	2	1
Egg-ended and other types not elsewhere specified	11	9	...	4	...	1	...	...	1	1	26	53	53
Digesters	15	...	...	3	...	...	...	...	...	...	...	18	22
Total Registrations Useful Boilers	1,177	262	48	498	69	40	197	226	164	293	26	3,000	3,342
Useful Boilers out of use on 31/12/11	297	156	21	235	47	34	120	117	103	217	...	1,347	1,314

* Including two (2) underfired Lancashire.

† Including two (2) Hooker's Patent Cornish.

Operations in the various Districts.

From Return No. 2 it will be seen that seven (7) inspectors only were available during the year 1911. In 1905 there were nine (9). Since 1905 several new goldfields have been opened up, and the agricultural area has greatly extended. The ground to be covered is thus much greater than at that date, and the number of registrations has greatly increased. In my last report I remarked on the impossibility of keeping work up-to-date unless a sufficient staff is provided. The situation this year is worse than last, inasmuch as one inspector's services are no longer available to this Department, his whole time being occupied by work for the Harbour and Light Department. The work is greatly behindhand, and several complaints re non-inspection of machinery, especially passenger lifts, have been received. It is becoming almost impossible to make any arrangements, as provided for in the Public Service Act, for annual leave, to say nothing of any long service leave due. I beg to again call your attention to the fact that I consider it absolutely necessary to appoint at least one more inspector immediately, and another later on during the current year. There were 1,637 thorough inspections made, and 110 working inspections under steam, making a total of 1,747 inspections. This total of 1,747 inspections shows a decrease of 279 as compared with the previous year. By far the larger percentage of this decrease occurs in the Goldfields districts.

Certificates were granted in the case of 1,612 boilers showing a decrease of 178, and 310 notices for repairs, additional fittings, etc., were issued. Of the above certificates twenty (20) were granted under Section 30 of the Act, for short periods, in cases where it was impossible for an inspector to attend. As before, the judicious use of the power given by this section has proved very useful and has worked satisfactorily.

It will be seen that the revenue for the past year for boilers is £3,851 18s. 6d. as against £3,705 12s. 8d. for 1910, showing an increase of £148 5s. 10d., a result which is very satisfactory, seeing that the total number of inspections made shows a decided decrease. It will be noted from Return No. 2 that the increase in revenue is confined to the South-Western, East Coolgardie, and Murchison and Yalgoo districts.

RETURN No. II.—*Return showing operations in each of the proclaimed districts (boilers only).*

	Districts.											Totals.	
	South-Western.	Coolgardie and Yilgarn.	Dundas.	East Coolgardie.	North-East Coolgardie.	Broad Arrow.	North Coolgardie.	Mount Margaret.	East Murchison.	Murchison, Peak Hill, and Yalgoo.	Pilbara and West Pilbara (Not proclaimed).	1911.	1910.
Total number of Boilers registered and capable of being used as steam generators	1,177	262	48	498	69	40	197	226	164	293	26	3,000	3,342
New Boilers registered during the year	60	2	...	...	9	...	...	1	1	1	...	74	68
Inspections for the year:													
Thorough	824	90	29	277	34	7	89	119	94	78	...	1,637	1,873
Working	75	...	2	...	...	...	5	19	4	5	...	110	153
Boilers condemned during the year:													
Temporarily	42	1	...	...	1	...	6	8	...	4	...	62	91
Permanently	*136	2	...	1	1	...	...	...	1	...	...	141	28
Boilers converted into tanks, air receivers, etc., during the year	...	...	...	...	...	...	1	...	1	...	...	2	4
Number of Notices issued for Repairs during the year	163	7	...	11	3	2	23	30	35	36	...	310	498
Number of Certificates issued including those issued under Section 30, during the year	788	93	31	276	32	9	83	115	102	83	...	1,612	1,790
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.
Total amount of Fees for 1911 ...	1,782 3 6	208 15 0	67 10 0	755 15 0	62 10 0	17 0 0	207 19 6	296 18 0	202 15 0	250 12 6	...	3,851 18 6	...
Total amount of Fees for 1910 ...	1,490 18 0	292 0 6	94 0 0	729 5 0	64 10 0	34 0 0	234 5 4	329 18 10	212 10 0	224 5 0	...	...	3,705 12 8
Number of Inspectors	3			2			1		1		...	7	8

* See explanatory note on page 120.

Boilers temporarily and permanently condemned.

During the year 141 boilers were condemned as being unfit for any useful purpose as against 28 last year, showing an increase of 113. This great increase is explained earlier in my report as being the consequence of writing off as premanently condemned a large number of temporarily condemned boilers, which have been lying for years without having been repaired, and which are never likely to be repaired.

The number temporarily condemned was 62, showing a decrease of 29 as against last year's figures.

The following Return No. 3 shows the number of temporarily and permanently condemned boilers per hundred inspections made from year to year since 1899.

RETURN NO. 3.

Showing number of temporarily and permanently condemned Boilers per 100 *inspections made during* 1911.

Year.	Temporary.	Permanently.
1899	2·64 per cent.	1·42 per cent.
1900	2·21 „	·498 „
1901	4·35 „	·511 „
1202	5·00 „	·958 „
1903	2·43 „	·697 „
1904	3·08 „	·389 „
1905	2·84 „	·388 „
1906	3·98 „	·960 „
1907	4·36 „	·802 „
1908	3·18 „	·599 „
1909	2·89 „	·797 „
1910	4·49 „	*1·382 per cent.
1911	3·54 „	8·07 „

* These figures were wrongly printed "·283" in last year's Report

Maintenance and care of boilers.

The maintenance and care of boilers is yearly improving, though in some respects there is still much to be desired. It is for instance most difficult to convince many owners of the great importance of at once stopping minor leakages, such as those occurring at joints of fittings, mud-holes, etc. The yearly amount of damage sustained by boilers from this cause alone is very great. Again, a large percentage of owners, while professing to value the services of an inspector, appear to think he is endowed with superhuman gifts enabling him to detect defects in boilers whose interiors are either wet or slimy, or if dry, are coated with scale to such an extent as to render inspection a matter of instinct, rather than observation. The plates in flues, fireboxes, etc., are often found thickly coated with soot, and when complaint is made as to want of proper preparation, the almost invariable and surprised reply is "Well, I don't understand it; I paid a man to do the work."

It is, however, hoped that such owners will become gradually educated up to the fact that complete inspection cannot be successfully made in the absence of the complete preparation, which is so clearly defined in the official notice issued prior to inspections. Inspectors have necessarily to take many unavoidable risks (owing for example to the fact that interiors being often inaccessible and much of them invisible through the small openings provided), that it is not fair to compel them to take risks which are easily avoidable. The obvious way out of the difficulty is to refuse to inspect, unless preparation is satisfactory. This, however, is not always possible, without entailing great hardship on employees who are thrown out of work owing to the enforced stoppage of the plant, and because an inspector has to arrange his visits in advance and often cannot revisit to make further inspection. If the staff were increased to what I consider it should be, it would be an easy matter to arrange for such inspections to be made when proper preparation has been completed.

Explosions, interesting defects, etc.

I am again able to report that the completed year has passed without an explosion, a fact which must be a matter for congratulation to all concerned. This State has been remarkably forunate in regard to boiler explosions, especially when it is considered that the conditions in some out-of-the-way centres are very unfavourable to boilers.

In the earlier days of the goldfields numbers of second-hand boilers of poor design and in anything but good condition, were dumped into the State, supplied with the worst possible quality of feed water, often attended to by men who scarcely knew one end of a boiler from the other, and frequently set in such an unscientific manner as to positively invite accidents. Considering all these facts, our immunity from explosions is high tribute to the work done by the various inspectors, and the provisions of the Act.

I have in previous years commented upon the tendency of boiler plates to become crystalized and consequently brittle. Mere age affects some plates, and where age is coupled to fatigue stresses, the action proceeds rapidly. The subject is one that is creating a good deal of interest in engineering circles, and is, of course, an important one in connection with the inspection of steam boilers. During the past year several cases were discovered where plates etc., had deteriorated so as to be no longer safe for any useful pressure, though there was no marked reduction in thickness. In one case a small vertical boiler of considerable age was sent into the repair shops to have an additional mud-hole cut in it. The inspector took the opportunity of testing the piece of plate cut out. It was found that it would not bend without cracking, and broke in two with a light blow from a hammer. The plate was found badly crystalized and the boiler was condemned as being unfit for any useful pressure. In another case an inspector was testing a boiler by hydraulic pressure after certain repairs. The boiler was 27 years old and apparently in very fair condition. When the pressure reached 50lbs. there was a loud report, which was not accounted for. At 100lbs. there were two more reports, and on closely examining the side of firebox (the boiler was of locomotive type) the plate was found bulged outwards half an inch. The test was stopped, and on inspection it was found that 13 of the water space stays had broken. The stays were badly crystalized, and, as test proved, were unable to withstand more than about a fifth of the load they should have carried comfortably. There was no reduction of the stays and nothing in their appearance to indicate their dangerous condition. An entire new set of stays was ordered and the boiler then resumed useful work.

These two cases show that altogether apart from appearances, plates, stays, etc., in old boilers must be treated with great caution, and due allowance made for possible deterioration.

Last year I referred to a case of very rapid corrosion in the Collie district. The water supply at this place continues to keep up its reputation for untrustworthiness. A comparatively new boiler was found corroded in a place where severe corrosion is scarcely ever met with in boilers of similar construction. The attacked surfaces were perfectly free from scale, and quite smooth, except here and there where small pieces jutted up above the general level showing what had originally been the surface. Many rivet heads were much reduced and the square edges of the plates were all well rounded. The feed supply was drawn from the mine, and it is obvious that with the possibility of striking such destructive water, almost any trouble and expense would be justified in procuring a supply that would be above suspicion, or in lieu of this to adopt some form of treatment, which will destroy its deleterious properties before it is allowed to enter the boiler.

Another case of rapid corrosion in this (Collie) district was reported. The boiler is a Cornish one, and the District Inspector decided to make an inspection before the expiration of the current certificate. He found that corrosion at a certain spot at one of the tube welds had been so rapid that though the plate had been originally half an inch thick, it was reduced to barely one-fourth of an inch. This boiler was first certificated in 1908. No corrosion of any importance was found until June, 1911, and in November of the same year the plate in question was found so deteriorated that a large patch had to be fitted. The water supply in this case also was taken from the mine.

A rather unusual accident happened at Kookynie to a Cornish boiler. The boiler was fitted with a locked encased safety valve, and suddenly the casting parted just above the valve and through the ring of holes provided for escaping steam. The broken casing was projected into the air about 40 feet and the valve was found 100 yards away. The fractured part was not under steam pressure. The only strain to which it was subjected was due to the pressure of the spring on the valve. The section was a good deal reduced by the escape holes, but was theoretically quite equal to bearing a much greater strain than that to which it was subjected. The Inspector, however, reports that the metal at the line of rupture was a good deal reduced by corrosion, and possibly by original defects in the casting. The fractured part was quite inaccessible to inspection.

Prosecutions under the Act.

I am pleased to be able to record that no owner was prosecuted for breaches of the Act in connection with boilers during the year, though I have been tempted on several occasions to take action against persons who have failed to prepare their boilers for inspection in accordance with the printed notice issued. To have done so, however, would have taken up a great deal of the inspectors' time in the matter of attending court and giving evidence, and in view of the heavy pressure of work, some of which would have had to be neglected, I did not consider this course justifiable.

When my staff is up to its proper working strength I intend to look into the matter of prosecutions for breaches of the Act.

DIVISION II.

Inspection of Machinery.

Return No. 4 gives a classification of the registered machinery groups showing the nature of the power employed. It will be seen that steam-driven groups come easily first, those electrically driven being a good second, and next in order of numbers come the groups driven by oil engines, gas engines, suction engines, and compressed air. The number of steam-driven groups is not a criterion of the actual number of steam engines in the State, as it often happens there are three or four engines in the one building grouped under the same certificate. It is satisfactory to note that amongst the steam engines there are five (5) steam turbines, clear evidence that the State is keeping abreast of the times. Three of these engines are installed at the Golden Horseshoe Gold Mine. The first one, erected in 1908, is a live steam turbo-generator. This engine develops 750 B.H.P. and drives a 500 K.W. generator. The engine gave every astisfaction and was followed by another similar set in 1909. The third engine was installed in 1910 and is a 750 K.W. set developing 1,100 B.H.P. All three engines run at 3,000 revolutions per minute.

The latter engine differs from the first two, inasmuch as it is worked entirely by the exhaust steam from the mill engine and air compressor. When it is considered that the energy required to drive it is merely the difference between the steam consumption of the mill engine and air compressor working "non-condensing" as against "condensing," it will be realised what a vital economy is being effected by the installation of this low pressure turbine.

The condensing plants for the two 500 K.W. sets are fitted with electrically driven air and circulating pumps, while that of the 750 K.W. low pressure turbine is equipped with rotary air and circulating pumps driven by a small live steam turbine, which exhausts into the main turbine.

I regret to say that the number of oil engine-driven groups registered is probably a long way below the number of such groups that should be registered. This type of engine is becoming very commonly used by agriculturists, but owing to the short-handed condition of the inspectorial staff, it has been found impossible to reach a large number of those known to be in use, to say nothing of a possibly larger number of which nothing is known.

The Act, of course, provides that the owners of such engines shall register them. Inspectors, however, find that very few of them are aware of this fact, and until the Act is amended making it compulsory on dealers and owners to notify the sale of all motors (as has to be done in the case of boilers) whether steam, electric, gas, or oil, and the Department is equipped with a sufficient staff, there will be great difficulty in tracing them.

RETURN No. 4.—*Showing classification of the various sources of power-driving machinery in use or likely to be again used in each district for year ending 31st December, 1911.*

CLASSIFICATION.	DISTRICTS.										TOTALS.	
	South-Western.	Coolgardie and Yilgarn.	Dundas.	East Coolgardie.	North-East Coolgardie.	Broad Arrow.	North Coolgardie.	Mount Margaret.	East Murchison.	Murchison, Peak Hill, and Yalgoo.	1911.	1910.
Number of groups driven by steam engines	565	116	35	132	18	10	95	116	115	188	1,390	1,460
Number of groups driven by oil engines	329	8	1	4	2	...	21	5	22	40	432	420
Number of groups driven by ordinary gas engines	60	...	...	...	...	...	...	...	...	...	60	58
Suction gas engines	21	7	2	12	6	...	10	13	11	26	108	44
Compressed air	1	4	...	19	...	...	...	...	...	...	24	26
Electric motors	544	22	3	356	...	...	8	47	7	19	1,006	932
Hydraulic power	16	...	...	...	...	...	...	...	...	...	16	...
Totals	1,536	157	41	523	26	10	134	181	155	273	3,036	2,940

In the steam driven groups are included five (5) steam turbines (in East Coolgardie). In the various districts there are also included 54 electric lighting and power plants. These plants, are, of course, a secondary source of power, inasmuch as they supply current for all the electric motors referred to. Amongst machinery driven by electric motors are included four (4) electric winding engines, thirty-seven (37) electric passenger lifts, and fifty-two (52) electric goods lifts.

There are still seventeen (17) hydraulic lifts, viz., one (1) passenger and sixteen (16) goods lifts, and there are nineteen (19) goods lifts operated by belts and driven by oil or gas engines.

The number of refrigerating plants is steadily increasing, showing thirty-four (34) as against twenty-five (25) last year. The registered groups driven by compressed air consist of twenty-four (24) air driven winches. This power like electricity is a secondary source of power, the air having been originally compressed by steam power.

Return No. 5 shows the operations in connection with machinery, and the revenue derived from this source.

The number of plants registered at the end of the year was 3,036 as against 2,940 in 1910, showing an increase of 96. The number of inspections made was 1,812 for which 1,780 certificates were granted, showing an increase of 87 and 165 respectively over the figures given for 1910.

The revenue from machinery, like that from boilers, shows a satisfactory increase, viz., £101:—

RETURN No. 5.—*Showing operations in each of the Proclaimed Districts (machinery only), during year ending 31st December,* 1911.

	DISTRICTS.										TOTALS.	
	South Western	Coolgardie and Yilgarn.	Dundas.	East Coolgardie.	N. East Coolgarlie.	Broad Arrow.	North Coolgardie.	Mount Margaret.	East Murchison.	Murchison, Peak Hill, and Yalgoo.	1911.	1910.
Total registrations useful machinery	1,536	157	41	523	26	10	134	181	155	273	3036	2940
Total inspections made	905	67	25	449	16	2	76	81	74	117	1812	1725
Certificates (bearing fees) ...	581	20	6	353	7		21	30	20	31	1069	904
Certificates steam (without fees)	296	47	19	96	9	2	53	49	54	86	711	728
Notices issued "Machinery dangerous"	101	3		32	6	1	8	3	1	7	162	76
Total amount of fees for 1911 ...	£237 0 0	4 15 0	3 10 0	205 10 0	3 0 0	15/-	11 15 0	15 10 0	7 0 0	13 15 0	502 10 0	—
Total amount of fees for 1910 ...	£219 10 6	8 9 6	1 5 0	125 15 0	4 0 0	—	4 5 0	21 15 0	5 5 0	11 5 0	—	401 10 0
No. of Inspectors	3			2			1		1		7	8

Dangerous Machinery.

During the year 162 notices were issued giving instructions relative to the proper guarding and fencing of machinery. The number of such notices is considerably in excess of that given for 1910. This increase is not easy to account for, as for some time the number of such notices, as was pointed out in my last year's report, has been falling off. The increase does not mean that there was more dangerous new machinery erected than in previous years, as there is an increasing tendency among manufacturers to guard all working parts in the best possible manner. It often happens, however, that an inspector has found it necessary at some time to order guards, fences, etc., and at a subsequent visit finds them removed, or out of repair, and, of course, has to issue new instructions.

DIVISION 3.

Machinery Accidents to Persons.

Return No. 6 shows the number of accidents in the various districts and the class of machinery causing them.

During the year there were 70 accidents in connection with machinery, in consequence of which eight (8) persons lost their lives and seventy-three (73) were more or less seriously injured. Eight accidents were caused by circular saws, two (2) by "Buzzers,"

one (1) by a passenger lift (sprained wrist), twenty-four (24), of which one (1) was fatal, by ore treating machinery, eleven (11) by belting, of which two (2) were fatal, six (6) by geared wheels, four (4) by fly-wheels and pulleys, four (4) by scalds, of which one ended fatally, one (1) by a winding engine, causing the death of four persons and serious injury to eight (8) others, and nine other as detailed in Return No. 6.

RETURN No. 6.

Return showing number of persons injured or killed by Machinery Accidents in each District during the year ending 31st December, 1911.

Class of Machinery causing Accident.	Districts. South-Western.	Coolgardie and Yilgarn.	Dundas.	East Coolgardie.	North-East Coolgardie.	Broad Arrow.	North Coolgardie.	Mount Margaret.	East Murchison.	Murchison, Peak Hill, and Yalgoo.	Total all Districts.
Circular saws	6	...	...	1	...	...	...	1	...	...	8
Buzzers	2	...	...	...	...	...	...	...	...	...	2
Winding Engines	...	...	...	...	...	...	12 (4)	...	...	...	12 (4)
Passenger lifts	1	...	...	...	..	...	...	...	...	...	1
Ore treatingMachine Crushers, Roasters,Ball Mills,etc.	...	...	...	22 (1)	...	...	...	2	...	...	24 (1)
Belting	...	...	...	5 (1)	...	...	...	5 (1)	...	1	11 (2)
Geared Wheels	4	1	...	...	...	...	...	1	...	...	6
Flywheels and Pulleys ...	...	...	...	3	...	...	1	...	...	...	4
Scalds from burst pipes, and other causes	1	...	...	2	...	...	...	...	1 (1)	...	4 (1)
Emery Wheels	2	...	...	...	...	...	...	...	..	...	2
Tin Stamping Machinery ...	1	...	...	...	...	...	...	...	...	...	1
Builder's Hoist	1	...	...	...	...	...	...	...	...	...	1
Traction Engine	1	...	...	...	...	...	...	...	...	...	1
Steam Hammer	...	...	...	...	...	...	...	...	...	1	1
Suction Gas Producer ...	...	...	...	...	...	..	...	...	...	1	1
Winches	1	...	...	...	...	...	...	...	1	...	2
Totals for 1911 ...	20	1	...	33 (2)	...	...	13 (4)	9 (1)	2 (1)	3	81 (8)
Totals for 1910 ...	15 (3)	2 (1)	...	35 (1)	1	...	1	9 (2)	4	6 (2)	74 (9)

The figures in parentheses denote fatal accidents.

Twenty-four (24) of the above were classed as minor accidents, consisting of bruises and similar injuries; forty-nine (49) were classed as serious, involving loss of fingers, limbs, or other extensive damage to persons; and eight (8) were fatal.

As usual, carelessness or foolhardiness on the part of the injured men was responisble for most of the accidents, and whilst it is regrettable that such accidents should happen it appears that not much can be done to prevent them. There are risks connected with every trade or calling that have to be taken, and inspectors cannot guard against all of these risks. If they succeed in guarding against undue risks which are preventable, without unduly interfering with the utility of a machine, it is all that can be reasonably expected. As an instance of absolute foolhardiness, an inspector ordered a substantial fence to be erected to guard a heavy and fast running belt. On a subsequent visit during a meal hour he found a number of the operatives for whose protection the fence had been erected, courting sudden death by sitting on the top rail of this fence with their backs within half an inch of the running belt. It is more than probable that a certain amount of joking was going on, and a very slight slip would have sent one of them and possibly more, to an almost certain death. As long as men will do this kind of thing, accidents must occur.

Fatal Accidents.

On the 14th January a man employed feeding a conveyor belt at the Ivanhoe Gold Mine met with his death in a somewhat mysterious manner. His body was found about 250 feet away from where he had been working, lying on the belt jammed against the hopper of the stamper bins. The medical attendant stated that life might have been extinct for 10 hours when the body was found. Deceased appears to have fallen on to the belt in some unknown way. It was given in evidence that there was no occasion for him to place himself in such a position as to render this possible. As no one saw the accident the jury gave it that there was "no evidence to show how deceased came upon the belt."

On the 22nd May at the Underlay Shaft at the Gwalia Gold Mine by far the most serious accident of the year happened. The driver on shift threw the north drum out of gear, having previously pinned down the brake lever. He then commenced to haul the south skip to the No. 8 level. He had just started this when he noticed the north drum revolving. He shut off steam and put his whole weight on north drum brake and tried to clutch in. Failing to do this he pinned the brake down again and with a spanner proceeded to tighten up the brake. He states that the speed slackened considerably till past the No. 3 level, but at this point the brakes fired and would no longer check the speed, though he continued to tighten them until about 500 feet of rope had gone off the drum after the skip stopped at the pent house below the bottom level. The driver states that he did not know there were men in the north skip, he having relied on receiving information from the braceman, as usual, if there had been men on. There were unfortunately ten men in the skip; one was instantaneously killed, two others died shortly after-

wards, and a fourth succumbed to his injuries in November. The other six men in the skip, and in addition two men on the surface, received injuries more or less serious.

The accident was caused primarily by the north drum being unclutched, and secondarily by the brake failing to hold. With regard to unclutching it may be stated that the driver did not know men were on. As regards the brakes, subsequent tests proved them quite adequate, when properly adjusted, so that it appears they were not adjusted as tightly as they should have been when accident occurred. Here again, however, the difference between the point to which the brake was adjusted, and that at which it would have been safe, shows a very small margin.

After a long and painstaking coronial inquiry, it was finally decided that no action could be taken against any person.

On the 25th May an employee on the Lancefield Gold Mine was so injured by the breaking of the belt of a rock breaker as to result in his death. The broken belt tore away the staging on which he was probably standing, and the injured man was found lying amidst the wreckage. Paralysis set in which resulted in death in five days after the accident. The belt causing the accident was replaced after the broken ends had been joined and at once put to work. It was not, therefore, in a decayed condition, and there is no evidence showing the cause of the breakage. The jury gave it in their verdict that there "was no blame attachable to anybody."

On the 14th August an employee at the Great Boulder Proprietary Gold Mine sustained serious fracture of the leg by a heavy piece of shafting with a large pulley attached to same falling on him. The leg had subsequently to be amputated, and the cause of death was gangrene of the injured limb and shock following the operation. In a sense this was not perhaps an "accident caused by machinery." Part of the shaft in question was being removed, and was being cut through with a hack saw. The sawing was started, and shaft which was 3in. diameter was cut half-way through before any move was made to sling the part to be cut off. The fitter who was sawing then asked for tackle to sling it, and orders were given accordingly.

The sawing was continued while the tackle was being procured, until the height of the remaining segment of the shaft was only 11/16th inch. The shaft, which had not yet been slung, then broke and fell on deceased.

The only conclusion that can be arrived at is that great carelessness was displayed in not slinging the shaft properly before the sawing commenced, or at all events, by the time it was cut half-way through. The finding of the jury at the inquest was that "ordinary negligence was shown in not taking the necessary precaution to make the shafting and pulley secure before starting the sawing operations."

On December 5th a fitter was employed in refacing the steam slide valve of an air compressor on the Youanmi Gold Mine. While so engaged there was a sudden rush of steam and water through the exhaust port, causing severe scalding of the man's arms and legs. He died on December 9th, and the immediate cause of death was given as ulceration of the intestines. This I am informed is a common sequence to severe scalding. The accident was caused by leakage through the steam valve of a pump which was out of commission. The exhaust of this pump was connected to a drain pipe leading from the compressor exhaust pipe to the boiler feed tank. The pump exhaust pipe having a head of about three feet filled with water and the steam at intervals caused this to boil up and discharge into the air compressor exhaust pipe. The occurrence was a peculiar one, and the chances of such an accident happening again are very small. The certain method of preventing the possibility of such an accident would be to insert blank flanges in both steam and exhaust pipe joints. This was unfortunately not thought of. It will be noted that the last two accidents could not have been prevented by any action on the part of the officers of this Department—both occurring on repair jobs when the machinery was not at work, and conditions were abnormal.

Mishaps to Machinery.

On March 6th while raising an empty skip in Morty's Shaft, South Kalgoorlie Gold Mine, the driver had shut off steam and the engine was running by momentum only, when it suddenly pulled up. Both brakes were applied, and the driver at once noticed that the flange on the south side of the *South Drum* was broken and a large piece of the flange fell off. The cracks were quite new. It was subsequently discovered that the ascending skip attached to North Drum had left the skids and was jammed in the shaft. The drum was repaired by riveting and bolting on a large steel plate, and continued to run satisfactorily for several months. No damage worth mentioning was done except to the drum. The fracture was no doubt caused by the shock of the sudden stoppage due to skip jamming. The above engine is horizontal direct acting, having double drums, the cylinders are 11in. diameter and stroke is 30in. It is fitted with jaw clutches and post brakes. The next day at the same mine one of the drums on the main shaft winding engine was found badly cracked in a very similar manner. The driver noticed that the two halves of the drum did not meet fairly at the flange, and on examining it, discovered the crack. There had been no shock, as far as can be ascertained, to account for the fracture. The fractured portion of the drum did not break away and drum was effectively repaired by bolting on a mild steel plate.

No damage occurred except to the drum, and as far as could be ascertained no blame could be attached to the driver in either case. This engine has double drums, and cylinders are 24in. diameter having a stroke of 36in.

On August 21st the winding engine at Morty's Shaft was again in trouble. This time four out of the six spokes of the South Drum on the North side of drum were found cracked close to boss. The driver states there was "no jar of any sort during his shift or on previous shifts" which would account for the breakage.

The Inspector reporting on the accident states that the North Drum is used for lowering ore by a skip from the upper to the 1,000 feet level, and that South Drum only carries a light single cage in which men travel when necessary. The brakes were so arranged that the foot lever on the South Drum was much more convenient to the driver than that on North Drum, and as clutches, feathers, etc., had rather more play than is desirable, the constant use of this particular brake for operating the north drum produced shock sufficient to cause the damage. The drum was repaired by plates and the brakes were altered so that the one on north drum could be easily operated

by the driver. Orders were given for a new drum which was fitted about 6th November. I might here remark that there are a few cases in the State where winding engines erected on our mines, which were originally quite efficient for the work they had to perform, are becoming more or less overtaxed, owing to ever increasing depths, and in some cases increased loads and speed. These engines are being carefully watched, and arrangements for replacing at least two of them by well equipped modern engines have been made.

In my report for 1910 I referred to a mishap to a suction gas engine at Merton's Reward. Since then and during 1911 there have been several other accidents to similar engines. Three or four of these were directly due to the failure of the bolts in crank pin brasses (at "big end" of connecting rod). On making enquiry into the whole matter I find this experience is not confined to this country. Leading engineers in England report exactly similar occurrences, and go so far as to say that about 10 per cent. of all the accidents happening to this class of engine are due to the fracture of these bolts.

The fractures are, no doubt, partly due to faulty design. Some gas engine manufacturers argue that these bolts do not feel the shock of the explosion, and that their only duty is to draw in the fresh charge of air and gas. They appear to forget that the bolts in question have to bear the strain of overcoming the inertia of the moving connecting rod and piston. This stress, always fairly severe, may become incalculably so if the crosshead and connecting rod brasses are slack.

The bolts should be made of the best material, say Siemen's or crucible steel, or the highest quality of wrought iron. They should be *forged,* and not cut out of solid bars, and there should be a good fillet left below bolt head. Needless to say the bolts should be a perfect fit in the holes in the connecting rod end, and at any joint between brasses, or between connecting rod end and brasses, but where the bolt passes through solid brass, it should be necked down to the same diameter as root of the thread, all fillets being made of large radius to render the change of section as gradual as possible. This "necking down" is done to ensure a more elastic bolt and thus render it less liable to failure. The thread for the nuts should be a fine thread, and not the usual Whitworth standard. A spare set of bolts should be kept on hand, and the bolts in use should be annealed every six months, or oftener according to the work done. There appears to be a very general impression that skilled attendance is unnecessary for suction gas engines and internal combustion engines generally. This is an erroneous idea. Any large suction gas engine, as a matter of fact, probably requires more skilled attention than the majority of steam engines. Every moving part of it requires careful and intelligent watching. The driver in charge should be capable of making his own adjustments, as these should be made the instant the necessity for them becomes noticeable. For instance, a slack brass which might work successfully for months in a steam engine, might cause disaster in a few hours, if left neglected, in a large internal combustion engine. It will be seen from the above that skilled attendance is a necessity with, at all events, all the larger engines of this class. To secure such skilled attendance, a standard of some kind should be adopted with a view to testing the fitness of persons in charge of such engines.

A curious case occurred during the year in connection with an engine getting out of control. The engine was fitted on top of a portable loco. type boiler. The governor which usually controlled it satisfactorily, failed to prevent it from racing badly. The stop valve was then closed with no better result. Finally the reversing lever was centred and so the engine was brought to a standstill. An examination was then made by an Inspector with a view of finding out the cause of the trouble. It was discovered that the stop valve and governor supplying steam to the steam chest were mounted on a compartment in the cylinder casting connected direct to the boiler. This compartment was divided from the valve chest by a cast iron wall, portion of which had broken away and allowed the steam to pass direct from the boiler to the engine without passing through either the stop valve or the governor.

Had the engine been fitted with reversing gear it could not have been stopped except by blowing off all steam from the boiler. There was no particular risk involved, and the case is interesting chiefly on account of its rarity and mysterious nature.

A peculiar mishap occurred in Perth in connection with a passenger lift. The cage was sent up to first floor and stopped. Before the door could be opened it started *descending* at the usual speed and continued to do so in spite of all efforts to stop it until it reached the basement. The mishap, which is fully dealt with at end of this report in an extract from the Inspector's report, was due to reversal of current owing to the switch having slipped out of place. This was caused by wear which could not be detected at any ordinary inspection as the switch in question is encased and cannot be seen without taking the whole gear adrift. The failure of the switch was not attended by any more serious consequences than a sprained wrist and some damage to property. The arrangement of the overrun cut-outs has since been altered in such a way that nothing of the kind can again happen.

The wire rope attached to the balance weight of a goods lift in Perth broke clean in two in a very mysterious manner. The inspection of the lift was considerably overdue when the accident happened, and the rope had been disconnected before the inspector saw it.

The breakage was peculiar inasmuch as the rope was a particularly good one and had only been in use about 16 months. The factor of safety was high and nothing was discovered which in any way accounted for the failure of the rope. It is certain that it could not break with the mere weight of the balance weight, and it appears probable that in some unaccountable way the weight stuck temporarily in the skids, and then, when several feet of slack rope coiled up above the weight, freed itself and dropped with a jerk, causing the rope to break. No damage was done except to the rope.

A case of very rapid wear to the ropes of a passenger lift occurred during the year. The lift is a large one and does a good deal of work. In November, 1910, it had been fitted with new ropes throughout, and on the 28th of following July an inspection was made (during the currency of certificate expiring in November, 1911) at the request of owners. The ropes were found badly broken up, and much out of shape. The balance weight ropes were so bad that they would undoubtedly have broken if allowed to run

a few days longer, and the cage ropes were nearly as bad.

The ropes were found badly crystallised, though apparently of excellent quality when installed. The winding drum of this lift is rather small, and this fact, combined with the amount of work done by the lift, probably accounts for the rapid deterioration of the rope.

It is always desirable in order to prevent constant worry with lift ropes, that the winding drums, head pulleys, etc., should all be of very ample size.

The fact that such abnormal wear could occur in such a short time appears to indicate that all lifts or at least all passenger lifts, should be inspected more frequently than provided for in the Act. This is a matter now under consideration, but any alteration in this respect would require an amendment of the Act.

DIVISION 4.

Engine-drivers' Examinations and Inquiries, Prosecutions, etc.

During the year four (4) examinations were held in Perth, two (2) in Bunbury, Kalgoorlie, and Leonora, and one (1) at Lawlers, Ravensthorpe, and Cue.

The members of the Board remain the same as in 1910.

Forty-one (41) meetings of the Board were held. Two hundred and fifty-one (251) applications for certificates were registered and one hundred and ninety-seven (197) certificates were approved of as against one hundred and sixty-two (162) in 1910. The revenue from engine-drivers' fees was £295 5s., as against £190 15s. in 1910, thus showing a very satisfactory increase. For detailed return of certificates issued see Return No. 7. During the year the Board undertook a much needed piece of work, viz., the revision of the Regulations relating to the conduct of examinations, qualifications of applicants, and the granting of certificates to steam engine-drivers. These new Regulations received approval early this year and are now available for distribution.

Early this year it was decided by the Hon. the Minister that in future all examinations were to be conducted by a travelling Board instead of by Supervisors as previously. Two of the members of the present Board will therefore visit the principal centres on pre-arranged dates, and hold examinations, provided there be at least seven (7) eligible candidates available at each approved centre.

Return No. 7.

Showing total number of Engine-drivers' Certificates (all classes) granted in 1911.

Class of Certificate.	Number granted.	
	1911.	1910.
1st Class Competency (including Certificates under Regulation 9a and Section 63) ...	14	17
2nd do. do. do. do.	47	39
3rd do. do. do. do.	63	46
Locomotive and Traction Competency	23	13
Traction Competency	10	1
Interim	30	22
Copies	10	13
Totals	197	162

The total revenue for the year from engine-drivers' fees was £295 5s., as against £190 15s. for 1910, showing an increase of £104 10s.

Inquiries, Prosecution, etc.

On the 22nd February the management of the Transvaal Gold Mine at Morgans was prosecuted for employing uncertificated engine-drivers. A fine of £1 and costs was imposed on each charge. I am pleased to be able to record that this was the only prosecution that it was necessary to institute during the year.

No official inquiry with regard to breaches of the Act on the part of engine-drivers was held during the year.

A few overwinds occurred, and where there appeared to be evidence of negligence on the part of the driver he was cautioned and the occurrence recorded. None of the overwinds, five or six in all, are sufficiently interesting to refer to in this report. No loss of life or injury to person occurred, and very little damage to property. Considering the ever-increasing depth of shafts, the large tonnage handled, and the fact that some, at least, of the engines in use cannot be considered as up-to-date modern winding engines, it is a matter for congratulation that overwinds and winding accidents generally are not of more frequent occurrence. The drivers in charge of winding engines are obviously a careful body of men, and deserve all credit for the manner in which they handle their engines, often under rather trying conditions, particularly during the hot months of the year. I regret to have to report that the Board of Examiners found it necessary to deal with the holder of a second class certificate. This man applied, in an irregular manner, for a copy of his second class certificate supposed to have been lost. He had previously had his first class certificate suspended for five (5) years. At the expiration of this term a second class certificate was granted to him on his producing evidence of sobriety and good character. Owing to irregularities in his application for the copy referred to there was some little delay in issuing the copy. In the meantime a letter was received from the Mining Registrar at Cue on the man's behalf and giving his address as "The Gaol, Geraldton." This led to inquiries being made, and it was found that he had been sentenced to various terms of imprisonment for being "drunk and disorderly," "an habitual drunkard," "vagrancy," etc., on many occasions extending

over seven years. The Board recommended the suspension of the second class certificate during the pleasure of His Excellency the Governor. This suspension was duly gazetted.

In connection with this case I wish to point out that before the issue of the second class certificate credentials were required and obtained as to the man's general character and habits. One of the testimonials described him as being "sober and strictly honest." It is to be regretted that some persons are so habitually careless in granting testimonials which are not in accordance with facts. The cancelled certificate was, of course, obtained by false representations, and would certainly not have been granted if the Board had been in possession of the facts of the case.

Overwinding Safety Appliances.

In my last year's report I referred to some of the devices in use in this State for the prevention of overwinds. During the past year the matter has not been lost sight of, and many catalogues showing various methods of dealing with this subject have been received from some of the best English makers of winding engines in response to letters from this office.

I trust that the day is not far off when, at least, all new plants will be equipped with such devices as will render overwinding and over speeding next to impossible. Many of the mechanisms are comparatively simple and some of them are applicable to existing engines. During the year I took the opportunity of bringing two of these devices under the notice of the Chamber of Mines, and the various inspectors are doing what they can to hasten the more general adoption of safety appliances where these appear desirable.

DIVISION 5—GENERAL.

Amendments to the Inspection of Machinery Act, 1904.

There are many important amendments and additions to the Act required, some of which the Minister has already given his approval to, and I shall take the opportunity of submitting the others at an early date.

Inspectorial Staff.

The staff remains the same as in 1910, except that one inspector was transferred to the Harbour and Light Department. There are now seven (7) inspectors only available, and as previously pointed out these are not sufficient to cope with the work to be done.

Work is getting badly behindhand, inspectors are overworked, and much difficulty is being experienced in meeting engagements, to say nothing of making any provision for annual leave, sick leave, or long service leave.

Under these circumstances the work in connection with the Department has become excessively irksome, and a growing feeling exists that it is becoming impossible to give satisfaction unless some relief is experienced at an early date.

The pinch is most severely felt in the South-Western district. Here it is not possible to cope with old registrations and keep work up-to-date, and therefore doubly impossible to deal with new registrations or unregistered machinery. There is a large number of unregistered groups in this district for the most part representing agriculturists, dairymen, etc., and these persons rarely know anything of the provisions of the Act until an inspector visits them.

Quite recently an inspector while on other work discovered no less than ten plants in one afternoon, all of which were unregistered, and within a mile or two of Perth.

I hope that very shortly the staff may be so augmented as to make it possible to carry out the provisions of the Act, and leave some small margin for contingencies, such as making inspections, valuations, etc., for other Departments.

Clerical Staff.

The clerical staff in head office is also in a most unsatisfactory state. At the end of the year there were only two members of the staff left as it existed at the commencement of the year (at the present moment only one remains). The rest of the staff consisting of temporary appointments who have received no previous training in this office.

During the early part of the year under review, I regret to state that certain grave irregularities in connection with revenue, on the part of the clerk-in-charge were discovered. This led to a lengthy and very tedious investigation, entailing much extra work on the office staff, and interfered to a very serious extent with ordinary routine work.

It will be understood that with such an upheaval, and a short-handed staff it has not been an easy matter to initiate temporary clerks into work of a distinctly technical nature and keep things running smoothly.

I trust, however, that arrangements may shortly be made to provide an efficient permanent clerical staff.

In spite of the strenuous year much useful and long needed work has been done in the office. Instructions to inspectors had hitherto been issued in a series of circulars as special matters cropped up. These had become cumbersome and in many cases alterations had been made and instructions overlapped.

The whole of these circulars have been revised, altered, re-arranged, and indexed, and have been issued to inspectors in a convenient form for handy reference. In addition to this, certain drawings containing all the necessary formulae in common use for boilers, etc., have been brought up-to-date and revised. Blue prints were made and issued to each inspector, so that every officer is now in possession of up-to-date information in a handy form, and much time will be saved in computing and consulting works of reference, besides securing uniformity, through the use of these departmental formulae.

Each year the Department has undertaken a good deal of work for other Departments, and last year was no exception. The work, of course, varies considerably, and consists in inspection and valuation of plants, designing boilers, inspecting and advising *re* purchase of motor cars, etc., etc.

With a little margin in the matter of staff I feel convinced that this Department might do more useful service in this direction. At present any extra work of this kind has to wait until more urgent matters in connection with our own Department are attended to.

Revenue.

The total revenue from all sources was £4,687 1s. 5d. made up as follows:—

	£	s.	d.
Boilers	3,851	18	6
Machinery	502	10	0
Engine-drivers	295	5	0
Incidentals	37	7	11
Total	£4,687	1	5

The total revenue for 1910 was £4,358 9s. 5d. The year just ended therefore shows an increase of £328 12s.

Mileage.

A total of 39,340 miles was travelled by inspectors, viz.:—

By rail	22,875 miles
By road	16,083 „
By water	382 „
Total	39,340 miles

The total number of inspections of boilers and machinery was 3,559, the average distance travelled per inspection was therefore 11.05 miles.

In conclusion, I desire to place on record my appreciation of the work done by the staff during what has proved to be a particularly trying year, and to tender my thanks to officers of the Departments in the Commonwealth and State services who have co-operated with me in connection with engine-drivers' examinations, enquiries, etc., in outlying districts.

C. J. MATHEWS, M.Inst. C.E.
Chief Inspector of Machinery and Chairman Board of Examiners.

Extracts from Inspectors' Reports.

Mr. B. Prynn Jones, Inspector of Machinery in charge of East Coolgardie and Yilgarn, Dundas, North-East Coolgardie and Broad Arrow Districts, who is located at Kalgoorlie, remarks:—

Of the total number of boilers in use two only were not inspected, and one of those was deferred for a few weeks at owner's request.

The machinery inspection was practically brought up-to-date, only six (6) groups remaining due for inspection at the end of the year. At the same date last year there were nearly eighty (80) groups overdue.

During the year 457 certificates have been issued on boilers and 558 on machinery. Comparison with last year (boilers 504 and machinery 420) shows slight shrinkage in boilers and increase in machinery. The latter largely due to increasing use of electric motors and suction gas.

Only one fatal machinery accident occurred during the year. A man, whose duties confined him to the lower end of a conveyor belt leading from main shaft ore bins to battery hopper, ceased work just before ten o'clock on Saturday night, and was found lying dead across the upper end of belt at 10 o'clock next morning. The belt was stopped when he ceased work, and had been working for an hour when he was found on Sunday morning. It was *possible* for him to have been carried up on the belt had he been asleep on it, but such was extremely unlikely owing to certain obstructions just above belt. Medical evidence pronounced death to have taken place from five to ten hours previously. The affair was very mysterious, and nothing has transpired since to throw any light on the man's end. Of other accidents recorded none have been traceable to inefficient guarding. It frequently happens that laymen might at first sight consider a certain place in need of fencing, but those working amongst machinery know that a fence or guard might easily be an obstruction or danger.

We have had the usual crop of pinched fingers, and one or two instances of indiscreet persons trying to pull off or put on belts by hand, but nothing serious has happened in this connection.

No complaints have been made about engine-drivers during the year, and only one case has reached my ears of a driver holding an important position being discharged for carelessness. In that case, which was reported on in the usual way at the time, the man intended leaving the country, and was careless of his reputation. A few other cases of over-winding have been reported and inquired into, but in no case was severe treatment decided on by the Board, and no punishment was inflicted by the employers.

No prosecutions have been instituted during the year.

Early in June last an accident occurred at the Golden Horseshoe Gold Mine to a cross compound air compressor of 1,000 H.P. The point of interest in connection with this accident is that it is illustrative of how the emergencies of mining practice sometimes lead to breakdowns which under other circumstances might have been avoided.

About 3.15 p.m. the engineer's attention was called to a knock in the high pressure piston rod crosshead. It was discovered that the adjusting nut on end of top slipper had almost worked off the stud and that the slipper was likely to come off altogether.

At this time of the day it is important that the supply of compressed air should not fail, because miners are likely to be "firing," and require to be drawn up shafts and winzes. Steps were at once taken to warm up another compressor, messages were sent to the shafts and the defective engine kept going, although an accident was expected momentarily.

Just as the other compressor was ready to take the load, the nut worked off, slipper fell and lodged lengthwise on piston rod. It was then caught by the returning crosshead and forced through top of cylinder. The crank pin being prevented from completing its circle, the crank shaft key was sheared and allowed shaft to revolve in disc. The crank disc had been forced or shrunk on shaft in usual way and the key had side fit only. There had been no evidence of the slightest slackness at any time, so the force necessary to shear a good mild steel key eleven inches by two inches square was very great when the tight fit of disc itself on shaft is taken into consideration.

Mr. H. L. Gill, Inspector of Machinery in the South-Western District (Metropolitan Area) remarks:—

During the past year much of my time had, unfortunately, to be devoted to irregularities on the part of the clerk-in-charge, and in consequence hundreds of machinery inspections were overdue at the end of the year. The boiler inspections were kept fairly well up-to-date. A large number of first inspections of machinery for which notice of ownership had been received were deferred, and, in addition, I know

there are scores of unregistered groups of which no notification has been received.

With regard to unregistered machinery, I beg to point out that in almost every case where I find an unregistered firm, it is pointed out to me that "an inspector" has been there, and a fee paid. In every instance it turns out to have been a Factory Inspector. At the end of seven years the majority of unregistered firms appear to know no more of our Act than they did at its commencement, and in this District at all events, it is quite an unusual occurrence to receive the official Notice of Ownership of Machinery (Third Schedule) without having previously visited or written to the person sending it. This is especially so in the case of such people as firewood cutters, agriculturists, and the owners of similar small plants. This is, I believe, largely caused by confusing our Act with the Factories Act. Of late, as soon as one of these small concerns (employing the owner and perhaps one man and a boy) starts, a Factory Inspector is on the spot, and registers the concern under Section 2, Sub-section 3, of the Factories Act. This Section reads . . . . "any building, premises, or place where steam or other mechanical power or appliance is used, etc." I contend that this Section was overlooked when drafting our Act, and that it should have been included amongst the sections repealed (32, 33, 35, and 36) by the First Schedule of Inspection of Machinery Act.

A factory is emphatically a place where things are made, or where they are prepared for sale, and infers workshops of some kind, and according to the Act "6 or more persons employed" (omitting the Chinese clause), and it is undoubtedly a great hardship for the owners of small woodyards, etc., to have to pay the double fee and make the double return, etc.

From the very wording of Section 2, Sub-section 3, the *only excuse* a Factory Inspector has for visiting such places is the fact that *there is machinery there,* and the Inspection of Machinery Act was passed to deal with that. There is, in the correct sense of the term, no *factory* to inspect.

I would suggest that if at any time amendments to the Inspection of Machinery Act are contemplated, the clause referred to be repealed.

There have been, I am pleased to say, no explosions, no fatal accidents, and no prosecutions in the section of the District worked by me. Generally the provisions of the Act have been carried out in as satisfactory a manner as possible considering the shorthanded condition of the staff.

There are now eighty-one (81) lifts working in Perth, of which six (6) were added during 1911. Most of the new lifts are of distinctly better design and better equipped with safety devices than many of the older ones.

During the year I was occupied forty-one (41) days on Engine-drivers' Examinations and Board Meetings in connection with same.

During the same period I inquired into six (6) machinery accidents, none of which were fatal, and only one serious.

The only accidents of any interest are two in connection with emery wheels and one in connection with a passenger lift. The emery wheel accidents both occurred to *new* wheels. In one case a man was grinding a chisel when the stone burst without seriously injuring him. In the second case, a man was standing in front of the stone but had not yet touched it when the stone flew into several pieces, one of which struck him on the forearm and caused severe injuries. This particular stone had only been running 10 minutes and had only been used once. On carefully examining it, glue from the label was found to have penetrated right through the stone at one of the fractures (the original fracture no doubt), showing clearly that there was a flaw in the stone when it left the maker's hands.

I always advise running a new emery stone for a few hours, covered with a box, before using it, as it is remarkable that a very large pencentage of accidents to stone occur during their first run.

The passenger lift accident resulted in nothing worse than sprained wrist and some damage to property. The circumstances were peculiar and make the accident worth recording. The lift had reached the first floor and was stopped to let a passenger out. Before the door opened it started to go down, and the attendant promptly pulled the control rope hard down to stop it. It would not respond, however, and continued to travel down at usual rate till bottom was reached. On inspecting the gear I found the winding gear had continued to run after the cage had reached the bottom, paying out slack rope on top of cage and winding up the balance weight till it struck the overhead beams carrying pulley. The beams and some brickwork were dislodged and the strain on the rope pulled the whole winding gear and motor several inches across the floor, the beams to which framework was bolted having split and so released bolts.

Up to the time of the accident the lift had been working perfectly. All connections, mechanical and electrical, were in good order, and there did not at first appear to be any way of accounting for the accident. A careful search and many tests were made with a view to discovering a short circuit which might have accounted for the reversal, but with no effect. Eventually the case containing resistance coils, switch gear, etc., was taken to pieces, when it was found that the stationary circular drum of the reversing switch gear had slipped out of position and so caused the trouble. The slipping was due to wear in a bush and a crack in the side of the casing which allowed undue spring.

I have referred at some length to this last accident because the lift had been inspected by myself on 23-8-11—the accident happening on 13-9-11. During my inspection there was no suspicion of trouble. All of the gear was in good order and worked perfectly. The lift, which is an Otis one, was provided with the usual overrun cutouts, but the arrangement is somewhat old-fashioned, and the cutouts were connected up to the switch which failed and consequently they did not act. They have since been altered.

The faulty switch was encased in such a way that at an ordinary inspection it was impossible to judge of its condition, except by testing its *working.* After the accident two capable electricians were at it two days before the defect in the switch was discovered.

The moral to be drawn appears to be that all passenger lifts should be placed under the care and supervision of some competent firm of electrical engineers, whose duty shall be to attend to up-keep and *open up and thoroughly overhaul* all *inaccessible parts* at least once a year. The Inspector should be notified of such opening up and should, if possible, see all parts before re-assembly.

The Act provides that "the certificate granted to the owner of any machinery shall remain in force for one year."

I am strongly of the opinion that at least all passenger lifts should be inspected *at least* twice a year.

I am aware that the above suggestions will, if carried out, entail more work, and that it is quite impossible to undertake any extra work under the present short-handed condition of the staff. It must, however, be apparent to anyone that lifts carrying thousands of people every week must require closer inspection than ordinary machinery in a factory, and, in my opinion, provision should be made for coping with this very necessary work.

Inspector G. P. McCulloch, Inspector of Machinery in charge of the North Coolgardie and Mount Margaret Districts, located at Leonora, remarks:—

The year's work has not furnished me with much material for remarks.

The upkeep of boilers and machinery generally has been very good in the great majority of cases, and the reciprocal good-will and readiness to meet each other half-way which exists, without exception, at the present between the owners and myself have gone far to lighten duties liable to be trying at the best of times.

I sometimes think that (with the exception of yourself as possessing a more intimate knowledge of the circumstances) the Heads of Departments do not quite realise the responsibility thrown upon an Inspector at times, when to condemn or reduce the pressure upon a boiler means closing down a mine and throwing a number of men out of work, while not to do so means shouldering the complete responsibility for anything that may happen.

Such work requires at times the greatest tact and circumspection, combined with technical knowledge which does not seem to be quite allowed for in estimating the salary value of the position.

The suction gas engine is a form of prime mover which is attaining a considerable and increasing position on the Goldfields.

At the end of 1910 the number of suction gas engines in my district were as follows, compared with the number on 31st December, 1911:—

	1910.	1911.
Mt. Margaret	8	13
N. Coolgardie	3	10
	11	23

showing an increase of twelve (12) plants installed during the year.

Of the 13 plants installed in the Mt. Margaret Districe five are, however, out of use, while of the 10 plants installed in the North Coolgardie District all are in use but one. In addition, on 31st December, 1911, a 72-H.P. Crossley Plant was in course of erection at Hill's Proprietary Gold Mine, Murrin, but up to the time of writing this report the owner has been unable to get same to work satisfactorily, probably owing to faulty erection.

There have been four breakdowns with these plants during the year and one during 1910. The latter was, in my opinion, due to back-firing caused either (as most probable) by overloading the engine, or by allowing the supply of cooling water to fail, which is, however, in my opinion, not probable according to the evidence.

The four breakdowns during 1911 were undoubtedly caused either by back-firing or the failure of the connecting road bolts, which in any case should be annealed at frequent intervals, or constructed of better material.

As regards the subject of Suction Gas Plants generally. I have been somewhat unjustly accused in some quarters of being a "steam man" and as being unfavourably disposed to the gas engine. This is far from being the truth, for with the bad feed-water obtainable in many places, and the heavy and increasing cost of fuel, it is my opinion that a reliable suction gas plant will in many cases render mining operations possible under circumstances which would otherwise be prohibitive, added to which they have the further advantage of being much more convenient for intermittent working.

The two points against which I have set my face firmly all along, and will always contend, are, firstly, the untrue and misleading statement made by some agents that "anybody can run a gas engine," and, secondly, the statement that "under all or any circumstances a gas engine must be more economical than a steam plant."

As regards the first point, much greater skill and technical knowledge are required to run a gas plant for any lengthy period, without risk of serious accident, than is required to run any but the largest steam installations. This is a fact which has already been amply demonstrated in my districts.

Secondly, the relative economy of gas as compared with steam depends upon a multiplicity of factors, all of which have to be taken into consideration for any given case. Amongst these are, quality and cost of feed water, quality and cost of fuel, horse-power required, nature of work to be done, and the constancy or otherwise of the load, which all bear directly upon the actual working costs, while, in addition, there is one other factor, which although its bearing upon the same is indirect, is none the less important on that account, and that is the reliability and safe working of the plant. It is naturally very difficult to reduce this factor to a pounds shillings and pence basis, but a proportion of five serious breakdowns in two years amongst an average number of seventeen plants will at least demonstrate that it is not one by any means to be neglected. The economy to be effected during a long period of good working will very soon be nullified by one serious breakdown, entailing as it does, not only a considerable cash outlay in repairs or possibly compensation, but also a loss of time and wages due to stoppage of the plant, or even shutting down of the mine.

Reliability and safe working depend upon the following principal conditions (speaking more particularly of mining plants):—

(1.) Simplicity of construction and working.
(2.) Evidence of undue fluctuations and reversals of stress in the material.
(3.) Clean driving medium.
(4.) Capacity to stand overload.
(5.) Easy access to all working joints and fastenings.
(6.) That comparatively trifling causes, defects, or alterations of adjustment shall not be attended by results of undue magnitude.

To avoid these remarks extending to undue length, I will content myself by saying that I do not think the warmest advocates of gas could deny that steam has the advantage in every one of these conditions, especially in comparatively small plants, viz., up to 50 or 70 horse-power. The superiority (if any) of

the gas plant must, therefore, depend entirely upon its lower working costs, which, again, will always be partially offset by its inferior reliability and working safety.

As regards the capital outlay, it would appear from information which I can gather that with both steam and gas plants the initial capital outlay will be about the same for a given normal capacity, and in this connection it must be remembered that it is always necessary to employ a gas engine of at least 25 per cent. higher rated capacity than the power which the steam engine should be installed to develop most economically.

As regards depreciation, none of the gas plants in my districts have been running long enough to enable me to quote any reliable figures *re* this item, but it seems reasonable to suppose that this charge will in all cases be higher for gas than steam plants.

To sum up it seems fairly evident that in plants below, say, 70 horse-power, there is, under the conditions which obtain in many parts of the Goldfields, an undoubted scope for the gas plant, so long as its reliability and working safety can be rather better demonstrated than has been the case in the past two years, for these are items for which, if lacking, no economy in actual working can compensate.

Mr. D. F. Booth, Inspector of Machinery in the South-Western District, remarks:—

There is still a very large number of groups of machinery (principally driven by oil or gasolene engines) in the Great Southern Railway District, which I did not have time to visit and register. In this connection I consider something should be done to bring before the notice of owners the provisions of the Machinery Act as contained in Clause 15 (1). I find that not only farmers, but in most cases town residents do not know them. If they did know and complied with them we would be saved a great deal of expense, for in many cases I hear of persons having machinery which is subject to the Act, after I have travelled close past their doors, and when a return to them would cost very much more than if justified by the revenue to be collected. Though I have made ninety-eight (98) new registrations I am convinced that there are more than that number in use in my district which are still unregistered.

Boilers.

By my reports of inspections you have, no doubt, noticed that the general standard of maintenance is improving, though it is far behind perfection yet. There have been eleven (11) new boilers registered, most of them being imported, and it is satisfactory to notice that foreign makers are sending to this State, *now,* boilers which are in many cases better made and are equipped with much better fittings than they formerly were. I ascribe this improvement to the fact that most of these makers are now aware that we have an Inspection Act in this State and that its provisions are enforced.

I am sorry to say that I have not had many opportunities to make working inspections. Most of the boilers in my district are isolated and very few owners have more than one, so that at my annual visit there is no chance to see a boiler under steam.

Accidents.

Though very few are officially reported I continue to hear of a considerable number of minor and serious types, but not many directly fatal accidents. There are not many country people who know the provisions of the Act in this respect.

In connection with work which I do in the Metropolitan Area, the chief point which I would comment on is the safety of passenger lifts. Though this has materially improved of late, I am of the opinion that every lift carrying passengers should be so fitted that the doors cannot be opened from the outside by anyone but the attendant, and that the control should be so arranged that the cage cannot leave any floor until every gate is securely locked.

Mr. J. Stone, Inspector of Machinery in the South-Western District, remarks:—

The operations of "The Inspection of Machinery Act, 1904," have been fairly successful and have worked smoothly in the portion of the South-Western District in which I have been engaged.

The work has increased considerably, also the area to be traversed, and I regret to state that notwithstanding the overtime which has been worked, and this has been considerable, I have been unable to keep inspection work up-to-date.

Maintenance, in the majority of cases, has been satisfactory, and there have been no explosions or mishaps of a serious nature.

A number of new boilers have been registered during the year; the majority of these were manufactured by reputable British firms, and were in keeping with their usual high standard of efficiency.

The gradually increased steam pressure of boilers demanded by purchasers becomes very apparent in comparing some of these latest importations with those built by the same firms, say, 20 years ago.

This increased pressure not only demands extra strength of material, but extra vigilance on the part of the Inspector.

The repair list, although not nearly so extensive as that of previous years, has again been fairly heavy, and is due principally to causes stated in previous report, viz., the large percentage of the oldest boilers in the State being erected in this portion of the district. These boilers are getting older each year and require more careful attention; however, the policy adopted of making repairs of as permanent a nature as possible and having same effected by competent workmen has proved very beneficial, and the boilers generally are in a much better condition than they were some years ago. A number of fairly extensive repairs are in view and will be dealt with in due course.

It has again been necessary to reduce the pressure of a number of old boilers, whilst others have been permanently condemned, owing to the material having become crystallised to such an extent that they were totally unfit to be used under steam pressure. A number of others will have to be dealt with in a similar manner in the near future.

The feed water question is always a difficult problem, from a steam user's point of view, and requires close attention, as the life of a boiler depends principally on the quality of the feed water used, and the reports furnished of rapid corrosion of boilers in various parts of this district demonstrate very clearly that unsuitable feed water is still being used.

A fair percentage of boilers in this district are supplied with water from "rivers and streams" in and around the Darling Ranges, and it is interesting to observe how the quality of the water changes with the changes of the seasons and its effect on boilers.

In many cases these "rivers and streams" are a libel on the name they bear, except during a few weeks or months (according to rainfall) during the winter season, at other times they are merely a succession of water-holes, and towards the end of the summer months the water in some of those holes becomes highly mineralised and will remove every particle of scale that may be adhering to plates, etc., and cause rapid corrosion; others become fairly dense and will deposit a scale on internal surfaces which increases so long as the dry season continues and according to the density of the water.

The rainfall during the past winter was considerably below the average, consequently the water supply for the district generally promises to be much inferior to that of other years, and extra precautions will have to be taken by steam users.

I have always advised the treatment of feed water before it enters the boiler in preference to the use of boiler fluids in the boiler, and have found the former method much more effective in every way.

The use of zinc plates is also used a good deal in this district, with beneficial results when properly fitted.

The Inspection of Machinery has been carried out as usual. A number of new plants have been erected, and in other cases considerable additions have been made to existing plants, most of these have been inspected and guards furnished where necessary; the remainder will be attended to in due course.

There have been a number of machinery accidents during the year, principally in connection with the saw-milling industry: some of these were minor, some serious, but I am pleased to state that there were no fatal accidents. Enquiries were made and the circumstances fully reported.

The causes of these accidents were varied, some were purely accidental, whilst others were caused by nothing short of foolhardiness.

The provisions governing the employment of certificated engine-drivers have been strictly observed in this portion of the district; a few complaints have come to hand, but upon investigation nothing of a serious nature was discovered.

Mr. W. Churchill, Inspector of Machinery in charge of East Murchison, Murchison, Peak Hill, and Yalgoo Districts, and located in Cue, remarks:—

There has been a steady decline in the number of boilers in commission owing to closing down of one or two large installations and of many small ones, some of course are only shut down temporarily, but others I am afraid will not be worked again in their present situations; also, suction gas engines are replacing boilers now in many cases.

Maintenance generally has been well up to standard all circumstances considered, and there is a growing tendency to treat feed waters—practically all large mines have installed some system—but lack of funds prevents small owners is the plea put forward by small owners as a reason for not adopting any system, although I have repeatedly pointed out that money expended in one year on boiler cleaning would give much more satisfactory return if laid out on water treatment plant.

I am pleased to say there are not any serious mishaps to report.

Machinery generally is sufficiently guarded and well maintained, not only on larger mines but owners of small plants also appreciate the advantages of employing competent drivers to look after machinery which has cost many pounds to instal, and it is pleasing to note even out-back the number of drivers who take no little pride in plants under their charge.

The most notable feature of the year has been the installation of several suction gas engines of a total h.p. 905. The largest single unit is one twin cylinder engine of 160 h.p.; all other are of single cylinder type and range in power from 110 h.p. to 25 h.p.

In addition to above there are being erected one 50 h.p. and one 200 h.p. which I anticipate will be running early in 1912.

Generally speaking this form of power is giving very satisfactory results, and seems particularly adaptable for goldfields work where good firewood is becoming more scarce every year, as ordinary mulga has been found to make excellent charcoal for gas producers. In this connection I have to report one serious breakdown (not reported as an accident, because no person was injured). The engine is of 110 h.p. erected at Development Gold Mine, Sandstone. Briefly put, engine in course of run, suddenly and without warning the web of crank shaft (nearest fly-wheel) fractured, remainder of shaft flew out of place, fracturing cap of main bearing; in doing so, the other end of fly-wheel portion remaining in journals intact; one of balance weights of crank shaft also became displaced and in its course struck fly-wheel and fractured two arms of latter. So it will be seen there was considerable danger of a serious accident, but fortunately the attendant was not in the room at the time.

Re winding engines I have not any cases of breakdown to report nor has my attention been drawn to any defects of importance during the year, except one instance of fractured spur-wheel, the repair of which I considered to be satisfactory and which still remains good.

There are not any overspeed or overwind prevention devices fitted in this district.

The only safety device of note being a catch to loose drum, worked in connection with clutch so acting that when clutch is out the drum is held so that cage could not get away. There are yet some groups which require to be reclassified, but they are not at present working, so have deferred dealing with them as it is possible they may be removed or parts of them removed.

I am pleased to say there are no serious accidents to report, there have been the average number of minor mishaps incidental to upkeep of any large number of steam boilers and machinery.

Two cases of fractured parts are worthy of mention:—First was on a large winder at the Great Fingall Mine where the wedging action of the rope coiling on the drum forced the cheeks apart sufficient to tear away the holes in edge of steel plate forming the shell, the driver observed cheek running somewhat out of truth and immediately called attention to the matter; winder was stopped and strong tie-bolts with washers were at once fitted, passing completely through the drum from cheek to cheek, and this has proved a very effective repair.

The second is a case of a friction hoist used for lifting trucks from the surface to the ore bin level, about 25 feet; this was a new hoist and specified to be capable of lifting 30cwt. This was in use lifting

only 15 to 16 cwt. and gave trouble from the start on account of friction wheels wearing away very rapidly, finally the pinion shaft fractured close to the friction pinion. In my opinion, the root of all the trouble is the fact that the frictional contact surfaces are too small for any weight over ten (10) cwt.

I have no prosecutions to record this year; on the contrary, I am pleased to say that owners generally have rendered me every assistance to facilitate inspections of boilers and machinery, and any orders that I have found necessary to issue have received attention at owner's earliest convenience.

DIVISION VIII.

SIXTEENTH ANNUAL REPORT OF THE CHIEF INSPECTOR OF EXPLOSIVES, GOVERNMENT ANALYST, AND AGRICULTURAL CHEMIST, FOR THE YEAR 1911.

The Secretary for Mines, Perth.

Sir,

I have the honour to submit, for the information of the Hon. the Minister, my customary Annual Report for 1911, being the sixteenth successive report which I have presented to the Government on the work of my Department.

Amongst the various matters which I have had to deal with, that which must take first prominence is the question of

THE GASES DERIVED FROM EXPLOSIVES.

The investigations on this subject referred to in my last report were continued during the last year, and the result was issued in a collection of Corrigenda and Addenda to the special report issued in 1910 on the Composition of the Gases caused by Blasting in Mines. In this supplementary report I ventured to advance suggestions to explain the formation of gases of a deleterious nature during the detonation of explosives on the basis of the physical structure of the explosive itself, of which one of the most striking indices is to be found in a record of the velocity of detonation of the explosive. Following up the line of argument herein advanced, and which I may say is receiving the attention of manufacturers in Europe, I have had occasion to examine several shipments of explosives during the year in a special manner. The result has been very striking, and has led me to certain rather startling conclusions to which I am convinced the time is ripe for me to draw attention. I have, as a result of investigating various stocks, discovered the following facts:—

(1.) Some explosive arriving in this State with a very low heat test was kept under close observation prior to its condemnation and destruction. The result was that the heat test of the explosive was found to improve with remarkable rapidity. In five months the heat test was found to have improved from six minutes to 13 minutes, but simultaneously the velocity of detonation (which even originally was only 1,760 metres per second) had fallen to such an extent that it was impossible to obtain a record by Comey's method.

(2.) A number of explosives which were kept specially under observation for a number of months were found improved in heat test slightly, while fallen in velocity of detonation.

(3.) A considerable stock of explosives were specially examined after storage in this State for some two to three years. In every respect they complied with the standard test required under the Explosives Act, and the apparent physical and chemical condition of the explosives was good, but when examined by means of the velocity of detonation test it was found that instead of detonating satisfactorily, at the moment of detonation they burst into flame, and in other cases the velocity of detonation had fallen to such a low limit as to almost escape recording by Comey's method.

The effect of these experiences upon my mind has been profound. It is obvious that, having in mind the result of my investigations in Kalgoorlie in 1910, and in the absence of any definite disproof of the conclusions therein arrived at, I should be assuming a criminal responsibility in permitting explosives of the nature of those I have described above to be used in mining operations on the fields. I cannot but be convinced that such explosives must reasonably be expected to give rise to noxious fumes when used in blasting, and, moreover, if their rate of detonation is so low, there is a strong probability of unexploded butts being left in bore-holes, to the evident danger of workmen in the mine.

For the first time, probably, in the records of official supervision of explosives I have, therefore, been compelled to inform the owners of these explosives that I consider them unfit for consumption, and that they could only put them into use on the mines on their own heavy responsibility; a notification which, of course, has had the effect of preventing their distribution. These developments have, however, brought me into a position which requires the most earnest consideration of the Government, since, to put it briefly, I have in this manner assumed a responsibility which is not imposed upon me by my office, for which there is no justification in the Act which I have to administer, and which is a distinct departure from the traditional attitude of other Inspectors of Explosives in other parts of the world. It is well that I should explain this latter statement more fully. The recognised traditional position of an Inspector of Explosives, as originally formulated by Sir Vivian Majendie in Great Britain and embodied by him in the British Explosives Act, 1875, is that an Inspector is concerned only with the safety of explosives in manufacture, storage, and transport. That they must be of such a character as to render them practically harmless under the ordinary conditions of handling and keeping, so that they do not expose the public in general to any serious risk. All supervision of the explosives, however, falls from the shoulders of the Inspectors of Explosives as soon as they come into the hands of the practical user, such as the miner, and the Inspector has not been concerned at all with the behaviour of the explosive under the conditions of use. For instance, he has not been obliged to study the chemical nature of the change undergone on detonation, and consequently the nature of the gas produced. Such questions as this have been left in the hands of the Inspectors of Mines, who, while possessing special experience in certain directions, have not had the benefit of the wider and more general knowledge of explosives acquired by supervision of all stages of their production. Consequently

we find that, as far as the Inspector of Explosives is concerned, the principal test to which any explosive had to be subjected was the heat test, devised particularly to detect any chemical impurities which might give rise to dangerous conditions of storage, etc., but having little or no bearing on the practical question of the behaviour of the explosives in actual use. While such a distinct line of demarcation between the supervision of storage and the supervision of use has remained unchallenged under the more conservative conditions existing in older countries, it is natural that it has been called into serious question in a newer State such as this, one proof being found in the extensive series of investigations which I was called upon to make in 1904-5, and again in 1910, on this subject. There is an old saying "Seek to know why, for you will then know how and when," and it is natural that when difficulties have arisen with fumes, with misfires, and other troubles intimately connected with the nature of the explosive itself, the miners have turned to the explosives' expert as one who should be able to tell them why this had occurred, and if the question thrust upon the Inspector of Explosives new responsibilities and heavier duties, he cannot on that account shirk the question, for it is illogical that he should concern himself so anxiously with the safety of the community as a whole as demanded by the nature of his supervision of manufacture, storage, transport, etc., yet disown any responsibility when called upon by that particular division of the community which through their actual use of the explosives is most vitally interested. The position, therefore, to which I have been gradually forced is this, which I beg to submit for the information and consideration of the Government:—

In my opinion the heat test (especially in view of the many elements of variation which exhibit themselves in the test) is insufficient to provide answer to all the practical questions which arise in connection with the supervision of explosives. The traditional attitude of the Inspector must be departed from, and he must rouse himself, and be empowered to exert his authority in regions beyond the present sphere of his jurisdiction, by having confided to him the supervision of the use of explosives as well as the manufacture, storage, transport, etc. This will necessitate a complete remodelling of the methods of testing, and, though it is too early at present to lay down a definite scheme to be followed, there are certain broad lines which already make themselves visible, and along which the first steps must be taken. The sensitiveness of an explosive and those physical elements in its composition which exert an influence upon the velocity of detonation of the explosive must be taken into account. Not only the energy of the explosive must be studied, but also its power, that is to say that not only the force but the time which is necessary for that force to act must be taken into consideration. The relation of these factors to the composition of the gases caused by detonation must be studied and reduced to principles, and a systematic investigation of the products of explosion under carefully controlled conditions must, it appears to me, become an important part of the future control of explosives. These requirements would involve a particular recasting of the Explosives Act, as already enforced, so as to invest Inspectors with entirely new powers; and would also involve the erection and thorough equipment of testing stations where inquiry could be rapidly and reliably conducted. It is quite evident that these investigations must be made on the spot. There is no comparison to be drawn between an explosive as it leaves the factory in Europe and as it arrives on Australian shores, while only in the locality itself can the effect of climatic conditions upon storage be studied and taken into proper account.

The above suggestion has been made with a due sense of responsibility, and a full understanding of the radical changes therein involved. It will be a departure so great from the accepted procedure in other countries that it will very probably provoke considerable criticism, but I feel sure, also, that it will be a departure that will meet practical needs and will be justified by the practice itself.

It is very satisfactory to know that H.M. Inspectors of Explosives in England have recently, before a Royal Commission on Mines now sitting in England, made certain suggestions which would seem to indicate that similar ideas to those I have propounded are occupying their minds. This affords a certain amount of confirmation to me in my views, and in my opinion the time has gone by when any Government Department charged with certain duties can ignore a field of practical inquiry thus opening up before them, or treat it as only one of a purely academic nature. Rather must it step in and take responsibility even ahead of that imposed upon it by public demands.

POTABLE SPIRITS.

Although no fresh work, throwing any new light upon the questions concerned with the control of potable spirits has been carried out in the Laboratory during the year, steady work has been done along the lines already laid down, and additional confirmation has been thereby obtained of the accuracy of the line of reasoning adopted. Moreover, most gratifying communications have been received from various parts of the world, confirming and approving of the attitude which I have taken up on this question. It is of great assistance to find that the leading chemists of the world are in accord and give their hearty approval to the recommendations which I have made in previous reports, and I sincerely trust that the instrument which I have thus been able to put into the hands of the Government for the practical control of this important trade will not be allowed to grow rusty through disuse. Even if not yet by any means perfect for the desired end, it is only by continuous trial that improvements can be effected and the best results finally achieved. One thing is now quite certain, that chemical science cannot be taunted with the fact that it has been unable to suggest methods and advice, and has had to lag behind, thus retarding rather than advancing the progress of practical inspection work. If inspectors are still hesitant in taking progressive steps, it cannot at least be through any uncertainty as to methods of procedure.

PURE FOODS.

A very important addition to my duties has been made during the year by the passing of the new Health Act, and the appointment thereunder of an Advisory Committee on Pure Foods of which the Government Analyst is *ex officio* a member. For more than six months of the past year this Committee has been in session considering the formation of standards for foods, entailing not only my personal attendance at meetings, but also a considerable amount of labora-

tory investigation, nearly one thousand analyses having been made during the last half-year in this connection alone. Amongst other important investigations in hand is included a "Milk Survey" of the whole State with a view to the establishment of a reliable standard for pure milk to replace that already in force. As this survey will involve some twelve or thirteen hundred analyses, extending over all seasons of the year, the results will not be known until the middle of 1912, and I do not propose to deal more fully or in any detail with the examination of foods in this report, as it is probable that a special bulletin will be issued in order to discuss fully the data upon which the opinions of the Advisory Committee have been arrived at. It is, however, very satisfactory to note that this extremely important subject is at last receiving the attention which is undoubtedly its due in Western Australia. We have far too long been behind the other States of the Commonwealth, and other parts of the world, in our control and supervision of food supplies; but the statutory power has been lacking for the establishment of food standards, and therefore nothing could be done until the present Act came into force, and, although the work of the Advisory Committee has been a very heavy strain upon my time and thought, it is a great satisfaction to think that in some small measure the safety and the health of the community will be contributed to thereby. More or less wild statements are frequently made in the papers with regard to our food supplies, and equally irresponsible suggestions are made as to the course which public officials should take to bring about a more satisfactory state of things. Such irresponsible suggestions, however, cannot possibly take the place of the results of a careful and deliberate study of the many questions involved, such as will now be provided by the Advisory Committee. In this, as in many other phases of public control, most progress will be made by hastening slowly.

FEDERAL CUSTOMS DEPARTMENT.

The relations between this Laboratory and the Federal Customs Department have not hitherto been altogether satisfactory from the State's point of view. Ever since the establishment of the Commonwealth, such analyses as were required for the purposes of the Western Australian Customs Department have been carried out under certain conditions in this laboratory, and the conditions have always been very much in favour of the Commonwealth Government. I am glad to say that, during the year, a very much more satisfactory and equitable understanding was arrived at with regard to this work, and in future it will not at any rate be carried on at a loss to the State Government. But it is very doubtful whether there is any advantage to the State in having this work performed by its officers, and whether the staff and time could not be more advantageously devoted to matters of more peculiar State interest.

If special interests are sought for, they can readily be found under the next heading.

AGRICULTURAL WORK.

I have previously in my reports referred with regret to the comparatively narrow and unprofitable sphere at my disposal as regards agricultural investigations. The Government have a fully equipped agricultural laboratory with the latest appliances and with the possibility of doing extensive and satisfactory work, but its usefulness is largely crippled through its energies being confined to a large variety of comparatively petty subjects, which do not contribute to any general conclusions of real value, and which do very little to build up any concrete theory of agricultural science likely to be of any special value to the needs of the country. I have already pointed out that on every hand there are special problems associated with our soil, but there is little or no attempt to co-ordinate the different lines of work so as to solve these problems in a convincing and satisfactory manner.

It is true that an attempt has been made during the past year to give some practical value to the work of the laboratory by entrusting to me a somewhat restricted inquiry into the causes of "Die-back" in fruit trees, a problem which is representative of many serious questions facing the producers in Western Australia; but, on the other hand, the equipment provided and the researches suggested in connection with the very important questions of the investigations of wheats and flours, and the improvement of the milling qualities of the wheats grown in this State have been allowed to fall into desuetude through practically no demand being made for their exercise.

It seems almost regrettable that with the great variety of extraordinary chemical theories connected with agriculture, the composition of the soil, and the nurture of plants which are floating about amongst the settlers and are calculated to establish the agricultural industry on a more or less fallacious basis, so little attempt seems to be made to make use of the accurate sources of knowledge which this laboratory affords, so that an effort, however small, may be made towards starting a system of agricultural education which shall at least be accurate and which shall take into account actual local facts and requirements. It would appear very often as if there were no such official as an Agricultural Chemist at the disposal of the Government. I feel that it is incumbent upon me to write somewhat strongly in this direction, because I do not consider that the Government are getting a proper return for the expenditure which they are making in this direction, and I have no desire to be responsible for a laboratory which is merely an expensive plaything and not of practical utility to the State.

GOLDFIELDS WATER SCHEME MAIN.

The treatment of this main by means of lime still continues, although pending the completion of a large settling tank in connection with the lime treatment, it cannot be said to be entirely working as originally planned.

Round about the main question of the practicability and effectiveness of the lime treatment there clings a notable accretion of controversy as to which is the accurate theory for explaining the corrosion. The controversy, which is world-wide, is constantly being augmented by other contributions from rival chemists. While the various explanations of the *modus operandi* of the corrosion are of more than passing interest to the chemist, I do not see that at the present they are likely to have any practical effect upon the question of anti-corrosive treatment, although it is now alleged that direct oxidation from air dissolved in the water must be taken into account as well as the "electrolytic" corrosion due to the free ions in the water.

I am very glad to have had an opportunity recently of discussing this question with Dr. Stokes, the chemist of the Sewerage and Water Supply Board of Sydney, who visited this State in order to inquire into the lime treatment of the Coolgardie main. A special examination of the Kanowna main has been made, which shows that there is a certain amount of dissolved oxygen in the water and that this is apparently coincident with a certain amount of rusting which takes place in the pipe, and that as soon as the oxygen has been used up this rusting ceases. The main bearing of this matter is that, as will be remembered, the Board of London experts especially recommended a scheme for the de-aeration of the water along the Kalgoorlie main, a suggestion to which I was personally opposed. It is possible that on further enquiry I may have to modify the views which I have hitherto expressed; but I do not consider that as yet any conclusive evidence is available which would in the least justify the erection of a costly de-aerating plant, even if such a plant could be made to work efficiently. I simply mention the matter here to show that it is not a question which has been lost sight of, and it will be made the subject of further study when the opportunity arises.

SPECIAL TESTS ON EXPLOSIVES.

Throughout the year, as a result of my special investigations on gases derived from explosives, I have had many opportunities afforded me of doing a considerable amount of investigatory work in co-operation with manufacturers in Europe. Several of these manufacturers have, in order to study problems connected with the changes taking place in explosives after long storage, etc., sent to me cases of samples of ordinary manufacture or of special composition, and these have been placed in the observation magazine at the Fremantle Depot and regularly tested from time to time. Very interesting results have been obtained, and I need hardly say that it is of great benefit to be able to thus co-operate with manufacturers, and likely to lead to results of mutual advantage. In this way over one thousand tests of a special character have been made during the year, and I can confidently state that this work has been well repaid by the fuller insight which it has afforded into the general character of explosives.

At the present time I have quite a number of experimental cases under observation, and some lines of investigation have been begun which will not be completed for the next two or three years; but it is only by such extended inquiries, together with the inestimable benefit of exchanging views on the results with trained chemists who are equally interested in the matter, that any progress can be made, and I look upon work of this nature as absolutely essential if this department is to be kept up to date.

Having thus dealt more fully with various special topics, I must proceed to furnish the usual information of a more or less statistical nature, such as is called for in a departmental report of this nature:—

IMPORTATION OF EXPLOSIVES.

Table I.—Importation for 1911.

	Quantities. lbs.	Values. £
Gelignite	3,038,250	116,388
Dynamite	12,500	636
Blasting Gelatine	245,150	12,241
Gelatine Dynamite	283,500	14,343
Detonators (No.)	3,164,140	4,796
Fuse (Coils)	585,600	12,778
Powder, Blasting	146,150	4,090
Powder, Sporting	9,650	546
Explosives, N.E.I.	..	159
Fireworks	..	214
		£166,191

Table II.—Comparison of Importations for the last Five Years.

Explosives, etc.	Year. 1907.	1908.	1909.	1910.	1911.
Nitro-Glycerine Compounds	103,062	124,354	121,813	170,363	143,608
Blasting Powder	5,403	2,896	6,163	7,026	4,090
Sporting Powder	288	133	65	142	546
Fuse	8,476	11,265	10,920	10,723	12,778
Fireworks	362	312	385	413	214
Cartridges	..	15,099	9,924	12,908	..
Detonators	3,935	3,341	4,804	5,870	4,796
N.E.I.	1,066	6	7	49	159
Caps	..	20	5	151	..
	£122,592	£157,426	£154,086	£207,645	£166,191

Table III.—Kinds and Quantities of Principal Industrial Explosives Imported in 1910 *and* 1911.

	1910. lbs.	1911. lbs.
Gelignite	3,657,108	3,038,250
Blasting Gelatine	296,500	245,150
Gelatine Dynamite	326,900	283,500
Dynamite	13,910	12,500
Blasting Powder	318,216	146,150
Sporting Powder	1,135	9,650
	4,613,769	3,735,200

Table IV.—Comparison with other States.

Explosives, etc.	Western Australia.	New South Wales.	Queensland.	Victoria.	South Australia.	Tasmania.	Proportion of total for Australia imported into Western Australia.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	%
Nitro-Glycerine Compounds	3,579,400	1,579,600	1,099,750	1,615,005	709,000	430,450	
Blasting Powder	146,150	1,063,100	467,000	260,251	170,000	31,250	
Sporting Powder..	9,650	20,875	12,500	86,360	14,590	13,850	
	3,735,200	2,663,575	1,579,250	1,961,616	893,590	475,550	33·02
	£	£	£	£	£	£	
Fuse	12,778	4,940	4,444	1,480	3,148	not available	
Detonators	4,796	2,870	2,773	3,901	863	1,065	
Explosives, N.E.I. (does not include Military or Naval Explosives) ..	373	17,517	3,014	50,188	9,124	3,554	
	17,947	25,327	10,231	55,569	13,135	4,619	14·15
Total value of Explosives enumerated above	£166,191	£101,123	£65,128	£128,791	£47,610	£28,224	30·94

N.B.—It is not clear from the Return whether the Victorian Importations include also those shown for Tasmania; this may probably be so, since the Tasmanian Importations are, I understand, tested in Victoria. This would modify the figures in the last column considerably.

The falling off in this year's returns is caused by the fact that the reports from the Customs no longer include reports for military cartridges, which were included in last year's values. If these are excluded from last year's figures the total will be:—

1910.	1911.
£194,737	£166,191

The record importations recorded in 1910 have been followed by a reduction which was not altogether unexpected, as there is a decrease as compared with the previous year of £28,546 value; but, nevertheless, the importations have been up to the average for the last few years.

TESTING OF EXPLOSIVES.

Although the importations were less than those of 1910, the amount of testing involved was greater, as will be seen by the following table:—

Table V.—Tests made on Explosives.

	1910.	1911.
Monobel Powder	4	...
Gelignite	1,409	1,125
Fuse	1,737	1,868
Gelatine Dynamite	147	139
Blasting Gelatine	85	313
Dynamite	6	...
Miscellaneous	52	186
	3,440	3,631

It will thus be seen that there were 191 more samples examined this year than the previous one. This does not by any means represent, however, the amount of testing work done in the laboratory in the course of the year, as an exceptional amount of investigatory work has also been going on continuously. I have already referred to special parcels of explosive sent out by different manufacturers for the express purpose of observation and testing, in order to throw light on various questions with regard to the behaviour of explosives under the conditions of storage. An examination along these very interesting lines of inquiry involved a large number of special tests, of which the following is a summary:—

4 Blasting Gelatines.
4 Gelatine Dynamites.
10 Gelignites.
2 Rippites.

Determinations of—	
Density	16
Heat Tests	416
Moisture	96
Velocity of Detonation	57
Colour Records	372
	957
Examinations of French Chalk ..	162
Total	1,119

So that, altogether, the total number of tests made on explosives must be considered as 4,750, which is easily a record for the laboratory.

In connection with the testing of fuse, it is interesting to note from the Annual Report (1910) of the Chief Inspector of Explosives for the Transvaal and Natal Provinces of the Union of South Africa, that it is intended to modify the standard for the burning rate of fuse at present imposed, and that when this modification has been carried into effect the standard and methods of testing will be similar to those which have for some time been adopted in this State.

STORAGE.

There has been quite a considerable increase in the number of magazines during the year, although the licensed capacity has decreased. This is due to the reduction of business in some of the mining centres,

and the consequent reduction by merchants of the quantity which they require to keep in their depots. There are 80 magazines on explosives reserves (eight more than last year) with a capacity of 1,200 tons, and 38 magazines erected on private property with a total capacity of 32½ tons. The magazines on reserves include five Government buildings, but one of these has been leased to a private firm. The above figures do not include detonator magazines.

The number of explosives reserves in the various parts of the State stands at 48, with the total acreage of 3,001 acres. As regards the two main depots at Kalgoorlie and Fremantle, I should like to say that apparently the question of the removal of the Kalgoorlie magazine has been entirely suspended. I have heard of no move being made for some considerable time, and would beg to remind you that I have already expressed myself as unable to accept responsibility in case of any accident arising out of the condition of affairs, which I have repeatedly stated cannot be considered as satisfactory. At the Fremantle depot everything is in a satisfactory condition, except that the railway lines require thorough ballasting throughout. It is to be hoped that early in the new year some steps will be taken towards remedying this defect.

LICENSED PREMISES.

Licenses issued for the keeping of explosives during the year are as follows:—

Licenses issued	17
Licenses revoked	6
Licenses remaining in force for ordinary stores	116
Licenses issued for fireworks	118
Total	224

The conditions surrounding the sale of fireworks, and the large number of licenses which are taken out in one year and not renewed the next, make it necessary to consider these licenses as different altogether from those dealing with ordinary industrial explosives.

INSPECTION WORK.

The total inspections made by the Assistant Inspector of Explosives (Mr. Kirton) were 214, including the following localities:—

Kalgoorlie, Coolgardie, Norseman, Southern Cross, Bullfinch, Kanowna, Broad Arrow, Menzies, Kookynie, Malcolm, Morgans, Laverton, Leonora, Meekatharra, Nannine, Cue, Magnet, Sandstone, Youanmi, Yalgoo, Geraldton, Northampton, Mingenew, Moora, York, Beverley, Pingelly, Quairading, Narrogin, Wickepin, Wagin, Katanning, Albany, Broome Hill, Mount Barker, Ravensthorpe, Hopetoun, Northam, Bridgetown, Bunbury, Carnarvon, Cossack, Roebourne, Port Hedland, Marble Bar, Broome, Derby.

As a result of his work, the following prosecutions were instituted:—

Date.	Offence.	Penalty.
13-1-11	Overstocking	Cautioned and ordered to pay costs £1 2s.
29-3-11	„	Fined £2; £2 4s. costs.
10-5-11	„	Fined 5s.; £1 3s. costs.
19-5-11	„	Fined £10; £1 3s. costs.
29-9-11	„	Fined £1 4s.; £2 7s. costs.
29-9-11	„	Fined £1; £1 3s. costs.

The explosives which it was found necessary to destroy, and which were accordingly condemned and finally disposed of, were as follows:—

Destructions.

Date.	Locality.	Kind and Quantity.	Remarks.
20-6-11	Roebourne ...	130lbs. Gelignite	Owing to exudation and chemical deterioration
26-6-11	Cossack ...	6lbs. Dynamite	
18-7-11	Broome ...	11lbs. Blasting Gelatine ...	
18-7-11	Do. ...	25lbs. Powder	Damaged by moisture
14-8-11	Fremantle ...	2 casks Fuse	Fast burning
18-9-11	Coolgardie ...	126 Detonators	Damaged by moisture
13-9-11	Kookynie ...	2lbs. Gelignite	Exudation and chemical deterioration
15-9-11	Menzies ...	2½lbs. do.	
15-9-11	Do. ...	½lb. do.	
22-9-11	Broad Arrow ...	118lbs. Gelatine Dynamite ...	
21-10-11	Fremantle ...	225lbs. Blasting Powder ...	Damaged by water

A considerable period of seven weeks in all was occupied by Mr. Kirton in a complete tour of the North-West coast. This region, on account of its remoteness and the small amount of trade carried on, had never before been thoroughly inspected, and under my instructions Mr. Kirton prepared a full report of the trade existing and the conditions of storage and handling at the different centres, which will in the future make it much more easy for me to deal with any questions concerning that territory when they arise. Small as the trade is between Geraldton and Wyndham, it has nevertheless been the cause of considerable trouble, which was to a great extent due to a lack of complete knowledge of local conditions, but which is also due to a lack of proper means of transport for such dangerous cargoes as explosives.

GENERAL ANALYTICAL WORK.

In order to give a summary of the entire laboratory work under my charge, I give the usual tables, as follows:—

Table VI.—General Classification of Analyses.

Explosives	4,750
Spirits	290
Waters (general)	141
Soils	70
Fertilisers	275
Rocks	33
Essences	52
Oils	221
Foodstuffs and Miscellaneous ..	351
Sewage	310

Table VI.—General Classification of Analyses—continued.

Wheats and Flours	22
Criminal Investigations	54
Lime	45
Fabrics	12
Vinegar	12
Medicinal Compounds	51
Milks	720
Kerosene, Benzine, Turpentine, etc.	125
Butter	104
Hydrometers	37
Stomachs (human)	9
Matches	45
Dairy Thermometers	98
Cheese	42
Metals	17
Waters (special)	95
Bread	15
Total	7,996

Table VII.—Departments for which work was performed.

Customs	982
Agricultural	288
Crown Law	77
Inspector of Liquors	80
Mines	95
Works and Railways	451
Goldfields Water Supply	130
Public Health	946
Private Analyses	44
Miscellaneous	153
Explosives	4,750
Total	7,996

These figures show an increase over the previous year (even including the special investigation work in Kalgoorlie of 1910) of about 1,300 analyses, for which, of course, the new health work on behalf of the Pure Foods Advisory Committee is very largely responsible. This constitutes, I think, a very satisfactory record when the size of the staff as enumerated below is considered. It will be seen that the laboratory has been carried on with an increase of only one analyst over the previous year. This is a record of very strenuous work, and I cannot speak too highly of the energy and zeal with which my staff have faced and subdued this large volume of work. It is only fitting that I should express my indebtedness to my officers, as it is obvious that without their loyal support it would be impossible to cover such a wide and varied field of work, or endeavour with any hope of success to keep abreast of the times in the great variety of subjects which have to pass through the laboratory. If anywhere at all it is necessary that knowledge should be up to date and accurate, it is in a Government Laboratory, and, though this may be perfectly simple where only one or two main lines of work are involved, where the staff have to deal with such a complex set of questions as are constantly engaging the attention of my officers and myself it is extremely difficult, and can only be accomplished by very persistent and enthusiastic work. The staff at the end of 1911 consisted of the following officers:—

Assistant Government Analyst	1
Assistant Inspector of Explosives	1
Analysts	10
Clerical Staff	4
Magazine Keepers	2
Watchmen	2
Total	20

I am glad to know that at the present time the reclassification of these officers is under consideration by the Reclassification Commissioners, and it has become quite obvious if the present standard of work, both in quantity and quality, is to be maintained, that the pressure upon the existing staff must be substantially relieved.

I beg to acknowledge again the courtesy and valuable assistance which have been rendered me during the year by the Commissioner of Police and his officers, and by the State Mining Engineer and the Inspectors of Mines.

I have, etc.,

E. A. MANN,
Chief Inspector of Explosives, Government Analyst, and Agricultural Chemist.

WESTERN AUSTRALIA.

DEPARTMENT OF MINES.

MINING STATISTICS,

1911.

MINING STATISTICS TO 31st DECEMBER, 1911.

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TABLE OF CONTENTS—*continued.*

EXPLANATIONS OF SIGNS AND ABBREVIATIONS.

Gf. Goldfield.	M.R.C. Mineral Reward Claim
Mf. Mineral field.	M.A. Machinery Area.
D. District.	Mach. L. Machinery Lease.
G.M.L. Gold Mining Lease.	P.A. Prospecting Area.
M.L. Mineral Lease.	T.A. Tailings Area.
Loc. Location.	T.L. Tailings Lease.
L.C. Lode Claim.	W.R. Water Right.
Q.C. Quartz Claim.	S.L. Special License.
R.C. Reward Claim.	

SUMMARY OF MINERAL PRODUCTS.

GOLD AND OTHER MINERALS PRODUCED DURING 1911, AND THE ESTIMATED VALUE THEREOF, TOGETHER WITH A COMPARISON FOR PREVIOUS YEARS, AND THE TOTAL PRODUCTION TO DATE.

Description of Mineral.	1911.		1910.		1909.		1908.		Previous to 1908.		Total to date.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		£		£		£		£		£		£
1. Antimony ... ... (Exported) statute tons	...	...	...	...	...	...	...	...	47	860	47	860
2. Asbestos ... ... (Reported) do.	...	...	...	...	3	154	40	1,600	...	...	43	1,754
3. Coal ... ... (Reported) do.	249,890	111,154	262,166	113,699	214,302	90,965	175,248	75,694	1,126,442	542,066	2,028,048	933,578
4. Copper { Ore ... (Exported) do.	9,825	33,709	6,309	27,271	6,959	59,541	2,503	29,272	21,996	372,256	47,592	522,049
4. Copper { Ingot & Matte (Exported) do.	828	44,409	1,281	68,657	833	45,100	479	27,819	5,220	344,491	8,641	530,476
5. Gold (Exported and Minted) fine ounces	1,370,868	5,823,075	1,470,632	6,246,848	1,595,269	6,776,274	1,647,911	6,999,882	18,363,788	78,004,408	24,448,468	103,850,487
6. Ironstone ... ... (Reported) statute tons	...	...	10	12	...	...	...	...	57,820	36,683	57,830	36,695
7. Lead Ore ... ... (Exported) do.	1,549	15,002	248	1,433	...	...	...	...	33,644	364,756	35,441	381,191
8. Limestone ... ... (Reported) do.	...	...	...	...	...	...	...	...	93,706	18,290	93,706	18,290
9. Mica ... ... (Exported) do.	...	...	...	...	...	...	†	10	†	294	...	304
10. Pig Lead ... ... (Exported) do.	...	...	...	...	...	...	...	...	684	13,306	684	13,306
11. Pyritic Ore ... ... (Reported) do.	9,939	3,529	...	...	...	...	...	...	...	...	9,939	3,529
12. Scheelite ... ... (Exported) do.	...	...	...	...	...	...	...	...	4	140	4	140
13. Silver ... ... (Exported) fine ounces	169,043	18,333	176,139	18,777	176,843	18,778	168,455	18,877	1,571,368	192,730	2,261,848	267,495
14. Silver Lead Ore ... (Exported) statute tons	...	...	...	...	211	1,199	518	5,006	211	1,866	940	8,071
15. Tantalite ... ... (Exported) do.	...	...	...	...	...	...	†	400	18	5,729	18	6,129
16. Tin (Ore and Ingot) (Exported) do.	495	55,220	500	45,129	698	62,989	1,093	83,595	8,722	733,644	11,508	980,577
17. Wolfram ... ... (Exported) do.	9	826	2	190	1	100	...	...	...	...	12	1,116
18. Zinc (Spelter, etc.) ... (Exported) do.	12	189	12	147	19	244	11	98	73	3,390	127	4,068
Unenumerated ... (Exported)	...	407	...	100	...	735	...	2,750	...	2,196	...	6,188
Total Values	...	£6,105,853	...	£6,522,263	...	£7,056,079	...	£7,245,003	...	£80,637,105	...	£107,566,303

† Weight not stated.

AUSTRALASIAN MINERAL PRODUCTION.

COMPARATIVE TABLE SHOWING THE OUTPUT OF ALL MINERAL PRODUCTS FROM THE SEVERAL STATES OF AUSTRALIA AND THE DOMINION OF NEW ZEALAND DURING 1911.

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	1,370,868	5,823,075	181,121	769,353	386,164	1,640,323	504,000	2,140,855	31,101	132,108	3,537	15,000	454,881	1,815,414
Copper ... ... statute tons	828	44,409	12,100	590,102	20,384	1,151,351	36	2,088	6,022	385,797	5,922	332,500	...	...
Copper Ore ... do	9,825	33,709			...	...	...	...	2,286	22,852	...	...	...	...
Pyritic Ore ... do	9,939	3,529	...	...	...	...	...	...	...	...	2,496	2,560	2	100
Lead (Pig, etc.) ... do	1,549	15,002	17,276	209,784	1,771	23,460	...	...	...	...	...	...	...	...
Manganese ... do	...	...	...	...	1,149	4,021	...	...	...	...	...	...	...	4
Platinum ... ... fine ounces	...	...	470	2,999	...	...	184	989	...	...	...	...	...	...
Silver ... ... do	169,043	18,333	1,767,496	177,095	549,015	56,305	19,147	2,135	...	...	1,400	140	1,310,943	131,587
Silver-Lead Ore statute tons	...	...	338,469	2,265,669	...	...	...	...	61,501	253,361	...	...	...	...
Tin ... ... do					3,091	307,847	...	...	...	...	...	...	...	...
Black Tin ... do	495	55,220	1,929	307,089	...	...	...	...	...	...	...	...	...	...
Tin Ore ... do					...	...	33	3,417	3,953	513,500	...	...	...	...
Scheelite ... ... do	...	...	108	11,342	5	394	...	...	...	...	...	...	138	11,853
Wolfram ... ... do	9	826	283	29,991	539	54,163	18	1,309	70	7,769	2	154	...	...
Zinc Spelter ... do	12	189	516,378	1,414,980	...	...	...	...	...	...	...	...	...	...
Antimony (Metal and Ore) ... do	...	...	166	2,010	10	72	1,098	8,928	...	...	...	...	20	92
Bismuth ... ... do	...	...	8	1,800	10	5,525	...	...	14	5,758	...	...	...	...
Alunite ... ... do	...	...	1,006	3,795	...	...	...	...	...	...	...	...	...	...
Coal ... ... do	249,890	111,154	8,691,604	3,167,165	891,568	323,998	653,864	298,829	57,067	26,214	...	...	223,918	205,008
Coke ... ... do	...	...	264,687	184,337	...	...	...	...	...	...	...	...	...	...
Shale Oil ... do	...	...	75,104	36,980	...	...	...	...	500	250	...	...	...	...
Iron ... ... do	...	...	36,354	145,416	...	...	...	...	...	...	...	...	...	...
Iron Oxide ... do	...	...	1,586	2,377	...	...	...	...	...	...	...	...	...	...
Ironstone ... do	...	...	1,216	861	20,639	11,157	...	...	...	...	42,300	26,440	...	...
Lime ... ... do	...	...	29,930	32,918	...	...	...	...	...	...	...	...	...	...
Limestone ... do	...	...	46,237	12,541	114,675	27,887	...	...	...	...	28,700	7,175	...	...
Molybdenite ... do	...	...	21	2,591	100	13,278	...	...	...	...	...	...	...	...
Phosphate Rock ... do	...	...	...	...	...	...	...	...	...	...	5,800	5,800	...	...
Precious Stones	...	...	...	61,364	...	27,393	...	...	...	...	...	...	...	...
Unenumerated	...	407	...	325,447	...	13,889	...	5,305	...	1,888	...	60,285	...	405,858
Total Values	...	£ 6,105,853	...	£9,758,006	...	£ 3,661,063	...	£ 2,463,855	...	£1,349,497	...	£450,054	...	£ 2,569,916

PART I.—GOLD.

TABLE I.

MONTHLY PRODUCTION OF GOLD, IN FINE OUNCES, SHOWING THE QUANTITY REPORTED TO THE MINES DEPARTMENT DURING 1911.

GOLDFIELD.	DISTRICT.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.		JULY.	
		District.	Goldfield.	District.	Goldfield.	District.	Goldfield.	District.	Goldfield.	District.	Goldfield.	District.	Goldfield.	District.	Goldfield.
		ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.
Kimberley ...	...	...	...	...	25·62	...	18·22	...	...	...	49·19	...	19·91	...	8·64
Pilbara	Marble Bar ...	304·08	348·57	248·71	426·16	37·59	227·42	206·21	720·28	...	71·06	36·25	179·06	475·85	485·22
Do.	Nullagine ...	44·49		177·45		189·83		514·07		71·06		142·81		9·37	
West Pilbara ...	...	...	114·92	...	59·00	...	49·80	...	187·60	...	12·92	...	73·61	...	95·32
Ashburton ...	...	...	33·43	...	6·72	...	60·34	...	14·96	...	8·89	...	79·89	...	23·93
Gascoyne	...	...	...	...	5·29	...	2·58	...	...	...	...	...	...	...	...
Peak Hill ...	...	...	106·21	...	133·76	...	82·47	...	143·91	...	291·71	...	135·29	...	187·48
East Murchison ...	Lawlers ...	2,584·13		2,048·93		2,643·75		2,176·44		2,136·57		2,188·22		2,594·02	
Do.	Wiluna ...	1,065·02	8,321·08	766·92	7,515·20	805·82	9,375·84	596·15	8,389·75	538·87	7,441·20	893·02	9,703·09	422·99	8,871·71
Do.	Black Range	4,671·93		4,699·35		5,926·27		5,617·16		4,765·76		6,621·85		5,854·70	
Murchison ...	Cue	331·07		765·88		750·42		484·85		1,410·35		425·83		928·65	
Do.	Nannine ...	3,761·37	8,972·82	3,549·73	8,873·21	3,962·49	10,133·23	3,627·35	9,079·82	4,533·59	11,345·28	5,518·42	10,514·02	4,323·43	9,598·83
Do.	Day Dawn ...	3,719·77		3,523·30		3,737·24		3,468·23		3,717·64		3,291·15		3,179·37	
Do.	Mt. Magnet ...	1,159·71		1,034·30		1,683·08		1,499·39		1,683·70		1,278·62		1,167·38	
Yalgoo	...	...	47·56	...	7·16	...	54·72	...	65·23	...	12·08	...	145·84	...	167·12
Mt. Margaret ...	Mt. Morgans	513·61		512·54		895·57		403·50		301·38		594·39		516·67	
Do.	Mt. Malcolm	8,259·86	13,358·06	7,877·27	12,439·81	7,012·76	12,334·46	7,242·01	12,586·08	7,377·88	12,714·14	7,257·97	12,552·72	8,052·82	12,254·60
Do.	Mt. Margaret	4,584·59		4,050·00		4,426·13		4,940·57		5,034·88		4,700·36		3,685·11	
North Coolgardie	Menzies ...	2,217·82		4,037·88		3,056·77		3,498·50		2,753·92		3,301·73		3,365·81	
Do.	Ularring ...	817·13	3,992·59	967·49	6,331·22	124·41	4,891·27	667·92	5,004·06	1,285·65	5,116·31	884·37	5,524·41	580·05	4,789·34
Do.	Niagara ...	739·80		643·48		1,041·77		658·56		455·89		700·70		508·20	
Do.	Yerilla ...	217·84		682·37		668·32		179·08		620·85		637·61		335·28	
Broad Arrow ...	...	...	1,244·00	...	504·90	...	418·03	...	1,165·75	...	371·33	...	518·38	...	486·88
N.E. Coolgardie ...	Kanowna ...	981·23	1,029·11	1,996·45	2,016·50	1,499·25	1,525·26	1,216·50	1,237·37	1,173·30	1,232·94	1,657·23	1,800·03	1,028·25	1,113·76
Do.	Kurnalpi ...	47·88		20·05		26·01		20·87		59·64		142·80		85·51	
East Coolgardie ...	East Coolgardie	57,289·07	57,321·01	59,590·53	59,723·66	67,749·64	67,809·45	62,425·11	62,521·98	64,897·35	65,083·26	66,162·45	66,301·36	66,976·98	67,120·71
Do.	Bulong ...	31·94		133·13		59·81		96·87		185·91		138·91		143·73	
Coolgardie ...	Coolgardie ...	2,139·57	2,658·64	1,958·68	2,532·37	2,267·89	2,464·43	2,635·41	2,872·91	2,419·35	3,175·84	2,470·97	2,647·28	1,844·96	2,242·83
Do.	Kunanalling	519·07		573·69		196·54		237·50		756·49		176·31		397·87	
Yilgarn	...	...	734·24	...	3,240·72	...	2,894·82	...	1,620·40	...	662·91	...	956·30	...	1,497·20
Dundas	...	...	3,847·42	...	1,893·49	...	1,411·37	...	3,058·69	...	1,814·90	...	1,762·74	...	4,417·91
Phillips River ...	...	...	361·56	...	527·40	...	584·11	...	218·05	...	396·90	...	283·62	...	476·58
State generally ...		...	176·11	...	2·76	...	...	...	...	...	...	...	2·40	...	146·12
TOTAL Fine ounces ...		...	102,667·33	...	106,264·95	...	114,337·82	...	108,886·84	...	109,800·86	...	113,199·95	...	113,984·18
TOTAL Sterling value		£436,103		£451,385		£485,676		£462,522		£466,404		£480,843		£484,174	

TABLE I.—*Monthly Production of Gold, in Fine Ounces*—continued.

GOLDFIELD.	DISTRICT.	AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.		TOTAL FOR 1911.	
		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	...	...	...	...	7·28	...	19·67	...	...	...	22·92	...	171·45
Pilbara	Marble Bar ...	414·37	563·01	179·44	313·29	88·52	511·30	20·48	266·22	335·24	496·49	2,346·74	4,608·08
Do.	Nullagine ...	148·64		133·85		422·78		245·74		161·25		2,261·34	
West Pilbara ...	...	...	296·20	...	54·13	...	4·45	...	31·39	...	3·83	...	983·17
Ashburton ...	...	...	16·53	...	...	...	7·23	...	4·41	...	...	...	256·33
Gascoyne	...	...	...	...	...	...	...	...	...	...	...	...	7·87
Peak Hill	...	...	194·68	...	213·73	...	124·98	...	...	...	132·79	...	1,747·01
East Murchison ...	Lawlers ...	2,477·26		2,295·71		1,918·88		2,054·66		2,075·28		27,193·85	
Do. ...	Wiluna ...	558·14	8,788·39	497·50	8,506·88	671·33	8,454·29	491·05	8,464·46	523·02	8,558·90	7,829·83	102,390·79
Do. ...	Black Range	5,752·99		5,713·67		5,864·08		5,918·75		5,960·60		67,367·11	
Murchison	Cue	1,962·10		1,181·48		1,377·09		995·32		841·62		11,455·56	
Do.	Nannine ...	5,041·13	11,208·17	4,570·43	9,464·86	4,906·26	10,150·03	5,772·95	10,852·16	4,674·64	9,460·78	54,241·79	119,653·40
Do.	Day Dawn ...	3,211·76		2,521·04		2,695·40		2,510·12		2,372·39		37,947·41	
Do.	Mt. Magnet ...	993·37		1,191·91		1,171·28		1,573·77		1,572·13		16,008·64	
Yalgoo	...	...	81·16	...	140·95	...	307·28	...	45·60	...	87·34	...	1,162·04
Mt. Margaret ...	Mt. Morgans	432·60		790·36		144·44		244·81		134·21		5,484·08	
Do. ...	Mt. Malcolm	8,095·83	12,620·17	8,228·30	13,765·58	7,840·43	13,426·57	7,363·13	11,733·24	8,203·03	12,688·96	92,811·29	152,474·39
Do. ...	Mt. Margaret	4,091·74		4,746·92		5,441·70		4,125·30		4,351·72		54,179·02	
North Coolgardie...	Menzies ...	3,228·07		3,912·05		3,126·61		4,039·46		2,524·35		39,062·97	
Do. ...	Ularring ...	1,069·31	6,559·24	186·28	4,879·67	493·75	5,432·99	1,180·83	6,952·28	1,215·66	5,286·31	9,472·85	64,759·69
Do. ...	Niagara ...	2,000·13		382·30		361·31		553·55		377·86		8,423·55	
Do. ...	Yerilla ...	261·73		399·04		1,451·32		1,178·44		1,168·44		7,800·32	
Broad Arrow ...	...	...	908·50	...	462·41	...	260·92	...	262·32	...	549·31	...	7,152·73
N.E. Coolgardie ...	Kanowna ...	1,775·55	1,831·66	1,995·82	1,995·82	1,883·41	2,671·54	1,289·93	1,629·91	1,461·15	1,470·85	17,958·07	19,554·75
Do.	Kurnalpi ...	56·11		...		788·13		339·98		9·70		1,596·68	
East Coolgardie ...	EastCoolgardie	65,827·11	65,970·49	68,626·62	68,771·89	66,221·68	66,388·68	65,451·58	65,577·20	63,832·48	63,904·05	775,050·60	776,493·74
Do. ...	Bulong ...	143·38		145·27		167·00		125·62		71·57		1,443·14	
Coolgardie ...	Coolgardie ...	3,289·15	3,754·45	3,177·70	3,553·06	2,202·99	2,486·22	2,671·66	2,957·66	1,903·71	2,408·02	28,982·04	33,753·71
Do. ...	Kunanalling	465·30		375·36		283·23		286·00		504·31		4,771·67	
Yilgarn	...	...	1,639·49	...	873·89	...	1,802·60	...	1,274·04	...	1,614·79	...	18,811·40
Dundas	...	...	2,179·03	...	2,218·27	...	1,823·55	...	2,030·60	...	2,531·89	...	28,989·86
Phillips River ...	...	...	430·29	...	407·76	...	713·09	...	861·81	...	395·37	...	5,656·54
State generally		...	9·82	...	5·19	...	7·23	...	8·53	...	1·83	...	359·99
TOTAL	Fine ounces ...	...	117,051·47	...	115,634·66	...	114,592·62	...	112,951·83	...	109,614·43	...	1,338,986·94
	Sterling value	£497,203		£491,185		£486,759		£479,789		£465,612		£5,687,655	

TABLE II.

TOTAL YEARLY PRODUCTION OF GOLD, IN FINE OUNCES, AS REPORTED TO THE MINES DEPARTMENT, TO 31ST DECEMBER, 1911.

GOLDFIELD.	DISTRICT.	1911.		1910.		1909.		1908.		1907.		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	... ...	...	171·45	...	265·53	...	134·52	...	150·16	...	336·57	...	165·72
Pilbara	Marble Bar ...	2,346·74	4,608·08	2,613·40	5,369·94	2,523·16	6,764·49	3,179·76	6,965·61	5,856·44	10,042·96	2,256·97	5,711·90
Do.	Nullagine ...	2,261·34		2,756·54		4,241·33		3,785·85		4,186·52		3,454·93	
West Pilbara ...	... ...	...	983·17	...	1,483·62	...	1,539·62	...	1,005·60	...	464·08	...	749·16
Ashburton	... ...	...	256·33	...	247·63	...	436·32	...	161·71	...	143·01	...	278·24
Gascoyne	... ...	...	7·87	...	26·31	...	...	...	...	...	...	...	...
Peak Hill	... ...	...	1,747·01	...	4,327·02	...	7,918·79	...	7,980·10	...	8,111·14	...	2,008·20
East Murchison ...	Lawlers	27,193·85		45,203·50		77,542·23		72,109·75		61,259·79		60,351·20	
Do.	Wiluna	7,829·83	102,390·79	14,258·17	130,371·21	*	155,908·60	*	144,792·31	*	119,207·31	*	95,771·49
Do.	Black Range ...	67,367·11		70,909·54		78,366·37		72,682·56		57,947·52		35,420·29	
Murchison	Cue	11,455·56		9,576·29		21,271·13		24,702 50		25,878·80		18,337·11	
Do.	Nannine	54,241·79		50,046·60		50,992·21		38,820·52		31,792·41		26,572·08	
Do.	Day Dawn ...	37,947·41	119,653·40	46,474·13	124,351·38	44,447·89	133,105·86	84,422·44	157,848·40	101,591·06	169,397·46	124,047·58	182,395·82
Do.	Mt. Magnet ...	16,008·64		18,254·36		16,394·63		9,902·94		10,135·19		13,439·05	
Yalgoo	... ...	...	1,162·04	...	1,332·72	...	1,805·31	...	551·03	...	4,371·38	...	4,450·19
Mt. Margaret ...	Mt. Morgans ...	5,484·08		10,331·24		25,722·76		28,912·13		28,755·18		30,206·54	
Do.	Mt. Malcolm ...	92,811·29	152,474·39	97,689·68	160,281·18	90,436·33	155,864·99	86,018·61	153,597·15	81,709·00	169,466·07	94,095·06	166,258·94
Do.	Mt. Margaret ...	54,179·02		52,260·26		39,705·90		38,666·41		59,001·89		41,957·34	
North Coolgardie ...	Menzies	39,062·97		40,247·69		35,851·38		37,023·37		37,053·24		33,237·86	
Do.	Ularring ...	9,472·85	64,759·69	8,669·96	72,747·55	15,286·66	79,398·99	21,598·97	91,251·59	19,072·73	86,790·67	25,210·13	110,957·04
Do.	Niagara	8,423·55		12,007·07		17,061·87		21,477·90		18,881·94		37,418·89	
Do.	Yerilla	7,800·32		11,822·83		11,199·08		11,151·35		11,782·76		15,090·16	
Broad Arrow ...	... ...	...	7,152·73	...	15,481·88	...	17,121·70	...	18,429·97	...	21,907·18	...	21,510·61
N.E. Coolgardie ...	Kanowna ...	17,958·07	19,554·75	22,203·96	23,027·27	23,785·63	25,462·38	26,355·22	27,072·72	29,244·99	31,197·96	37,267·87	38,098·74
Do.	Kurnalpi ...	1,596·68		823·31		1,676·75		717·50		1,952·97		830·87	
East Coolgardie ...	East Coolgardie	775,050·60	776,493·74	777,893·88	778,479·54	896,900·15	899,289·27	888,415·37	890,772·70	937,238·61	941,170·94	989,357·24	995,831·87
Do.	Bulong	1,443·14		585·66		2,389·12		2,357·33		3,932·33		6,474·63	
Coolgardie	Coolgardie ...	28,982·04	33,753·71	31,928·00	37,911·04	28,382·62	34,134·90	32,820·61	40,029·39	53,029·44	60,810·37	55,771·11	64,030·18
Do.	Kunanalling ...	4,771·67		5,983·04		5,752·28		7,208·78		7,780·93		8,259·07	
Yilgarn	... ...	...	18,811·40	...	27,857·93	...	20,909·12	...	22,162·87	...	19,291·98	...	23,546·75
Dundas	... ...	...	28,989·86	...	29,627·34	...	29,549·27	...	28,643·63	...	23,602·23	...	20,434·84
Phillips Kiver ...	... ...	...	5,656·54	...	8,194·90	...	6,713·52	...	4,404·69	...	4,313·87	...	2,779·89
† Donnybrook ...	... ...	...	...	...	...	...	...	...	...	...	...	...	...
State generally		...	359·99	...	847·41	...	348·09	...	271·13	...	1,367·70	...	1,315·71
TOTAL { Fees ...		...	1,338,986·94	...	1,422,231·40	...	1,576,405·74	...	1,596,090·76	...	1,671,992·88	...	1,736,295·29
TOTAL { Sterling Value		£5,687,655		£6,041,254		£6,696,146		£6,779,763		£7,102,174		£7,375,314	

* Previous to 1st March, 1910, included in Lawlers District. † Abolished 4th March, 1908

TABLE II.—*Total Yearly Production of Gold, in Fine Ounces, etc.*—continued.

GOLDFIELD.	DISTRICT.	1905.		1904.		1903.		1902.		PREVIOUS TO 1902.		TOTAL TO 31 DECEMBER, 1911.	
		District.	Goldfield.	District.	Goldfield.	District.	Goldfield.	District.	Goldfield.		Goldfield.	District.	Goldfield.
		ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.
Kimberley	... ...	...	496·14	...	205·84	...	644·54	...	301·71	...	13,868·94	...	16,741·12
Pilbara	Marble Bar ...	4,534·25	11,473·83	3,129·37	8,029·65	4,787·33	9,570·04	4,501·02	10,602·12	61,013·63	81,776·48	96,742·07	160,915·10
Do.	Nullagine ...	6,939·58		4,900·28		4,782·71		6,101·10		20,762·85		64,173·03	
West Pilbara ...	... ...	...	801·14	...	3,427·71	...	5,100·48	...	1,910·42	...	4,018·78	...	21,483·78
Ashburton	... ...	...	207·53	...	509·96	...	903·94	...	926·66	...	4,754·98	...	8,826·31
Gascoyne	... ...	...	...	...	...	...	...	...	...	...	505·27	...	539·45
Peak Hill	... ...	...	13,586·87	...	14,113·57	...	31,750·17	...	35,297·81	...	109,611·22	...	236,451·90
East Murchison ...	Lawlers	68,232·52		78,543·91		84,738·16		75,687·91		213,550·91		864,413·73	
Do.	Wiluna	*	84,926·28	*	89,730·30	*	85,451·08	*	75,880·05	*	213,732·19	22,088·00	1,298,161·61
Do.	Black Range ...	16,693·76		11,186·39		712·92		192 14		181·28		411,659·88	
Murchison	Cue	15,125·05		15,286·71		20,688·78		21,016·82		122,400·82		305,739·57	
Do.	Nannine	18,549·17	206,734·88	18,668·31	214,403·13	19,947·48	204,181·85	19,329·49	172,914·32	106,332·60	540,095·04	435,292·66	2,225,081·54
Do.	Day Dawn ...	161,507·28		161,163·51		136,768·68		102,030·80		162,175·11		1,162,575·89	
Do.	Mt. Magnet ...	11,553·38		19,284·60		26,776·91		30,537·21		149,186·51		321,473·42	
Yalgoo	... ...	...	4,742·77	...	2,353·41	...	3,138·35	...	5,198·89	...	40,078·50	...	69,184·59
Mt. Margaret ...	Mt. Morgans ...	35,130·45		55,463·96		64,817·55		54,019·40		128,040·80		466,884·09	
Do.	Mt. Malcolm ...	96,644·33	188,712·21	87,927·26	187,383·87	80,055·86	184,590·89	75,691·81	187,265·81	230,109·57	429,315·13	1,113,188·80	2,135,210·63
Do.	Mt. Margaret ...	56,937·43		43,992·65		39,717·48		57,554·60		71,164·76		555,137·74	
North Coolgardie ...	Menzies	41,895·33		37,100·73		52,870·58		50,168·26		270,903·83		675,415·29	
Do.	Ularring	43,387·07	148,771·00	21,769·41	145,064·61	19,142·55	162,139·18	25,766·96	154,238·37	44,036·35	451,241·90	253,413·64	1,567,360·59
Do.	Niagara	45,520·17		67,230·33		77,013·02		69,877·50		98,668·50		473,580·74	
Do.	Yerilla	17,968·43		18,964·14		13,113·03		8,425·65		37,633·17		164,950·92	
Broad Arrow	... ...	...	18,583·66	...	22,180·19	...	26,021·17	...	17,092·95	...	159,821·72	...	345,303·76
N.E. Coolgardie ...	Kanowna ...	42,341·66	43,174·38	38,648·56	39,799·63	40,554·03	41,279·02	39,497·86	40,777·95	309,020·11	320,767·88	626,877·96	650,212·68
Do.	Kurnalpi ...	832·72		1,151·07		724·99		1,280·09		11,747·77		23,334·72	
East Coolgardie ...	East Coolgardie	997,193·02	1,006,965·90	1,050,922·89	1,062,078·27	1,062,898·06	1,076,078·12	941,436·40	958,285·90	3,136,808·22	3,222,143·56	12,454,114·44	12,607,589·81
Do.	Bulong	9.772·88		11,155·38		13,180·06		16,849·50		85,335·34		153,475·37	
Coolgardie	Coolgardie ...	54,499·04	63,664·27	53,505·01	63,199·76	58,692·50	71,285·59	65,002·37	74,502·96	389,682·37	487,401·37	852,295·11	1,030,723·54
Do.	Kunanalling ...	9,165·23		9,694·75		12,593·09		9,500·59		97,719·00		178,428·43	
Yilgarn	... ...	...	19,291·42	...	25,508·64	...	19,276·71	...	20,066·81	...	160,371·46	...	377,095·09
Dundas	... ...	...	25,960·95	...	31,830·27	...	33,845·76	...	28,579·34	...	154,967·62	...	436,031·11
Phillips River ...	... ...	...	2,563·26	...	4,016·63	...	7,050·73	...	7,441·30	...	702·55	...	53,837·88
†Donnybrook	... ...	...	...	...	...	...	53·21	...	61·36	...	727·19	...	841·76
State generally	...	...	...	...	...	...	...	...	...	...	1,389·30	...	5,899·33
TOTAL	**Fine Ounces** ...	...	**1,840,656·49**	...	**1,913,835·44**	...	**1,962,360·83**	...	**1,791,344·73**	...	**6,397,291·08**	...	**23,247,491·58**
	Sterling Value	**£7,818,612**		**£8,129,456**		**£8,335,579**		**£7,609,149**		**£27,173,965**		**£98,749,067**	

* Previous to March, 1910 included in Lawlers District. † Abolished 4th March, 1908.

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 AND DIGGERS, 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 1911.

GOLDFIELD.	DISTRICT.	WARDEN'S OFFICE.	DATE OF PROCLAMATION OF GOLDFIELD.				AREA IN SQUARE MILES.		LEASES IN FORCE.		PARTICULARS OF PLANT.					AVERAGE NUMBER OF MEN ENGAGED IN GOLD MINING.		
											Milling.		Cyaniding.			Men employed.		
			Proclamation gazetted.	To take effect from	Latest Amendment of Boundaries gazetted.	To take effect from	Goldfield.	District.	No.	Area in Acres.	Stamps.	Other Mills.	Leaching Vats.	Agitating Vats.	Filter and Vacuum Presses	Above Ground.	Under Ground.	Digger
Kimberley	... ...	Hall's Creek ...	20-5-86	20-5-86	31-10-02	1-11-02	33,833	...	...	...	45	1	...	...	...	...	...	14
Pilbara	Marble Bar, Nullagine	Marble Bar ...	1-10-88	1-10-88	1-3-07	1-3-07	32,696	25,809	26	277	60	...	20	...	...	34	30	41
								6,887	14	122	30	...	9	...	...	26	27	16
West Pilbara	... ...	Roebourne ...	20-9-95	1-11-95	1-3-07	1-3-07	10,843	...	7	78	20	...	5	...	...	10	7	14
Ashburton	... ...	Onslow ...	11-12-90	11-12-90	18-10-01	14-10-01	14,230	...	2	30	...	...	...	...	...	...	...	23
Gascoyne	... ...	Carnarvon ...	25-6-97	15-4-97	18-10-01	14-10-01	5,313	...	...	...	...	...	...	...	...	...	...	2
Peak Hill	... ...	Cue	19-3-97	1-4-97	18-10-01	14-10-01	24,732	...	50	559	50	5	8	3	9	22	17	21
East Murchison	Lawlers, Wiluna, Black Range	Lawlers ...	28-6-95	28-6-95	7-8-08	1-9-08	28,369	9,379	61	914	148	3	28	7	3	183	171	20
								10,496	61	1,027	70	4	26	18	7	66	61	16
								8,494	127	1,923	115	2	60	9	34	354	543	12
Murchison	Cue ..., Nannine, Day Dawn, Mt. Magnet	Cue	24-9-91	24-9-91	1-3-07	1-3-07	20,650	8,970	56	605	98	...	36	2	...	80	111	10
								7,050	177	2,350	222	3	70	9	4	1,033	856	78
								895	49	445	65	...	27	13	5	204	212	15
								3,735	42	485	85	6	35	...	3	110	134	2
Yalgoo	... ...	Cue	8-2-95	23-1-95	...	...	18,833	...	39	500	105	4	14	...	...	22	19	14
Mt. Margaret	Mt. Morgans, Mt. Malcolm, Mt. Margaret	Menzies ...	12-3-97	1-4-97	1-3-07	1-3-07	44,860	1,637	34	650	57	...	20	6	1	49	34	31
								3,330	131	2,415	240	13	87	32	7	277	519	12
								39,893	71	1,248	163	6	33	11	6	241	295	6
North Coolgardie	Menzies, Ularring, Niagara, Yerilla	Menzies ...	28-6-95	28-6-95	7-8-08	1-9-08	29,936	6,805	64	897	140	5	84	18	4	210	277	9
								6,913	42	562	85	4	38	7	2	62	93	15
								688	47	560	112	...	38	4	3	83	149	29
								15,530	40	573	86	2	32	2	...	122	171	32
Broad Arrow	... ...	Coolgardie ...	17-11-96	20-11-96	8-6-06	1-7-06	1,038	...	117	1,912	123	3	44	3	2	110	188	74
North-East Coolgardie ...	Kanowna, Kurnalpi	Coolgardie ...	20-3-96	15-4-96	27-3-08	1-4-08	20,604	1,094	44	555	143	5	63	...	1	112	157	21
								19,510	4	27	5	2	...	...	...	8	9	11
East Coolgardie	East Coolgardie, Bulong	Coolgardie ...	21-9-94	1-10-94	27-3-08	1-4-08	1,800	810	179	2,596	640	161	200	152	133	2,422	3,294	50
								990	10	145	20	...	9	...	...	21	28	21
Coolgardie	Coolgardie, Kunanalling	Coolgardie ...	6-4-94	6-4-94	1-3-07	1-3-07	11,702	9,384	68	889	304	12	128	4	...	195	311	15
								2,318	31	462	80	4	47	...	...	65	82	4
Yilgarn	... ...	Coolgardie ...	1-10-88	1-10-88	1-3-07	1-3-07	13,666	...	509	10,136	125	5	55	...	...	231	227	...
Dundas	... ...	Norseman ...	31-8-93	31-8-93	1-3-07	1-3-07	11,430	...	70	862	135	4	54	11	2	120	174	6
Phillips River	... ...	Ravensthorpe	21-9-00	14-9-00	1-3-07	1-3-07	5,572	...	26	409	61	1	12	...	...	53	64	...
State generally ...	... ...	Perth	...	...	...	...	...	...	1	6	...	2	...	...	...	7	2	...
		Total ...	...	...	...	...	**330,107**	...	**2,199**	**34,219**	**3,632**	**257**	**1,282**	**311**	**226**	**6,532**	**8,262**	**634**

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

Goldfield.	District.	1911 Gold and Silver Yield—Districts.						1911 Gold and Silver Yield—Goldfields.					
		Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Total Gold.	*Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Total Gold.	*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	... ...	...	...	...	...	...	...	171·45	...	...	...	171·45	..
Pilbara	Marble Bar ...	473·71	95·16	1,780·25	1,777·87	2,346·74	...	655·07	112·20	3,458·75	3,840·81	4,608·08	...
Do.	Nullagine ...	181·36	17·04	1,678·50	2,062·94	2,261·34	...						
West Pilbara	... ...	...	...	...	...	...	...	158·90	16·38	414·50	807·89	983·17	74·50
Ashburton	... ...	...	...	...	...	...	...	256·33	...	...	...	256·33	...
Gascoyne	... ...	...	...	...	...	...	...	7·87	...	...	...	7·87	...
Peak Hill	... ...	...	..	...	...	...	...	161·96	434·59	8·35	1,150·46	1,747·01	...
East Murchison ...	Lawlers ...	202·22	14·90	78,019·50	26,976·73	27,193·85	1,856·23	292·90	1,943·26	197,040·15	100,154·63	102,390·79	4,240·10
Do. ...	Wiluna ...	87·26	16·03	12,669·25	7,726·54	7,829·83	7·59						
Do. ...	Black Range ...	3·42	1,912·33	106,351·40	65,451·36	67,367·11	2,376·28						
Murchison	Cue	...	54·44	10,441·86	11,401·12	11,455·56	...	278·50	2,084·16	214,475·61	117,290·74	119,653·40	11,616·73
Do.	Nannine ...	102·09	878·66	71,342·32	53,261·04	54·241·79	...						
Do.	Day Dawn ...	136·48	125·35	92,502·72	37,685·58	37,947·41	11,616·73						
Do.	Mt. Magnet ...	39·93	1,025·71	40,188·71	14,943·00	16,008·64	...						
Yalgoo	... ...	...	...	...	...	...	...	502·68	31·37	524·85	627·99	1,162·04	...
Mt. Margaret	Mt. Morgans ...	111·24	80·48	4,507·97	5,292·36	5,484·08	...	460·45	678·22	311,705·27	151,335·72	152,474·39	12,220·72
Do.	Mt. Malcolm ...	94·15	395·72	187,359·30	92,321·42	92,811·29	4,030·87						
Do.	Mt. Margaret	255·06	202·02	119,838·00	53,721·94	54,179·02	8,189·85						
North Coolgardie ...	Menzies ...	...	111·20	61,368·54	38,951·77	39,062·97	480·68	118·49	181·47	97,650·04	64,459·73	64,759·69	482·75
Do.	Ularring ...	...	40·19	10,586·50	9,432·66	9,472·85	·07						
Do.	Niagara ...	73·41	·80	16,738·50	8,349·34	8,423·55	...						
Do.	Yerilla ...	45·08	29·28	8,956·50	7,725·96	7,800·32	2·00						
Broad Arrow	... ...	...	...	...	...	...	...	185·02	213·55	8,949·96	6,754·16	7,152·73	...
N.E. Coolgardie ...	Kanowna ...	80·63	1,135·92	48,977.50	16,741·52	17,958·07	22·77	439·03	1,145·62	49,045·25	17,970·10	19,554·75	22·77
Do.	Kurnalpi ...	358·40	9·70	67·75	1,228·58	1,596·68	...						
East Coolgardie ...	E. Coolgardie	353·06	507·89	1,718,481·00	744,189·65	775,050·60	85,708·61	365·05	587·49	1,726,997·80	775,541·20	776,493·74	85,708·61
Do.	Bulong ...	11·99	79·60	8,516·80	1,351·55	1,443·14	..						
Coolgardie	Coolgardie ...	372·12	358·53	54,486·78	28,251·39	28,982·04	113·44	503·08	423·96	61,693·69	32,826.67	33,753·71	113·44
Do.	Kunanalling ...	130·96	65·43	7,206·91	4,575·28	4,771·67	...						
Yilgarn	... ...	...	...	...	...	...	...	1·65	131·03	18,897·15	18,678·72	18,811·40	37·08
Dundas	... ...	...	...	...	...	...	...	31·98	292·37	38,036·77	28,665.51	28,989·86	87·64
Phillips River ...	... ...	...	...	...	...	...	...	12·00	17·97	7,044·87	5,626·57	5,656·54	2,803·88
State generally ...	...	...	...	...	...	...	...	...	...	...	359·99	359·99	838·79
Total for 1911 ...		...	...	...	...	...	...	**4,602·41**	**8,293·64**	**2,735,943·01**	**1,326,090·89**	**1,338,986·94**	**118,247·01**

*By-product in the treatment of auriferous ore.

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

GOLDFIELD.	DISTRICT.	TOTAL GOLD AND SILVER YIELD—DISTRICTS.						TOTAL GOLD AND SILVER YIELD—GOLDFIELDS.					
		Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Total Gold.	* Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Total Gold.	* Silver.
		Fine ozs.	Fine ozs.	Tons (2,240 lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.)	Fine ozs.	Fine ozs.	Fine ozs.
Kimberley	... ...	...	...	...	...	...	...	2,613·87	...	17,597·50	14,127·25	16,741·12	...
Pilbara	Marble Bar ...	10,226·80	2,968·79	53,141·63	83,546·48	96,742·07	574·01	15,602·09	3,331·99	86,015·87	141,981·02	160,915·10	574·01
Do.	Nullagine ...	5,375·29	363·20	32,874·24	58,434·54	64,173·03	...						
West Pilbara	... ...	...	...	...	...	...	...	4,844·75	237·11	15,050·95	16,401·92	21,483·78	300·17
Ashburton	... ...	...	...	...	...	...	...	8,510·67	315·64	...	...	8,826·31	162·02
Gascoyne	... ...	...	...	...	...	...	...	302·45	18·51	236·70	218·49	539·45	...
Peak Hill	... ...	...	...	...	...	...	...	762·28	3,579·25	472,992·76	232,110·37	236,451·90	2,287·59
East Murchison ...	Lawlers ...	5,465·49	5,962·91	1,930,090·74	852,985·33	864,413·73	24,669·67						
Do.	Wiluna ...	87·26	106·46	49,797·75	21,894·28	22,088·00	14·52	6,948·76	12,831·31	2,493,052·81	1,278,381·54	1,298,161·61	29,972·28
Do.	Black Range...	1,396·01	6,761·94	513,164·32	403,501·93	411,659·88	5,288·09						
Murchison	Cue	951·44	3,813·73	339,552·38	300,974·40	305,739·57	382·79						
Do.	Nannine ...	8,750·68	6,905·71	516,625·51	419,636·27	435,292·66	1,174·98	13,177·73	21,201·64	2,969,442·24	2,190,702·17	2,255,081·54	144,058·42
Do.	Day Dawn ...	2,095·45	3,421·13	1,666,819·70	1,157,059·31	1,162,575·89	141,368·22						
Do.	Mt. Magnet ...	1,380·16	7,061·07	446,444·65	313,032·19	321,473·42	1,132·43						
Yalgoo	... ...	...	...	...	...	...	...	1,050·57	809·42	98,203·83	67,324·60	69,184·59	3·30
Mt. Margaret	Mt. Morgans ...	1,421·40	3,297·04	783,803·61	462,165·65	466,884·09	5,682·67						
Do.	Mt. Malcolm ...	1,780·38	5,563·23	1,938,199·13	1,105,845·19	1,113,188·80	35,236·42	5,427·77	11,432·35	3,725,782·20	2,118,350·51	2,135,210·63	70,838·77
Do.	Mt. Margaret	2,225·99	2,572·08	1,003,779·46	550,339·67	555,137·74	29,919·68						
North Coolgardie ...	Menzies ...	962·58	2,379·94	718,723·12	672,072·77	675,415·29	9,723·24						
Do.	Ularring ...	21·46	1,096·01	250,249·99	252,296·17	253,413·64	5,432·81	3,495·13	12,238·28	1,990,469·36	1,551,627·18	1,567,360·59	20,645·70
Do.	Niagara ...	1,287·61	1,274·01	846,158·47	471,019·12	473,580·74	5,429·18						
Do.	Yerilla ...	1,223·48	7,488·32	175,337·78	156,239·12	164,950·92	60·47						
Broad Arrow	... ...	...	...	...	...	...	...	18,576·26	3,326·21	500,263·43	323,401·29	345,303·76	517·26
N.E. Coolgardie ...	Kanowna ...	104,221·03	10,345·57	816,425·97	512,311·36	626,877·96	2,517·31	115,918·80	12,855·26	821,291·67	521,438·62	650,212·68	2,528·53
Do.	Kurnalpi ...	11,697·77	2,509·69	4,865·70	9,127·26	23,334·72	11·22						
East Coolgardie ...	E. Coolgardie	25,582·31	20,829·37	16,153,144·57	12,407,702·76	12,454,114·44	867,300·35	52,082·31	34,960·66	16,280,008·04	12,520,546·84	12,607,589·81	867,300·35
Do.	Bulong ...	26,500·00	14,131·29	126,863·47	112,844·08	153,475·37	...						
Coolgardie	Coolgardie ...	7,023·59	7,337·52	1,307,330·57	837,934·00	852,295·11	744·51	7,491·46	12,262·36	1,539,328·04	1,010,969·72	1,030,723·54	764·73
Do.	Kunanalling ...	467·87	4,924·84	231,997·47	173,035·72	178,428·43	20·22						
Yilgarn	... ...	...	...	...	...	...	...	72·22	1,137·77	825,907·65	375,885·10	377,095·09	4,017·78
Dundas	... ...	...	...	...	...	...	...	1,999·80	6,839·81	553,435·05	427,191·50	436,031·11	33,802·22
Phillips River... ...	... ...	...	...	...	...	...	...	441·88	731·11	61,131·01	52,664·89	53,837·88	15,182·21
† Donnybrook	... ...	...	...	...	...	...	...	23·24	...	1,653·30	818·52	841·76	...
State generally		...	...	...	...	...	...	124·89	155·90	27·00	5,618·54	5,899·33	1,401·3
						Total to	31-12-1911	**259,466·93**	**138,264·58**	**32,451,889·41**	**22,849,760·07**	**23,247,491·58**	**1,194, 6·9**

* By-product in the treatment of auriferous ore. † Abolished 4th March, 1908.

TABLE IV.

PRODUCTION OF GOLD AND SILVER FROM ALL SOURCES, SHOWING IN FINE OUNCES THE OUTPUT AS REPORTED TO THE MINES DEPARTMENT DURING 1911, AND THE TOTAL PRODUCTION TO DATE.

Kimberley Goldfield.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Hall's Creek ..	..	Voided leases	..	..	..	..	..	..	..	423·00	477·76	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	94·55	62·68	..
Mt. Dockerell	..	Voided leases	..	..	..	..	..	..	..	44·00	435·93	..
Ruby Creek ..	..	Voided leases	..	..	..	..	..	..	..	12,633·50	9,435·13	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	151·00	127·28	..
The Brockman	..	Voided leases	..	..	..	..	..	..	..	1,352·75	1,404·40	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	2,462·00	1,820·33	..
The Mary ..	..	Voided leases	..	..	..	..	..	..	..	399·00	210·03	..
The Panton ..	..	Voided leases	..	..	..	..	..	..	..	34·70	138·70	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	3·00	15·01	..
		From Goldfield generally :—										
		Reported by Banks and Gold Dealers	171·45	..	..	..	..	2,613·87	..	..	..	..
		Total	**171·45**	..	..	..	..	**2,613·87**	..	**17,597·50**	**14,127·25**	..

Pilbara Goldfield.

MARBLE BAR DISTRICT.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Bamboo Creek	718	Bamboo Revenue	..	73·85	..	..	..	..	157·68	..	..	..
Do. ..	(709)	Blue Streak	..	17·39	..	..	..	..	62·35	..	..	..
Do. ..	695	Bulletin	..	..	145·00	276·25	..	..	..	322·00	722·42	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	11,270·75	18,650·38	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	307·83	148·75	518·36	..

Boodalyerrie			Voided leases										292·07	120·25	587·86	
Do.			Sundry claims										7·16			
Breen's Find			Voided leases											14·00	66·82	
Elsie			Voided leases											135·00	316·31	
Lallarookh			Voided leases											224·50	2,186·65	574·01
Do.			Sundry claims											6,308·00	5,530·86	
Marble Bar	736		Coronation					21·00	4·83					21·00	4·83	
Do.	(689)		Devan's Reward					22·00	30·66					22·00	30·66	
Do.	696		Franklin					237·00	225·22					335·50	247·10	
Do.	(703)		Homeward Bound					97·00	26·75					150·00	37·38	
Do.	738		Ironclad					25·50	15·30					25·50	15·30	
Do.	694		Jo Jo					184·00	282·71					366·00	561·79	
Do.	729		Killarney					41·50	62·11					41·50	62·11	
Do.	735		Nabob					37·00	40·47					37·00	40·47	
Do.	702		Railway Signal					113·00	74·74					269·00	210·00	
Do.	716		Stray Shot					59·00	69·20					59·00	69·20	
Do.	(704)		True Blue					11·00	11·12				1·41	93·00	54·43	
Do.	722		Viking					161·50	105·40					161·50	105·40	
Do.			Voided leases										140·32	13,209·95	18,350·61	
Do.			Sundry claims					448·25	311·93		38·68		102·68	2,366·14	2,845·59	
North Pole	(666)		Breen's Reward					16·00	20·51					16·00	20·51	
Do.			Voided leases											416·00	277·02	
North Shaw			Voided leases								7·53			351·45	674·72	
Do.			Sundry claims										576·06			
Sharks			Sundry claims					18·50	60·14		145·08		19·37	24·50	93·14	
Shaw River			Voided leases											101·00	49·63	
Talga Talga			Voided leases										83·83	574·50	975·98	
Do.			Sundry claims								50·26		68·99	204·65	520·25	
Tamboorah			Voided leases											1,438·50	1,739·44	
Do.			Sundry claims										64·65	639·25	797·44	
Warrawoona	604		Klondyke Boulder											1,123·69	1,909·96	
Do.	627		Klondyke Queen					32·00	103·11				3·80	434·25	548·13	
Do.			Voided leases										13·19	6,318·86	13,671·74	
Do.			Sundry claims								44·30		362·50	1,123·04	2,157·33	
Western Shaw	(708)		Hilda N.											1·50	27·07	
Do.			Voided leases											1,221·00	930·73	
Do.			Sundry claims				3·92				12·52		67·47			
Wyman's Well			Voided leases										33·55	115·04	493·9	
Do.			Sundry claims					107·00	50·26				16·72	327·86	514·48	

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

Pilbara Goldfield—*continued.*

MARBLE BAR DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Yandicoogina	724	Thelma	..	..	4·00	7·16	..	..	..	4·00	7·16	..
Do. ..	..	Voided leases	..	..	..	..	..	..	140·76	2,664·50	5,597·99	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	238·35	103·75	120·34	..
		From District generally :—										
		Sundry parcels treated at :										
		Sanderson Cyanide Works	..	..	..	..	..	..	..	..	48·02	..
		Osborne Cyanide Works	..	..	..	..	..	..	..	..	6·83	..
		Stray Shot Battery	..	..	..	..	..	..	..	..	9·75	..
		Various Works	..	..	..	..	..	..	..	237·95	1,140·31	..
		Reported by Banks and Gold Dealers	473·71	..	..	..	..	9,928·43	217·05	..	..	..
		Total	**473·71**	**95·16**	**1,780·25**	**1,777·87**	..	**10,226·80**	**2,968·79**	**53,141·63**	**83,546·48**	**574·01**

NULLAGINE DISTRICT

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Eastern Creek	180L	Crescent	..	..	95·00	79·96	..	..	..	631·75	1,064·41	..
Do. ..	176L	(Doherty Reward)	..	..	..	..	..	..	..	142·25	171·43	..
Do. ..	176L, 177L ..	Doherty Reward leases ..	..	..	..	..	..	..	..	17·00	428·79	..
Do. ..	177L	(Harp)	..	..	..	..	..	..	..	62·00	79·22	..
Do. ..	182L	Morning Star	..	..	..	..	..	..	..	233·00	425·93	..
Do. ..	179L	Rose	..	..	..	..	..	..	..	152·00	83·00	..
Do. ..	178L	Shamrock	..	4·00	88·00	124·17	..	..	4·00	206·25	319·30	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	53·50	51·78	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	3·77	10·00	16·31	..
Elsie	..	Voided leases	..	..	..	..	..	..	..	408·25	1,323·85	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	20·00	16·85	..

Middle Creek	106L	Barton	..	..	846·00	529·08	..	..	..	5,627·65	6,454·72	..
Do.	136L	Little Wonder	..	..	59·00	189·15	..	..	..	940·00	3,659·18	..
Do.	(190L)	Mundalla	..	..	17·50	65·25	..	..	..	63·50	234·67	..
Do.	..	Voided leases	..	..	..	..	..	..	..	488·75	820·86	..
Do.	..	Sundry claims	..	..	38·00	52·16	..	..	..	164·00	262·28	..
Mosquito Creek	143L	Ard Patrick	..	..	121·50	250·27	..	..	..	1,188·75	3,108·46	..
Do.	(189L)	Cutty Sark	..	..	5·00	11·25	..	..	..	26·50	24·14	..
Do.	79L	(Galtee More)	..	..	..	..	..	..	..	586·00	1,648·33	..
Do.	79L, 145L	Galtee More leases	..	..	..	..	..	..	..	1,520·00	2,727·52	..
Do.	..	Voided leases	..	..	..	..	..	1·07	21·42	3,826·05	4,716·06	..
Do.	..	Sundry claims	..	..	114·50	127·87	..	..	166·47	2,106·44	2,967·37	..
Nullagine	191L	Grant's Hill	..	..	10·00	59·16	..	..	..	10·00	59·16	..
Do.	..	Voided leases	..	..	..	..	..	..	13·96	7,436·75	11,252·70	..
Do.	..	Sundry claims	..	..	12·50	46·38	..	104·70	97·49	3,851·75	8,245·25	..
20-Mile Sandy	173L	Federation	..	..	33·50	27·50	..	..	..	207·25	405·07	..
Do.	167L	Mountain Maid	..	..	7·50	9·66	..	..	..	232·00	607·23	..
Do.	..	Voided leases	..	..	..	..	..	..	..	375·95	480·77	..
Do.	..	Sundry claims	..	..	230·50	233·16	..	33·10	20·55	2,236·40	3,382·86	..
		From District generally :—										
		Sundry parcels treated at :										
		Doherty's Works	..	..	..	147·19	..	..	..	..	196·05	..
		Enterprise Works	..	..	..	..	..	..	..	..	226·29	..
		Royer's Public Crushing Works	..	..	..	..	..	..	..	..	7·53	..
		State Battery—20-Mile Sandy	..	..	..	110·73	..	..	..	..	559·32	..
		Various Works	..	..	..	..	..	..	..	50·50	2,407·85	..
		Reported by Banks and Gold Dealers	..	..	..	..	..	5,236·42	35·54	..	..	..
		Total	..	..	**1,678·50**	**2,062·94**	..	**5,375·29**	**363·20**	**32,874·24**	**58,434·54**	..

West Pilbara Goldfield.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Crcydon	..	Voided leases	..	..	..	..	..	..	..	8·00	5·44	..
Hong Kong	..	Voided leases	..	..	..	..	..	..	..	331·00	442·45	..
Do.	..	Sundry claims	..	..	..	..	..	21·40	·02	9·00	3·15	..
Lower Nicol	106, 109	Ninety-nine leases	..	..	..	..	..	..	1·10	588·35	343·78	..
Do.	..	Voided leases	..	..	..	..	..	..	..	64·85	58·44	..
Do.	..	Sundry claims	..	..	..	..	..	10·44	2·71	10·00	11·51	..
Mallina	..	Voided leases	..	..	..	..	..	..	..	103·60	102·83	..

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

West Pilbara Goldfield—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Pilbara ..	..	Voided leases	..	..	..	..	..	..	48·12	148·00	293·42	..
Do. ..	..	Sundry claims	..	..	..	..	..	1·11	86·24	..	..	..
Roebourne ..	150	Q. E.	..	..	21·00	141·94	74·50	..	..	83·50	381·12	233·06
Do. ..	(M.L. 135) ..	Wait-a-While	..	..	..	*3·53	..	..	..	..	8·18	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	108·60	88·32	67·11
Station Peak	149	Prince Regent	..	16·38	..	196·46	..	177·74	16·38	..	1,692·75	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	9,993·00	9,382·00	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	37·50	48·19	..
Towranna ..	..	Voided leases	..	..	..	..	..	..	..	1,934·80	2,088·26	..
Weerianna ..	151	Hillside	..	..	230·00	188·67	..	..	..	230·00	188·67	..
Do. ..	151, (152) ..	Hillside leases	..	..	155·00	272·90	..	..	..	640·00	704·69	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	748·25	522·65	..
Do. ..	..	Sundry claims	..	..	8·50	4·39	..	..	..	12·50	29·69	..
		From Goldfield generally :—										
		Reported by Banks and Gold Dealers	158·90	..	..	..	..	4,634·06	82·54	..	6·38	..
		Total	**158·90**	**16·38**	**414·50**	**807·89**	**74·50**	**4,844·75**	**237·11**	**15,050·95**	**16,401·92**	**300·17**

* From Copper Ore.

Ashburton Goldfield.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Mt. Mortimer	..	Sundry claims	..	..	..	..	..	354·37	315·64	..	..	..
Uaroo ..	(M.L. 81) ..	Walgo	..	..	..	..	..	..	..	..	..	162·02
		From Goldfield generally :—										
		Reported by Banks and Gold Dealers	256·33	..	..	..	..	8,156·30	..	..	..	..
		Total	**256·33**	..	..	..	..	**8,510·67**	**315·64**	..	..	**162·02**

Gascoyne Goldfield.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Bangemall ..	..	Voided leases	..	..	..	..	..	..	6·22	236·70	218·49	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	12·29	..	..	..
		From Goldfield generally:—										
		Reported by Banks and Gold Dealers	7·87	..	..	..	..	302·45	..	..	..	..
		Total	**7·87**	..	..	..	..	**302·45**	**18·51**	**236·70**	**218·49**	..

Peak Hill Goldfield.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Egerton ..	353P	Excelsior	..	..	3·75	16·13	..	..	..	3·75	16·13	..
Do. ..	(349P)	Mountain View Extended ..	..	..	..	..	..	..	·91	..	..	..
Do. ..	..	Sundry claims	..	3·09	..	..	..	..	16·14	..	..	..
Horseshoe ..	327P	Brilliant	..	260·97	..	..	..	..	1,102·77	·04	53·63	..
Do. ..	..	Voided leases	..	..	..	..	..	..	799·32	712·34	1,884·02	2·00
Do. ..	..	Sundry claims	..	..	..	..	..	..	397·32	16·05	45·14	..
Mt. Fraser ..	..	Voided leases	..	..	..	..	..	..	..	389·50	320·96	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	80·00	55·41	..

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

Peak Hill Goldfield—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Peak Hill ..	3P	Atlantic No. 1 North: Peak Hill Goldfield, Ltd.	..	..	..	..	..	..	..	497·01	552·24	..
Do. ..	364P	Harder to Find	..	46·29	..	..	..	..	46·29	..	..	..
Do. ..	(340P)	King George	..	..	..	..	..	..	10·41	.. ..	..	..
Do. ..	1P	(North Star)	..	..	..	..	..	..	162·32	..	..	..
Do. ..	310P	Oversight	..	..	..	..	..	..	92·53	1,078·11	630·03	..
Do. ..	1P, 2P, 4P, 5P, 6P, 8P, 9P, 13P, 15P, 16P, (26P), 27P, 28P, 29P, 35P, 36P, 43P, 53P, 54P, (63P), 146P, 152P, (190P, 213P, 222P), 239P, (248P), 252P, (262P, 274P), 306P, 313P	Peak Hill Goldfield, Ltd.	..	..	4·60	1,134·33	..	..	191·46	461,979·01	222,226·90	2,285·59
Do. ..	..	Voided leases	..	..	..	..	..	..	181·41	2,353·50	2,182·49	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	104·97	904·50	250·05	..
Ravelstone ..	(357P)	Anglo-Saxon	..	6·10	..	..	..	..	37·39	..	..	..
Do. ..	..	Voided leases	..	..	..	..	..	..	64·25	4,219·85	3,117·68	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	553·60	283·17	..
Wilgeena ..	..	Voided leases	..	..	..	..	..	..	23·54	128·50	146·79	..
Wilthorpe ..	..	Voided leases	..	..	..	..	..	..	..	47·00	20·93	..
		From Goldfield generally :—										
		Sundry parcels treated at :										
		State Battery—Ravelstone	..	..	..	..	..	..	3·05	..	4·83	..
		Various Works	..	..	..	..	..	..	..	30·00	319·97	..
		Reported by Banks and Gold Dealers	161·96	118·14	..	..	..	762·28	345·17	..	..	..
		Total	**161·96**	**434·59**	**8·35**	**1,150·46**	..	**762·28**	**3,579·25**	**472,992·76**	**232,110·37**	**2,287·59**

East Murchison Goldfield.

LAWLERS DISTRICT.

Note.—From the 1st March, 1910, the Lawlers District was subdivided into Wiluna and Lawlers. The gold produced after that date by the mines at Wiluna will be found in the Wiluna District, and the lease numbers of both districts are shown in each case.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Bronzewing	1017	Bronze Wing	..	..	41·00	27·79	..	..	..	134·50	82·60	..
Do.	(1020)	Malbie	..	..	40·00	8·03	..	..	..	260·50	170·04	1·94
Do.	..	Voided leases	..	..	..	..	..	..	..	73·00	65·39	..
Cork Tree	..	Voided leases	..	..	..	..	..	..	29·90	3,767·00	3,292·87	..
Do.	..	Sundry claims	..	..	..	..	..	..	25·50	13·00	9·32	..
Kathleen Valley	113	(Nil Desperandum)	..	..	..	..	..	..	..	17,960·00	7,618·73	..
Do.	113	Nil Desperandum	..	..	35·00	41·07	..	..	..	1,269·00	765·61	..
Do.	113, (635)	(Nil Desperandum leases)	..	..	..	..	..	..	..	2,722·50	1,625·77	..
Do.	382	(Yellow Aster)	..	..	..	..	..	..	..	37,605·00	27,051·42	..
Do.	382	Yellow Aster: Yellow Aster G.M. Co., N.L.	..	..	173·00	619·61	..	..	..	8,377·75	4,246·12	..
Do.	..	Voided leases	..	..	..	..	..	..	141·57	1,288·50	1,292·34	..
Do.	..	Sundry claims	..	..	198·00	59·80	..	..	478·40	1,357·25	762·08	..
Lake Darlot	182	Amazon	..	..	209·00	248·93	..	..	7·92	3,732·00	6,093·84	..
Do.	(93)	Ballangarry	..	..	..	..	..	..	..	6,873·50	3,031·42	..
Do.	1127	British King	..	..	..	..	..	..	..	101·00	52·50	..
Do.	626	Filbandint	..	..	..	..	..	..	..	999·00	918·19	..
Do.	375	King of the Hills	..	..	269·00	133·57	..	..	101·48	1,688·00	1,677·79	..
Do.	1157	Lass O'Gowrie	..	5·25	53·00	170·38	..	..	5·25	53·00	170·38	..
Do.	648, 654, 852	Monte Christo leases	..	..	..	..	..	..	..	6,762·60	3,279·52	..
Do.	(1118)	Rosewood	..	..	..	..	..	..	..	41·50	97·38	..
Do.	273	St. George	..	..	60·00	11·53	..	..	2,927·22	839·50	7,915·01	..
Do.	633	(Zangbar)	..	..	..	..	..	..	..	997·00	505·75	..
Do.	633, 823	Zangbar leases	..	..	807·00	354·74	..	..	..	20,050·00	7,579·18	..
Do.	..	Voided leases	..	..	..	..	..	..	827·65	20,288·70	15,695·78	..
Do.	..	Sundry claims	..	..	245·00	53·24	..	1·16	237·43	2,866·64	1,835·78	..
Lawlers	(19, 414)	Bounty leases	..	..	..	..	..	..	..	1,630·35	1,788·67	..
Do.	900	Dobra Scrica	..	1·03	19·00	11·53	..	..	1·03	1,222·50	1,155·17	..
Do.	376	(Donegal: London and Western Australian Exploration Co., Ltd.)	..	..	..	..	..	..	..	38·00	69·73	..
Do.	377	(Eastern United Extended)	..	..	..	..	..	..	..	106·00	69·72	..

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

East Murchison Goldfield—*continued.*

LAWLERS DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Lawlers ..	37, 58, 62, 70, 155, 156, 157, 158, 376, 377, (381), 385, (399, 426, 427, 459, 474, 500), 508, 509, (510, 511, 512, 552), 562, (563, 573), 811, (840)	(East Murchison United, Ltd.) ..	..	..	..	..	..	..	..	291,797·00	155,594·26	900·48
Do. ..	1125	Golden Swan	..	..	98·00	255·40	..	..	..	159·00	460·40	..
Do. ..	37, 58, 62, 70, 155, 156, 157, 158, 376, 377, (381), 385, (399, 426, 427, 459, 474, 500), 508, 509, (510, 511, 512, 552), 562, (563, 573), 811, (840)	(London and Western Australian Exploration Co., Ltd.)	..	..	..	..	..	..	..	179,563·00	40,438·14	2,560·31
Do. ..	1038	Moa	..	..	221·00	120·00	..	..	..	531·00	430·54	..
Do. ..	(1130)	Mountain Queen	..	..	..	..	..	..	..	9·00	2·12	..
Do. ..	37, 58, 62, 70, 155, 156, 157, 158, 376, 377, 385, (459), 508, 509, 562, (563), 811, (840), 918, 1053, (1106, 1109, 1110), 1120	Northern Mines, Ltd.	..	..	70,037·00	21,014·20	1,830·90	..	..	392,259·50	97,186·87	8,235·43
Do. ..	(459)	(Quartzite King)	..	..	..	..	..	..	..	119·50	92·47	..
Do. ..	385	(Queen)	..	..	..	..	..	..	..	1,252·00	623·25	..
Do. ..	889	(Rajah)	..	..	..	..	..	..	..	867·00	229·59	..
Do. ..	889, 895 ..	Rajah leases	..	..	340·00	148·96	..	..	..	2,998·00	916·01	..
Do. ..	910	Sunrise	..	..	66·00	16·49	..	..	..	5,344·00	3,407·64	..
Do. ..	521	(Vivien)	..	..	..	..	..	..	..	45·50	21·75	..
Do. ..	908	Vivien Gem	..	2·24	967·00	407·32	..	..	86·36	3,458·25	2,923·44	..
Do. ..	408, 521, (574, 624, 625, 719)	Vivien G.M. Co., Ltd.	..	..	334·00	964·36	3·82	..	..	209,520·18	76,795·19	1,697·88
Do. ..	62, 562, (563) ..	(Waroonga South leases) ..	..	..	..	..	..	..	..	42,150·00	14,329·48	..
Do. ..	1145	White Hope	..	..	21·00	27·11	..	..	..	21·00	27·11	..
Do. ..	988	Wild Cat	..	..	1,265·00	226·62	..	..	..	5,158·50	3,076·53	..
Do. ..	58	(Woronga)	..	..	..	..	..	..	..	2,438·50	2,755·45	..
Do. ..	..	Voided leases	..	..	..	..	..	..	332·44	54,204·20	56,732·68	96·33
Do. ..	..	Sundry claims	..	2·55	1,023·00	436·32	..	14·81	68·57	6,574·85	3,945·44	..

New England	..	Voided leases	..	..	..	..	..	..	57·54	899·00	720·25	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	4·32	554·50	465·23	..
Sir Samuel ..	21, 24, 35, (38), 308, (310, 368), 439, (582, 615, 1126)	Bellevue, Ltd.	..	..	887·50	790·27	21·51	..	..	36,380·50	21,326·36	2,131·94
Do. ..	21, 24, 35, (38), 308, (310, 368, 369), 439, (582, 583, 584, 585, 586, 615, 890, 891)	(Bellevue Proprietary, Ltd.)	..	..	..	..	..	..	..	211,751·00	108,107·88	8,088·00
Do. ..	1143	Blue Bell	..	..	247·00	100·33	..	..	..	247·00	100·33	..
Do. ..	1142	Bluey's Release	..	..	122·00	67·27	..	..	..	122·00	67·27	..
Do. ..	(1078)	Calliope	..	..	..	..	..	..	..	45·00	7·38	..
Do. ..	(1073)	Camperdown	..	..	..	..	..	..	..	355·00	193·91	..
Do. ..	1144	Carbine	..	..	55·00	92·08	..	..	..	55·00	92·08	..
Do. ..	(1114)	Cardiganshire	..	..	..	..	..	..	..	132·00	48·23	..
Do. ..	1092	Dreamland	..	..	35·00	15·56	..	..	..	306·00	265·31	..
Do. ..	(1072)	Isidore	..	1·98	67·00	67·85	..	..	2·69	159·00	93·13	..
Do. ..	(1122)	Puzzle	..	..	..	..	..	..	..	176·00	193·83	..
Do. ..	(1120)	Unexpected	..	..	..	..	..	..	..	12·00	4·24	..
Do. ..	(1043)	Westralia	..	1·85	71·00	19·28	..	..	1·85	587·00	153·52	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	13,547·00	6,415·44	..
Do. ..	..	Sundry claims	..	..	..	17·13	..	..	21·37	1,646·25	1,369·97	..
Wiluna ..	1137 [118J] ..	Aurora	..	..	8·00	46·38	..	..	..	8·00	46·38	..
Do. ..	(1108 [87J]) ..	Brothers	..	..	..	..	..	..	..	41·00	10·71	..
Do. ..	946 [23J] ..	(Bulletin)	..	..	..	..	..	..	..	5,605·00	2,144·82	..
Do. ..	959 [30J] ..	(Bulletin North)	..	..	..	..	..	..	..	391·00	91·44	..
Do. ..	1039 [51J] ..	Caledonia	..	..	..	..	..	..	..	78·00	138·38	..
Do. ..	140 [2J]	Golden Age	..	..	..	..	..	..	..	752·00	870·93	..
Do. ..	140 [2J], 162 [4J], 163 [5J]	(Golden Age Consolidated, Ltd.) ..	..	..	..	..	..	..	..	42,521·00	19,750·45	..
Do. ..	140 [2J] ..	(Golden Age: Golden Age Lake Way, Ltd.)	..	..	..	..	..	..		12,899·00	7,468·69	..
Do. ..	(1068 [67J]) ..	Golden Age South	..	..	..	..	..	..	..	183·00	100·17	..
Do. ..	542 [6J], 548 [7J], 550 [8J], 906 [11J], 930 [13J], 931 [14J], 932 [15J], 937 [17J], 938 [18J], 943 [21J], 944 [22J], 952 [26J]	Gwalia Consolidated, Ltd.	..	..	..	..	..	..	..	210,230·32	74,536·14	69·03
Do. ..	(1066 [65J], 1067 [66J])	Happy Jack No. 1 leases ..	..	..	..	..	..	..	..	96·00	85·06	..
Do. ..	954 [28J] ..	(Indicator)	..	..	..	..	..	..	..	767·00	143·44	..
Do. ..	162 [4J], 163 [5J]	Lake Way leases	..	..	..	..	..	..	..	630·00	369·60	..
Do. ..	162 [4J] ..	(Lake Way: West Australian Goldfields, Ltd.)	..	..	..	..	..	..	..	2,786·00	1,238·44	..
Do. ..	137 [1J]	Monarch of the East	..	..	..	..	..	..	..	503·00	308·41	..
Do. ..	137 [1J]	(Monarch of the East: Monarch of the East G.M. Co., N.L.)	..	..	..	..	..	..	..	12,251·00	8,888·27	..
Do. ..	870 [10J] ..	Moonlight	..	..	..	..	..	..	..	1,856·00	787·66	..
Do. ..	967 [33J] ..	(Red Page)	..	..	..	..	..	..	..	457·00	434·50	..
Do. ..	917 [12J] ..	(Squib)	..	..	..	..	..	..	..	276·50	67·00	..
Do. ..	677 [9J] ..	(Try Again)	..	..	..	..	..	..	..	1,185·00	1,143·02	..

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

East Murchison Goldfield—*continued.*

LAWLERS DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Wiluna ..	942 [20J] ..	(Try Again Extended) ..	..	..	..	..	..	..	..	306·00	363·87	..
Do. ..	677 [9J], 942 [20J]	Try Again leases	..	..	..	..	..	..	..	200·00	114·65	..
Do. ..	..	Voided leases	..	..	..	..	..	..	537·27	22,427·75	19,099·79	124·00
Do. ..	..	Sundry claims	..	..	4·00	10·50	..	5·30	..	2,841·15	1,516·76	..
		From District generally :—										
		Sundry parcels treated at :										
		Black Swan Cyanide Works	..	..	..	..	..	..	..	..	115·69	11·60
		Cinderella Works	..	..	2·00	141·82	..	..	..	1,202·00	1,619·26	26·00
		Cork Tree Cyanide Works	..	..	..	..	..	..	..	..	57·39	..
		Lawlers Public Battery	..	..	..	248·37	..	..	..	214·00	1,584·21	..
		Old Condor Battery	..	..	..	2·89	..	..	..	..	2·89	..
		State Battery—Lake Darlot	..	..	..	..	..	..	..	315·00	1,097·09	..
		State Battery—Wiluna	..	..	..	..	..	..	..	390·00	2,047·17	20·00
		Urquhart's Cyanide Works	..	..	..	..	..	..	..	..	4,276·70	200·00
		Wilks' Bros. Cyanide Works	..	..	..	..	..	..	..	..	48·48	..
		Various Works	..	..	..	..	..	..	..	117·50	3,881·31	506·73
		Reported by Banks and Gold Dealers	202·22	..	..	..	..	5,444·22	67·15	..	5·74	..
		Total	**202·22**	**14·90**	**78,019·50**	**26,976·73**	**1,856·23**	**5,465·49**	**5,962·91**	**1,930,090·74**	**852,985·33**	**24,669·67**

WILUNA DISTRICT.

Note.—Previous to the 1st March, 1910, Wiluna formed part of the Lawlers District. The gold produced by mines at Wiluna previous to that date will be found in the Lawlers District, and the lease numbers of both districts are shown in each case.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Mt. Keith ..	118J	Aurora	..	..	65·00	177·51	..	..	..	65·00	177·51	..
Do. ..	131J	Queen of Scots	..	..	12·00	16·30	..	..	..	12·00	16·30	..
Do. ..	..	Sundry claims	..	..	8·50	23·66	..	..	..	8·50	23·66	..

New England	(69J [1079]) ..	Empire	..	..	118·00	50·59	..	..	..	710·00	215·83	..
Do. ..	(110J)	Eric	..	..	18·00	7·99	..	..	..	18·00	7·99	..
Do. ..	(90J [1116]) ..	Golden Way	..	..	8·00	5·64	..	..	..	128·00	37·86	..
Do. ..	(82J [1101]) ..	Harris' Reward	..	..	..	..	..	..	..	86·00	43·56	..
Do. ..	(108J)	Honeycomb	..	..	10·00	3·87	..	..	..	10·00	3·87	..
Do. ..	71J [1083], 72J [1084]	May Queen leases	..	..	..	..	..	..	..	36·00	25·16	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	115·00	100·62	..
Wiluna ..	(94J)	Aboriginalities	..	..	..	..	..	..	..	65·00	15·45	..
Do. ..	91J [940] ..	Adelaide	..	..	252·00	17·74	..	..	..	401·00	33·29	..
Do. ..	(98J)	Andrew Fisher	..	..	15·00	14·42	..	..	..	103·00	56·09	..
Do. ..	101J	Band of Hope	..	..	26·00	29·17	..	..	..	128·00	49·85	..
Do. ..	(87J [1108]) ..	Brothers	..	..	30·00	21·23	..	..	..	210·00	131·70	..
Do. ..	107J	Butchers	..	..	37·00	35·02	..	..	..	61·00	70·25	..
Do. ..	23J [946] ..	(Bulletin)	..	..	..	..	..	..	..	5,787·00	1,427·81	..
Do. ..	51J [1039] ..	Caledonia	..	..	32·00	34·61	..	..	..	197·00	242·69	..
Do. ..	(95J)	Comet	..	..	172·00	67·20	..	..	..	172·00	67·20	..
Do. ..	(112J)	Discovery	..	..	..	..	..	..	..	103·00	62·18	..
Do. ..	136J	Fenian	..	..	33·00	4·78	..	..	..	33·00	4·78	..
Do. ..	2J [140] ..	Golden Age: Wiluna Gold Mines, Ltd.	..	..	3·00	5·16	..	..	..	48·00	23·08	..
Do. ..	(67J [1068]) ..	Golden Age South	..	..	..	..	..	..	3·29	99·00	72·97	..
Do. ..	6J [542], 7J [548], 8J [550], 11J [906], 13J [930], 14J [931], 15J [932], 17J [937], 18J [938], 21J [943], 22J [944], 26J [952]	Gwalia Consolidated, Ltd.	..	..	1,165·00	1,513·10	7·59	..	..	22,063·00	8,824·59	14·52
Do. ..	119J	Happy Jack	..	..	642·00	216·55	..	..	..	642·00	216·55	..
Do. ..	(65J [1066], 83J [1102])	(Happy Jack No. 1 leases) ..	..	..	..	..	..	..	..	1,475·00	181·79	..
Do. ..	114J	Joker	..	..	144·00	111·26	..	..	..	181·00	140·06	..
Do. ..	4J, 5J	Lake Way: Wiluna Gold Mines, Ltd.	..	..	185·00	123·44	..	..	..	185·00	123·44	..
Do. ..	1J [137] ..	Monarch of the East	..	..	538·00	225·23	..	..	..	2,080·00	1,076·90	..
Do. ..	10J [870] ..	Moonlight	..	..	..	..	..	..	..	620·00	197·95	..
Do. ..	(115J)	(Off Chance)	..	..	11·00	2·14	..	..	..	11·00	2·14	..
Do. ..	(97J)	Regina	..	..	..	..	..	..	..	21·00	9·54	..
Do. ..	(121J)	(Sunrise)	..	..	35·00	9·71	..	..	..	35·00	9·71	..
Do. ..	9J [677], 20J [942]	Try Again leases	..	..	174·00	94·06	..	..	..	432·00	257·96	..
Do. ..	120J	Ullina	..	..	305·00	72·21	..	..	..	305·00	72·21	..
Do. ..	12J [917], 23J [946], 28J [954], 30J [959], 33J [967], 36J [975], 43J [1018], 76J [1090], 113J, 124J, 137J	Wiluna Gold Mines, Ltd.	..	..	7,969·00	3,010·93	..	..	..	11,923·00	3,904·03	..
Do. ..	..	Voided leases	..	..	..	..	..	..	24·63	256·50	592·22	..
Do. ..	..	Sundry claims	84·06	13·11	591·75	358·90	..	84·06	75·62	902·75	585·36	..
		From District generally:—										
		Sundry parcels treated at:										
		State Battery—Wiluna	..	..	70·00	1,474·12	..	..	..	70·00	2,790·13	..
		Reported by Banks and Gold Dealers	3·20	2·92	..	..	..	3·20	2·92	..	..	..
		Total	**87·26**	**16·03**	**12,669·25**	**7,726·54**	**7·59**	**87·26**	**106·46**	**49,797·75**	**21,894·28**	**14·52**

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

East Murchison Goldfield—*continued.*

BLACK RANGE DISTRICT.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Birrigrin ..	109B, (130B) ..	(Birrigrin G. Ms., Ltd.)	..	..	..	..	..	..	..	799·50	546·09	..
Do. ..	657B	Excellsior	..	..	..	..	..	..	..	63·50	29·70	..
Do. ..	109B	(Hawthorne)	..	..	..	..	..	..	..	1,555·00	2,013·25	..
Do. ..	109B	Hawthorne	..	..	282·25	154·13	..	..	..	407·75	314·54	..
Do. ..	109B, (130B) ..	(Hawthorne leases)	..	..	..	..	..	..	..	2,426·50	2,192·03	..
Do. ..	128B	(Pelerin)	..	..	..	..	..	..	..	1,765·46	3,621·53	..
Do. ..	128B, (356B) ..	Pelerin leases	..	..	62·00	42·30	..	..	..	1,066·00	1,445·71	..
Do. ..	..	Voided leases	..	..	..	..	..	..	820·68	2,900·45	3,971·80	..
Do. ..	..	Sundry claims	..	..	43·50	65·68	..	..	34·52	646·00	446·87	..
Curran's Find	641B	Red, White, and Blue	..	..	49·00	30·20	..	..	24·58	80·00	71·47	..
Do. ..	669B	Red, White, and Blue North ..	..	..	..	..	..	..	..	20·00	9·89	..
Do. ..	665B	Red, White, and Blue South ..	..	11·08	..	..	..	..	11·08	..	..	..
Do. ..	..	Voided leases	..	..	..	..	..	..	96·62	17·50	28·95	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	2·08	74·50	111·45	..
Hancocks ..	22B, (233B), 290B, 300B, (309B, 314B), 315B, (321B), 322B	(Black Range Kohinoor Mining Co., N.L.)	..	..	..	..	..	..	..	5,650·00	6,760·24	29·58
Do. ..	22B, 290B, 300B, 315B, 322B	Black Range Kohinoor Mining Co., N.L.	..	..	625·00	765·22	10·00	..	..	625·00	765·22	10·00
Do. ..	478B	Breakaway	..	583·47	144·50	237·85	..	..	823·44	620·00	664·92	..
Do. ..	382B	(Bull Oak)	..	..	..	..	..	..	..	725·00	956·77	..
Do. ..	674B	Comedy King	..	81·38	355·00	514·15	..	..	81·38	355·00	514·15	..
Do. ..	369B, 379B, 382B, 383B	Comrades leases	..	..	75·00	46·73	..	..	..	4,641·50	3,443·73	..
Do. ..	389B	(Faugh-a-ballagh)	..	..	..	..	..	..	..	139·00	109·31	..
Do. ..	389B, 495B ..	Faugh-a-ballagh leases	..	..	281·00	523·42	..	..	59·63	740·00	1,173·75	..
Do. ..	676B	Flavinius	..	3·37	..	..	..	..	3·37	..	..	..
Do. ..	22B	(Koinoor)	..	..	..	..	..	..	..	331·25	1,122·39	..
Do. ..	330B	Koinoor North	..	..	144·00	63·27	..	..	29·76	1,372·00	766·44	..
Do. ..	139B	(Lady Ellen)	..	..	..	..	..	..	..	219·75	458·96	..
Do. ..	139B	Lady Ellen	..	406·39	62·00	107·57	..	..	425·96	123·00	215·87	..
Do. ..	139B, (234B) ..	(Lady Ellen leases)	..	..	..	..	..	..	..	259·50	488·61	11·00
Do. ..	633B, 637B ..	Lady Seddon leases	..	..	217·00	104·41	..	..	..	403·00	215·91	..
Do. ..	383B	(Maid Marion)	..	..	..	..	..	..	2·47	373·00	490·40	..
Do. ..	300B	(Sceptic)	..	..	..	..	..	..	3·75	..	..	..
Do. ..	..	Voided leases	..	..	..	..	..	..	65·32	1,314·25	1,357·43	..
Do. ..	..	Sundry claims	..	..	143·00	71·75	..	..	1·41	377·00	227·82	..

Maninga Marley	644B	Bulletin	..	..	..	186·00	352·93	..	..	..	312·00	611·59	..
Do. ..	203B	(Havilah)	..	..	..	..	..	..	..	..	1,507·50	2,315·74	..
Do. ..	203B, 243B, (249B, 254B), 287B, (288B), 289B, (305B), 350B, (504B)	(Havilah G.M. Co., N.L.)	..	..	..	3,773·00	1,979·10	..	..	..	36,508·00	20,052·80	22·55
Do. ..	203B, 243B, 287B, 289B, 350B	Havilah G.M. Co., N.L.	..	..	..	3,166·00	2,063·79	..	..	..	3,166·00	2,063·79	..
Do. ..	203B, 243B, (249B, 254B), 287B, (288B), 289B, (305B)	(Havilah leases)	..	..	..	..	..	..	..	..	2,240·00	2,432·48	..
Do. ..	719B	Lady Mary	..	..	..	191·21	12·40	5·30	..	..	191·21	12·40	5·30	..
Do. ..	53B	(Maninga Marley)	..	..	..	..	..	..	..	..	..	222·75	274·92	..
Do. ..	53B, 77B, 100B	Maninga Marley leases	..	..	..	..	419·00	591·58	..	..	..	6,508·33	7,618·84	..
Do. ..	67B	Maninga Marley North	..	..	..	..	103·00	77·29	..	..	..	2,872·50	3,770·88	..
Do. ..	722B	Swede	..	..	..	..	36·00	8·74	..	..	..	36·00	8·74	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	..	3·99	563·75	360·56	..
Do. ..	..	Sundry claims	..	..	..	122·66	15·00	16·42	..	..	122·66	427·50	445·05	..
Montagu ..	185B	(Caledonian)	..	..	..	..	..	..	..	..	..	346·90	785·20	..
Do. ..	185B, 351B	Caledonian leases	..	..	..	..	200·00	243·60	..	..	..	510·00	587·01	..
Do. ..	135B	Montague Boulder	..	..	..	..	1,873·00	1,335·94	..	..	..	5,792·00	3,468·19	..
Do, ..	(624B)	Prince Foote	..	..	..	10·72	80·25	81·31	..	..	67·39	196·25	215·23	..
Do. ..	(578B)	Sefton	..	..	..	..	..	..	..	..	5·69	254·00	116·72	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	..	21·31	862·25	978·08	..
Do. ..	..	Sundry claims	..	..	..	1·72	35·00	15·80	..	..	1·72	385·00	220·11	..
Nunngarra ..	(616B)	Dead Beat	..	..	..	10·16	..	..	..	..	115·18	10·00	8·83	..
Do. ..	568B	Mac's Addition	..	..	..	..	..	..	..	..	..	101·00	130·95	..
Do. ..	285B	Missing Link	..	..	..	..	..	..	..	..	..	284·50	481·53	..
Do. ..	(205B)	Nunngarra	..	..	..	..	278·00	56·40	..	..	..	1,383·50	320·62	..
Do. ..	619B	Nunngarra Junction	..	..	..	..	377·00	152·66	..	..	..	608·50	298·16	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	25·94	126·29	6,528·50	6,078·94	3·64
Do. ..	..	Sundry claims	..	..	..	32·76	72·00	22·79	..	46·67	1,302·73	2,083·15	1,730·66	..
Sandstone ..	4B	(Adelaide)	..	..	..	..	..	..	..	..	7·21	7,443·00	12,675·94	..
Do. ..	4B, 5B, 11B, 17B, 26B, 70B, 140B, 150B	(Adelaide leases)	..	..	..	..	..	..	..	..	..	21,010·00	30,255·28	..
Do. ..	5B	(Black Range)	..	..	..	..	..	..	..	..	152·68	637·00	1,477·66	5·60
Do. ..	4B, 5B, 9B, 11B, 17B, 26B, 70B, 140B, 150B, 256B, 494B, 509B, 620B, 627B	Black Range Mining Co., N.L.	..	..	..	29,024·00	23,048·13	205·00	4·75	199·90	109,581·00	88,718·76	708·00
Do. ..	(623B)	Black Range South Extended	..	..	..	..	..	..	..	23·98	..	..	..
Do. ..	(643B)	Cardigan	..	..	..	188·37	27·00	17·21	..	..	494·93	116·00	85·24	..
Do. ..	(704B)	Chance	..	..	..	17·08	..	..	..	..	17·08	..	..	..
Do. ..	(659B)	Coonabar	..	..	..	..	..	..	..	..	149·10	..	..	..
Do. ..	149B	(Golden Gate)	..	..	..	..	..	..	..	..	..	113·75	62·98	..
Do. ..	151B	(Golden Key)	..	..	..	..	..	..	..	..	..	883·00	1,412·75	..
Do. ..	702B	Home Rule	..	..	..	..	40·00	20·13	..	..	..	40·00	20·13	..
Do. ..	634B	Irishman	..	..	..	..	324·00	232·33	..	..	..	663·00	433·07	..
Do. ..	16B	(Kingoonya)	..	..	..	..	..	..	..	..	..	1,406·00	1,850·40	..
Do. ..	509B	(Mary S.)	..	..	..	..	..	..	..	..	275·60	70·00	84·09	..

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

East Murchison Goldfield—*continued.*

BLACK RANGE DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Sandstone ..	6B, 10B, 16B, 74B, 81B, 114B, 149B, 151B, 189B, 193B, 206B, 216B, 238B, 463B, 477B, 498B, 553B	Oroya Black Range, Ltd.	..	..	52,524·00	25,510·44	2,161·28	..	..	215,860·00	128,488·92	4,195·89
Do. ..	(573B)	Oroya Extended	..	..	..	..	..	..	..	282·00	223·05	..
Do. ..	187B	(Sandridge: Sandstone Development G.M. Co., N.L.)	..	..	..	..	..	..	..	263·00	102·22	..
Do. ..	6B	(Sand Stone)	..	..	..	..	..	..	..	1,439·50	1,938·54	..
Do. ..	174B, 187B, 196B, 229B, 231B, 232B, 236B, 283B, 284B	(Sandstone Development G.M. Co., N.L.)	..	..	4,744·00	2,193·78	..	..	..	26,086·50	15,055·94	242·30
Do. ..	174B, 187B, 196B, 229B, 231B, 232B, 236B, 283B, 284B	Sandstone G.M. Co., N.L.	..	..	2,198·00	1,289·70	..	..	..	2,198·00	1,289·70	..
Do. ..	(510B)	Storekeeper	..	..	..	..	..	..	9·36	..	..	..
Do. ..	10B	(Undaunted)	..	..	..	..	..	..	..	80·00	46·04	..
Do. ..	74B	(Undaunted East)	..	..	..	..	..	..	..	648·25	619·82	..
Do. ..	114B	(Undaunted East Extended) ..	..	..	..	..	..	..	..	276·00	181·34	..
Do. ..	(663B)	Victory	..	..	..	..	..	..	2·47	..	..	..
Do. ..	174B	(Wonoka)	..	..	..	..	..	..	..	68·50	36·35	..
Do. ..	174B	(Wonoka: Sandstone Development G.M. Co., N.L.)	..	..	..	..	..	..	..	165·00	156·12	..
Do. ..	..	Voided leases	..	..	..	..	..	..	362·81	7,965·63	6,473·12	..
Do. ..	..	Sundry claims	..	196·04	190·00	83·38	..	24·01	496·11	1,020·50	559·49	..
Youanme ..	538B	Commonwealth	..	..	233·00	122·57	..	..	..	233·00	122·57	..
Do. ..	622B	Edna	..	..	..	..	..	..	..	320·00	210·17	..
Do. ..	(712B)	Golden Bush	..	55·92	7·50	19·44	..	..	55·92	7·50	19·44	..
Do. ..	(666B)	Golden Crown	..	..	115·50	22·11	..	..	..	115·50	22·11	..
Do. ..	(660B)	Golden Slipper	..	..	..	..	..	..	..	5·00	2·99	..
Do. ..	526B	Great Western	..	..	..	..	..	..	9·71	553·75	417·43	..
Do. ..	(532B)	Grosvenor	..	..	..	..	..	..	..	71·00	12·95	..
Do. ..	519B	Hill End	..	..	1,091·50	192·34	..	..	..	2,189·75	613·93	..
Do. ..	736B	Irma	..	..	61·50	6·59	..	..	..	61·50	6·59	..

Do. ..	564B	Junction	..	..	..	..	..	..	..	975·50	668·33	..
Do. ..	630B	Oversight	..	..	34·00	4·29	..	..	..	132·00	37·05	..
Do. ..	521B	Peru	..	..	..	..	..	..	..	98·00	126·86	..
Do. ..	613B	Rebel	..	..	118·50	28·59	..	..	..	402·50	96·19	..
Do. ..	514B	United	..	..	2,337·00	618·07	..	..	..	4,421·00	1,811·91	..
Do. ..	..	Voided leases	..	..	..	..	..	·36	49·43	882·50	502·40	..
Do. ..	..	Sundry claims	..	..	173·00	59·00	..	..	..	328·50	107·34	..
		From District generally :—										
		Sundry parcels treated at :										
		Reply Works	..	..	..	150·73	..	..	..	37·00	2,524·25	..
		State Battery—Black Range	..	..	..	940·49	..	..	..	202·00	8,540·67	59·53
		State Battery—Sandstone	..	..	..	709·63	..	..	..	..	709·63	..
		State Battery—Youanme	..	..	..	452·08	..	..	..	..	1,652·82	..
		Various Works	..	..	..	..	..	..	..	..	3,133·23	..
		Reported by Banks and Gold Dealers	3·42	..	..	..	..	1,294·28	11·43	..	..	..
		Total	**3·42**	**1,912·33**	**106,351·40**	**65,451·36**	**2,376·28**	**1,396·01**	**6,761·94**	**513,164·32**	**403,501·93**	**5,288·09**

Murchison Goldfield.

CUE DISTRICT.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Barrambie ..	1458, 1459, 1484, 1486, 1560	Barrambie Ranges G.M. Co., N.L. ..	..	..	568·00	312·96	..	..	..	15,440·33	13,146·81	108·28
Do. ..	(1467, 1488) ..	Barrambie South G.M. Co., N.L. ..	..	..	..	..	..	..	..	281·00	116·37	..
Do. ..	(1467)	(Dawn of Hope)	..	..	..	..	..	..	9·99	5·09	29·70	..
Do. ..	1458	(Golden Treasure)	..	..	..	..	..	..	6·54	..	..	..
Do. ..	1712	Mystery	..	..	200·00	317·96	..	..	16·63	623·00	832·28	..
Do. ..	..	Voided leases	..	..	..	..	..	..	5·96	952·50	625·48	..
Do. ..	..	Sundry claims	..	..	40·00	15·77	..	..	..	49·50	20·18	..
Cuddingwarra	(1801)	Chunderloo	..	..	8·00	17·10	..	..	..	8·00	17·10	..
Do. ..	(1741)	Emily	..	..	..	..	..	..	..	158·50	216·63	..
Do. ..	..	Voided leases	..	..	..	..	..	..	36·52	34,246·25	42,787·22	15·42
Do. ..	..	Sundry claims	..	..	..	..	..	..	11·86	341·50	293·58	..
Cue ..	1047	(Agamemnon)	..	..	..	..	..	..	..	2,276·33	1,564·83	..
Do. ..	1047, 1310 ..	Agamemnon leases	..	..	..	..	..	..	..	4,792·00	2,708·09	..
Do. ..	1047	(Agamemnon : Agamemnon, Ltd.) ..	..	..	..	..	..	..	..	7,053·50	4,649·42	..
Do. ..	(1822)	Anything	..	..	24·00	3·94	..	..	..	24·00	3·94	..
Do. ..	(1809)	Bob Bell	..	..	42·00	136·56	..	..	..	42·00	136·56	..
Do. ..	1819	Caledonian	..	6·71	..	..	..	..	6·71	..	..	..
Do. ..	(1703)	Countess	..	..	12·00	8·00	..	..	..	1,508·00	314·12	..
Do. ..	203, 1148 ..	(Cue Consolidated G.Ms., Ltd.) ..	..	..	..	..	..	..	..	23,427·50	18,382·10	..

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

Murchison Goldfield—*continued.*

CUE DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Cue	203	Cue No. 1	..	..	..	..	..	..	..	7,679·50	12,628·70	..
Do.	(1762)	Depot	..	..	..	..	..	..	..	206·00	131·85	..
Do.	(1805)	Depot	..	..	29·00	12·52	..	..	..	29·00	12·52	..
Do.	1714	(Dew Drop)	..	..	..	..	..	..	..	111·00	105·47	..
Do.	1714, 1723, (1742)	(Dew Drop leases)	..	..	103·00	64·78	..	..	..	293·00	128·61	..
Do.	1714, 1723	Dew Drop leases	..	3·44	116·41	90·75	..	..	3·44	116·41	90·75	..
Do.	1796	Duke of York	..	..	325·50	224·32	..	..	..	373·50	278·52	..
Do.	(1772)	Fleur de Mai	..	..	..	..	..	..	..	62·50	11·00	..
Do.	1637	(Gem of Cue)	..	..	..	..	..	..	..	214·50	233·79	..
Do.	(1722)	Gem of Cue East	..	..	..	..	..	..	..	536·50	304·37	..
Do.	1020	Gem of Cue Extended	..	..	..	18·81	..	..	..	36·50	3,601·58	..
Do.	1637, (1663)	Gem of Cue leases	..	..	58·00	19·97	..	..	..	3,264·50	1,941·52	..
Do.	1020, (1044)	(Gem of Cue, Ltd.)	..	..	..	..	..	..	..	11,724·00	6,746·05	..
Do.	1509	Happy Jack	..	..	289·00	223·00	..	..	..	1,272·00	936·75	..
Do.	1783	Hidden Treasure	..	..	3,737·50	6,158·67	..	..	..	3,812·50	6,193·52	..
Do.	1810	Hidden Treasure Extended	..	..	6·00	7·83	..	..	..	6·00	7·83	..
Do.	1808	Hidden Treasure North	..	..	124·50	43·58	..	..	..	124·50	43·58	..
Do.	(1794)	Jolly Beggar	..	..	28·50	10·26	..	..	..	49·50	33·99	..
Do.	1148	(Light of Asia)	..	..	..	..	..	..	..	10,175·00	7,302·20	..
Do.	1148, (1299), 1300, 1634, (1666), 1667	(Light of Asia leases)	..	..	..	..	..	..	..	14,024·00	9,078·43	..
Do.	1148, 1151, 1252, 1300, 1362, 1498, 1634, 1667	Light of Asia and Queen of the May leases	..	..	170·00	115·81	..	..	..	170·00	115·81	..
Do.	(1674)	Lily	..	..	..	..	..	..	..	603·00	729·06	..
Do.	1778	Lord Nolan	..	..	789·00	534·94	..	..	..	1,462·50	1,059·88	..
Do.	1691	Lucky Hit	..	..	244·50	162·73	..	..	..	447·00	348·43	..
Do.	1812	Pearl	..	..	46·00	16·06	..	..	..	46·00	16·06	..
Do.	222, 653, 1016, 1048, 1114	(Princess (Murchison) Consolidated, Ltd.)	..	..	..	..	..	..	..	6,806·50	6,044·31	..
Do.	222, 653, 1016, 1048, 1114	Princess Royal leases	..	..	323·00	96·58	..	..	..	6,661·50	5,432·86	..
Do.	1151, 1252, 1363, (1391), 1498, (1689)	(Queen of the May leases)	..	..	..	..	..	..	..	6,926·00	6,974·06	..
Do.	1248	Rising Sun	..	..	..	..	..	..	..	1,283·00	886·09	..

Do. ..	1325	(Starlight)..	..	..	..	..	..	..	..	1,506·50	1,473·40	..
Do. ..	1325, 1539 ..	Starlight leases	..	..	109·00	178·43	..	..	..	1,007·00	1,194·97	..
Do. ..	1706	St. Catherine's Bank	..	..	46·00	28·62	..	..	..	269·00	160·93	..
Do. ..	(1817)	Sunburst	..	..	60·00	20·35	..	..	..	60·00	20·35	..
Do. ..	(1757)	Sunrise	..	..	15·00	3·56	..	..	..	119·50	86·55	..
Do. ..	1811	Try Again	..	..	37·50	15·58	..	..	..	37·50	15·58	..
Do. ..	(1779)	Volunteer	..	..	89·50	94·80	..	..	..	234·00	186·29	..
Do. ..	..	Voided leases	..	..	..	..	..	34·72	435·57	107,451·95	68,771·86	43·35
Do. ..	..	Sundry claims	..	..	1,083·00	488·84	..	7·58	263·16	9,813·35	6,345·24	..
Eelya.. ..	(1787)	Eelya Consols	..	..	26·00	57·35	..	..	..	26·00	57·35	..
Do. ..	(1786)	Girofla	..	..	..	..	..	..	..	28·50	49·72	..
Do. ..	1696	Jasper Queen	..	..	..	..	..	..	8·78	611·00	1,022·21	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	300·50	644·75	..
Do, ..	..	Sundry claims	..	..	73·50	79·13	..	..	73·65	317·30	368·92	..
Errolls ..	1743	Great Saddle	..	..	75·00	49·44	..	..	..	1,729·00	626·17	..
Do. ..	1712	Mystery	..	..	960·00	490·77	..	..	..	960·00	490·77	..
Do. ..	1764	Three Star	..	..	137·00	78·82	..	..	..	346·00	330·23	..
Do. ..	..	Voided leases	..	..	..	..	..	..	3·62	7,565·00	4,762·05	..
Do. ..	..	Sundry claims	..	..	74·00	10·66	..	..	..	227·00	92·86	..
Mindoolah ..	(1768)	Excelsior	..	..	..	..	..	..	..	131·00	22·82	..
Do. ..	..	Voided leases	..	..	..	..	..	3·07	..	7,764·50	4,735·21	42·97
Do. ..	..	Sundry claims	..	..	..	..	..	..	9·81	904·00	1,078·70	..
Reedy's Find	..	Voided leases	..	..	..	..	..	..	210·65	540·00	673·20	..
Do. ..	..	Sundry claims	..	..	..	..	..	136·94	17·76	195·05	116·52	..
Tuckanarra ..	(1752)	El Dorado	..	..	10·00	2·98	..	..	1·52	209·00	78·22	..
Do. ..	(1527)	Ensign	..	44·29.	39·00	20·27	..	..	738·42	354·00	685·79	48·48
Do. ..	(1688)	Judy's Gift	..	..	..	..	..	..	..	15·00	2·07	..
Do. ..	(1773)	Lucknow	..	..	..	..	..	..	..	79·50	15·12	..
Do. ..	(1788)	Maybell	..	..	..	..	..	..	..	103·00	26·75	..
Do. ..	1337	Nemesis	..	..	165·00	288·74	..	..	608·78	2,110·00	5,587·04	..
Do. ..	(1766)	Oversight	..	..	..	..	..	..	..	18·00	3·31	..
Do. ..	(1771)	Risk	..	..	..	..	..	..	..	230·00	30·96	..
Do. ..	1763	Surprise	..	..	9·00	3·20	..	..	10·84	13·50	10·50	..
Do. ..	..	Voided leases	..	..	..	..	..	14·65	1,285·59	14,548·10	13,514·39	124·29
Do. ..	..	Sundry claims	..	..	149·45	72·75	..	3·76	40·39	2,539·70	5,238·42	..
	From District generally :—											
	Sundry parcels treated at :											
	Cue No. 1 Works	..	..	..	431·74	..	..	..	1,870·50	4,118·84	..
	Gem of Cue Extended Works..	..	..	..	218·67	..	..	..	..	595·96	..
	Great Saddle Works	..	..	..	88·73	..	..	..	..	157·29	..
	Jasper Queen Works	..	..	..	11·11	..	..	..	..	11·11	..
	Mindoolah Main Reef Works	..	..	..	..	..	..	..	..	542·40	..
	State Battery—Tuckanarra	..	..	..	53·68	..	..	..	..	518·50	2,784·91	..
	Various Works	..	..	..	..	..	..	..	..	5,055·02	16,982·67	..
	Reported by Banks and Gold Dealers	..	..	..	..	..	750·72	7·54	..	..	..
	Total	..	**54·44**	**10,441·86**	**11,401·12**	..	**951·44**	**3,813·73**	**339,552·38**	**300,974·40**	**382·79**

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

Murchison Goldfield—*continued.*

NANNINE DISTRICT.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Abbotts ..	(807N)	Crescent	..	..	..	..	..	..	..	198·10	202·07	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	34,967·50	36,901·53	..
Do. ..	..	Sundry claims	..	..	9·50	4·40	..	..	..	36·50	58·13	..
Burnakura ..	509N, 527N	(Federal City leases)	..	..	..	..	..	..	..	14,583·00	7,288·96	..
Do. ..	509N, 527N, 949N	(Federal City leases)	..	..	..	..	..	..	..	2,084·00	1,120·21	..
Do. ..	509N, 527N, 949N, 1009N	Federal City leases	..	..	3,491·00	1,102·99	..	..	..	3,491·00	1,102·99	..
Do. ..	408N	New Alliance	..	..	172·45	112·18	..	..	..	172·45	112·18	..
Do. ..	408N, (517N) ..	(New Alliance leases)	..	..	..	..	..	..	..	12,475·00	15,414·98	13·12
Do. ..	938N	Perseverance	..	..	127·00	120·95	..	..	..	127·00	120·95	..
Do. ..	..	Voided leases	..	..	..	..	..	..	3,206·65	4,929·50	5,087·77	13·78
Do. ..	..	Sundry claims	..	6·60	..	..	..	11·35	29·53	25·00	18·90	..
Chesterfield ..	1159N	Central	..	96·89	..	..	..	..	96·89	..	..	..
Do. ..	(1034N)	Little Ben	..	..	..	61·36	..	..	..	80·00	161·31	..
Do. ..	(971N)	Nugget	..	..	25·00	12·57	..	..	5·65	74·00	71·44	..
Do. ..	..	Voided leases	..	..	..	..	..	29·02	197·40	6,596·26	7,185·64	·80
Do. ..	..	Sundry claims	..	30·97	..	..	..	..	38·83	251·50	211·27	..
Gabanintha ..	379N	(Mountain View)	..	..	..	..	..	..	..	2,626·50	2,141·93	73·17
Do. ..	57[illegible]N	(Mountain View East)	..	..	..	..	..	..	..	60·00	15·12	..
Do. ..	379N, 504N, 505N	(Mountain View leases) ..	..	..	..	..	..	..	..	1,476·00	957·27	..
Do. ..	379N, 504N, 505N, 577N	Mountain View leases	..	..	..	..	..	..	..	100·00	144·57	..
Do. ..	1068N	New Brew	..	..	579·00	407·93	..	..	..	579·00	407·93	..
Do. ..	(1016N)	Tumbulgum	..	..	36·00	31·11	..	..	..	36·00	31·11	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	14,163·00	8,175·98	451·49
Do. ..	..	Sundry claims	..	8·91	430·00	235·65	..	1·33	8·91	690·00	472·24	..
Garden Gully	1036N	Kanowna	..	6·49	..	..	..	..	6·49	..	..	..
Do. ..	928N	Kyarra	..	..	332·00	197·19	..	..	..	761·00	1,145·88	..
Do. ..	1047N	Once More	..	..	108·93	99·07	..	..	..	187·92	189·46	..
Do. ..	..	Voided leases	..	..	..	..	..	26·36	27·88	399·15	716·00	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	160·50	195·36	..
Gum Creek ..	(977N)	(Cardiff)	..	..	..	..	..	..	..	30·00	7·92	..
Do. ..	953N	Connecticut	..	..	39·00	11·77	..	..	..	51·00	19·07	..
Do. ..	1067N	Hero	..	..	91·00	145·01	..	..	..	119·00	191·80	..
Do. ..	672N	Hilda No. 1	..	..	79·00	39·62	..	..	..	275·25	244·88	..
Do. ..	853N	Hilda No. 2	..	..	24·00	20·72	..	..	..	24·00	20·72	..
Do. ..	895N	Jupiter	..	..	157·50	150·53	..	..	..	438·50	488·22	..

Do. ..	(1112N)	Last Hope	..	..	12·00	3·86	..	..	..	12·00	3·86	..	
Do. ..	..	Voided leases	..	..	..	..	..	25·27	88·12	1,211·33	1,299·79	..	
Do. ..	..	Sundry claims	..	..	21·00	10·71	..	..	..	296·00	264·87	..	
Jillawarra ..	982N	Gibraltar Rock	..	463·50	28·20	306·75	..	..	525·44	28·20	306·75	..	
Do. ..	1126N	Lizard	..	58·28	11·00	64·28	..	..	58·28	11·00	64·28	..	
Do. ..	(904N)	Midge	..	..	15·00	101·90	..	..	207·45	51·35	725·82	..	
Do. ..	..	Voided leases	..	..	..	..	..	..	252·47	1,380·00	1,594·45	..	
Do. ..	..	Sundry claims	..	..	5·50	18·53	..	169·02	120·55	17·50	43·78	..	
Meeka Pools ..	1054N	Meeka Eldorado	..	..	55·58	36·03	..	..	..	111·58	82·27	..	
Do. ..	..	Sundry claims	..	..	44·83	49·12	..	..	2·84	207·33	180·28	..	
Meekatharra ..	597N	(Commodore)	..	..	..	..	..	..	..	498·00	1,268·71	..	
Do. ..	555N	Commodore Block	..	..	357·44	184·43	..	..	..	636·44	1,207·25	..	
Do. ..	477N	(Fenian)	..	..	..	..	..	..	..	8,831·75	18,289·22	..	
Do. ..	477N, 814N ..	Fenian leases	..	..	16,237·00	15,945·59	..	..	..	37,280·00	43,250·26	..	
Do. ..	912N	Globe	..	..	307·35	492·84	..	..	..	362·35	525·61	..	
Do. ..	(962N), 963N ..	Golden Bar leases	..	..	24·74	6·69	..	..	..	24·74	6·69	..	
Do. ..	1163N	Golden Bracelet	..	..	247·97	354·20	..	..	..	247·97	354·20	..	
Do. ..	313N	Halcyon	..	..	..	..	..	..	2·11	3,461·75	1,415·71	..	
Do. ..	635N	Halcyon Extended	..	..	16·00	12·61	..	..	..	637·50	735·18	..	
Do. ..	236N	Haveluck	..	..	484·97	298·59	..	..	..	3,735·22	2,363·82	..	
Do. ..	475N	(Ingliston Consols Extended) ..	..	..	..	..	..	..	..	1,536·25	4,248·25		·30
Do. ..	475N, 515N, 729N, 822N	Ingliston Consols Extended leases	..	..	13,693·00	10,314·26	..	..	..	31,817·50	26,061·42	..	
Do. ..	(544N)	Ingliston Consols South ..	..	..	..	..	..	..	..	35·50	43·09	..	
Do. ..	398N	(Ingliston Extended)	..	..	..	..	..	..	..	1,320·25	1,106·46	..	
Do. ..	398N, 437N, 462N, 529N, 539N, 847N, 881N, 1033N	Ingliston Extended G.Ms., Ltd. ..	..	..	9,226·75	6,546·98	..	..	..	66,317·75	34,000·03	..	
Do. ..	637N	Ingliston South Extended ..	..	..	..	..	..	..	..	10·00	10·60	..	
Do. ..	507N	Ingliston United	..	..	..	..	..	..	..	293·25	147·95	..	
Do. ..	1115N	King of the Hills	..	..	25·00	77·46	..	..	..	25·00	77·46	..	
Do. ..	852N	Lone Hand	..	·50	103·75	94·11	..	..	·50	305·85	447·63	..	
Do. ..	915N	Macquarrie	..	..	1,310·88	539·22	..	..	..	3,123·88	792·33	..	
Do. ..	734N	Macquarrie North	..	22·22	..	..	..	..	29·85	59·00	10·48	..	
Do. ..	533N	Marmont	..	..	7,272·00	5,551·65	..	..	..	36,971·00	29,381·06	..	
Do. ..	580N	(Marmont Extended)	..	..	..	..	..	..	..	43·00	38·03	..	
Do. ..	580N, 888N ..	Marmont Extended leases ..	..	..	..	..	..	..	..	152·00	129·61	..	
Do. ..	969N	Multum in Parvo	..	..	..	..	..	..	..	266·00	37·64	..	
Do. ..	93N	N 93	..	..	308·36	220·98	..	..	36·47	6,464·36	3,372·11	..	
Do. ..	(832N)	Occidental	..	..	..	..	..	..	..	319·50	73·12	..	
Do. ..	372N	Pioneer	..	..	463·94	445·10	..	..	..	5,904·19	5,860·44	..	
Do, ..	(890N)	(Pioneer Continuation) ..	..	..	..	..	..	..	..	110·50	33·93	..	
Do. ..	(743N, 832N, 890N)	Pioneer North leases	..	..	13·37	4·20	..	..	..	75·37	18·97	..	
Do. ..	(866N)	Pioneer South	..	..	..	..	..	..	..	43·50	23·35	..	
Do. ..	931N	Queen of the Hills	..	..	..	..	..	..	..	549·00	158·59	..	
Do. ..	989N	Radium	..	..	69·95	45·83	..	..	..	117·95	51·70	..	
Do. ..	1072N	Wayback	..	..	48·50	32·43	..	..	..	48·50	32·43	..	
Do. ..	..	Voided leases	..	..	..	..	..	2·00	140·22	15,706·36	15,530·63		3·00
Do. ..	..	Sundry claims	..	3·67	95·73	109·23	..	177·68	3·67	1,693·58	1,164·59	..	
Munara Gully	...	Voided leases	..	..	..	..	..	..	..	13,167·75	6,489·65	..	
Do. ...	...	Sundry claims	..	..	..	..	..	..	7·95	63·00	21·75	..	

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

Murchison Goldfield—*continued.*

NANNINE DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Nannine	791N	Black Snake	..	..	113·00	32·08	..	..	..	915·60	325·75	..
Do.	273N	(Caledonian)	..	..	..	..	..	..	..	887·00	1,225·50	..
Do.	8N	Caledonian Extended	..	..	30·00	4·44	..	..	..	1,753·00	2,580·95	..
Do.	273N, 543N	Caledonian leases	..	..	1,789·49	713·42	..	..	..	4,582·99	1,833·06	..
Do.	817N	Champion South	..	..	1,040·00	240·71	..	..	19·19	1,413·00	414·57	..
Do.	(1028N)	Iron Clad	..	..	..	..	..	..	..	18·50	4·10	..
Do.	1039N	Irymple	..	..	..	..	..	..	11·53	..	..	..
Do.	(972N)	Klondyke	..	..	..	..	..	..	41·53	12·00	25·82	..
Do.	617N	Lady Mary line of reef	..	..	..	..	..	..	..	478·00	157·41	..
Do.	(1043N)	(Queen)	..	..	231·00	19·20	..	..	..	231·00	19·20	..
Do.	16N, 25N, 166N	Royalist Consolidated and Nannine leases	..	..	2,094·00	1,493·28	..	..	..	19,336·60	22,876·59	127·60
Do.	25N	(Royal Consolidated)	..	..	..	..	..	..	19·18	762·53	3,500·70	..
Do.	984N	Welcome Stranger	..	..	160·00	116·19	..	..	15·00	249·00	190·83	..
Do.	..	Voided leases	..	..	..	..	..	34·02	255·52	55,714·90	32,447·86	39·85
Do.	..	Sundry claims	..	..	31·00	5·26	..	7·63	54·78	2,049·70	1,655·58	..
Quinn's	835N	Commonwealth	..	..	392·00	208·09	..	..	..	638·00	443·38	..
Do.	(1032N)	Corona	..	..	100·50	39·76	..	..	..	156·50	87·44	..
Do.	994N	Kaladbro	..	45·81	128·10	114·73	..	..	45·81	128·10	114·73	..
Do.	(905N)	Millionaire	..	..	..	..	..	..	1·50	27·00	6·73	..
Do.	(1013N, 1014N)	Millionaire G.M. Co., N.L.	..	..	41·00	7·69	..	..	..	41·00	7·69	..
Do.	1107N	Murray	..	..	15·00	9·89	..	..	..	15·00	9·89	..
Do.	1055N	Parramatta	..	..	480·00	345·45	..	..	..	480·00	345·45	..
Do.	622N	Phœnix	..	..	970·00	218·81	..	..	..	4,081·00	1,844·24	90·70
Do.	776N	Phœnix Extended	..	..	1,506·00	556·62	..	..	..	2,799·11	1,150·24	..
Do.	(958N)	Prince Dagmar	..	..	..	..	..	..	..	159·00	65·37	..
Do.	843N	Princess Dagmar	..	..	282·00	55·59	..	..	..	1,392·00	596·99	..
Do.	..	Voided leases	..	..	..	..	..	7·30	270·32	2,260·75	1,265·59	..
Do.	..	Sundry claims	..	65·81	62·00	31·19	..	2·25	363·04	375·00	197·50	..
Stake Well	(1128N)	Castlemaine United	..	5·39	16·00	11·77	..	..	5·39	16·00	11·77	..
Do.	(566N)	Kohinoor	..	..	640·00	236·43	..	..	..	2,761·50	1,099·42	..
Do.	593N	(Koh-i-Noor South)	..	..	..	..	..	..	..	2,714·50	991·63	..
Do.	593N, 604N	Kohinoor South G.M. Co., N.L.	..	..	3,417·50	1,848·63	..	..	..	14,346·50	6,498·93	..
Do.	..	Voided leases	..	..	..	..	..	..	194·73	1,503·50	934·32	..
Do.	..	Sundry claims	..	..	..	..	..	..	14·14	72·00	62·83	..
Star of the East	..	Voided leases	..	..	..	..	..	..	..	27,244·00	20,305·40	..
Do.	..	Sundry claims	..	..	43·00	9·36	..	..	..	51·00	13·12	..
Yaloginda	834N	Black Jack	..	..	..	..	..	..	332·86	19·00	1,112·80	..
Do.	833N	Black Jack South	..	59·24	..	..	..	..	59·24	9·60	113·72	..

Do. ..	1084N	Chunderloo	..	..	59·30	36·27	..	..	..	59·30	36·27	..
Do. ..	760N	Criterion	..	..	115·11	65·04	..	..	..	627·11	400·98	..
Do. ..	708N, (731N) ..	Gibraltar leases	..	..	..	..	..	..	..	626·50	97·11	..
Do. ..	937N	Hornsby	..	..	323·00	90·35	..	..	..	412·00	128·71	..
Do. ..	(666N)	Karangahaki	..	..	..	..	..	..	..	12,627·50	6,201·23	..
Do. ..	771N	Kelpy	..	..	..	..	..	..	..	70·00	31·28	..
Do. ..	897N	(Lady Mary)	..	..	43·00	11·04	..	..	..	77·00	31·06	..
Do. ..	899N	Maranui	..	..	52·00	51·87	..	..	..	212·00	261·11	..
Do. ..	923N	New Chum	..	..	301·00	56·60	..	..	62·80	384·50	258·43	..
Do. ..	(1053N)	Port Phillip	..	..	28·50	4·09	..	..	..	28·50	4·09	..
Do. ..	(1062N)	Problem	..	..	..	..	..	..	..	105·00	10·77	..
Do. ..	541N	Revenue North	..	..	122·58	62·59	..	..	..	878·08	525·31	..
Do. ..	709N	(Rocklee)	..	..	..	..	..	..	..	336·00	273·30	..
Do. ..	709N, 857N ..	Rocklee leases	..	..	194·31	150·28	..	..	·44	487·81	314·10	..
Do. ..	857N	(Rock Lee South)	..	..	..	..	..	..	..	41·00	34·85	..
Do. ..	891N	Romsey	..	..	143·03	47·97	..	..	..	490·03	222·21	..
Do. ..	(845N)	Saracen	..	..	..	..	..	..	..	60·00	9·93	..
Do. ..	675N	(Two Bells)	..	..	..	..	..	..	..	154·50	200·70	..
Do. ..	810N	Two Bells North	..	4·38	84·72	77·53	..	..	6·13	186·72	190·96	..
Do. ..	675N, 859N ..	Yaloginda Consols G.M. Co., Ltd. ..	..	..	..	..	..	..	..	58·00	31·16	..
Do. ..	..	Voided leases	..	..	..	..	..	..	1·90	275·00	217·39	..
Do. ..	..	Sundry claims	..	..	92·99	31·72	..	..	36·53	731·89	500·98	..
		From District generally :—										
		Sundry parcels treated at :										
		Champion Cyanide Works	..	..	..	..	..	..	..	..	856·44	1·04
		Champion Extended Cyanide Works ..	..	..	..	..	..	..	..	..	149·71	6·22
		Karangahaki Works	..	..	..	..	..	..	..	..	42·06	..
		Purcell's Cyanide Works	..	..	..	302·53	..	..	..	..	405·95	..
		Margueritta Cyanide Works	..	..	..	..	..	..	..	..	21·08	..
		State Battery—Meekatharra	..	..	..	1,333·94	..	..	..	14·00	7,276·32	19·00
		State Battery—Nannine	..	..	..	..	..	..	..	..	319·11	..
		Various Works	..	..	..	..	..	..	..	139·75	2,076·68	334·91
		Reported by Banks and Gold Dealers	102·09	..	..	..	..	8,257·45	..	..	..	..
		Total	**102·09**	**878·66**	**71,342·32**	**53,261·04**	..	**8,750·68**	**6,905·71**	**516,625·51**	**419,636·27**	**1,174·98**

DAY DAWN DISTRICT.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Day Dawn ..	(480D)	Ballarat	..	..	10·50	8·45	..	..	..	10·50	8·45	..
Do. ..	478D	Bulldog	..	·41	23·25	5·46	..	..	·41	23·25	5·46	..
Do. ..	389D	(Creme D'Or)	..	..	..	..	..	..	..	150·00	175·18	..
Do. ..	389D, 421D, 422D	Creme D'Or leases	..	..	..	180·37	..	..	..	1,208·00	1,273·21	..
Do. ..	14D	(Crœsus)	..	..	..	..	..	..	..	1,138·00	1,640·41	..
Do, ..	488D	East Fingall	..	..	99·37	34·83	..	..	..	99·37	34·83	..
Do. ..	(26D, 264D, 265D, 319D, 323D, 344D, 352D, 411D)	(East Fingall G.Ms., Ltd.)	..	..	..	..	..	..	..	1,208·00	773·29	..

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

Murchison Goldfield—*continued.*

DAY DAWN DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Day Dawn ..	(26D, 264D) ..	East Fingall G.Ms., Ltd.	..	..	9·00	·89	..	..	..	9·00	·89	..
Do. ..	(26D)	(Eureka No. 5)	..	..	..	..	..	..	..	1,280·25	1,292·49	..
Do. ..	(474D)	Golden Ridge	..	..	50·75	12·65	..	..	..	50·75	12·65	..
Do. ..	1D, 2D, 86D, 87D, 99D, 119D, 129D, 158D, 159D, 170D, 185D, 191D, 209D, 210D, 211D, 212D, 213D, 224D, 225D, 249D, 424D, 453D, 455D, (467D)	Great Fingall Consolidated, Ltd. ..	..	..	91,026·00	36,767·41	11,616·73	..	..	1,582,086·00	1,053,215·87	141,367·98
Do. ..	464D	Lone Hand	..	112·74	245·50	251·24	..	..	190·25	427·50	625·88	..
Do. ..	477D	Lone Hand South	..	6·17	79·50	68·75	..	..	6·17	79·50	68·75	..
Do. ..	14D, 138D, 166D, 167D, (180D), 254D, 255D, (256D), 260D, (337D), 432D	Murchison Associated G.Ms., Ltd. ..	..	..	464·00	113·68	..	..	..	5,878·50	2,840·76	..
Do. ..	321D	Richmond	..	..	..	..	..	..	4·12	..	..	..
Do. ..	119D	(West Fingall No. 6) ..	..	..	..	..	..	..	..	43·00	15·32	..
Do. ..	..	Voided leases	..	..	..	..	..	123·81	310·08	28,876·45	19,264·44	·24
Do. ..	..	Sundry claims	..	..	195·35	117·73	..	..	125·32	1,072·60	968·32	..
Island ..	446D	Central	..	..	..	..	..	5·81	·63	..	..	..
Do. ..	443D	Eureka	..	..	11·50	4·52	..	51·08	50·78	65·00	724·78	..
Do. ..	407D	First Chip	..	..	89·38	44·53	..	..	269·85	171·26	793·42	..
Do. ..	..	Voided leases	..	..	..	..	..	456·43	288·30	28,803·00	43,370·60	..
Do. ..	..	Sundry claims	..	..	31·44	4·80	..	17·74	130·01	39·94	46·82	..
Mainland ..	450D	Austin Hill	..	..	104·73	39·53	..	..	..	238·73	240·21	..
Do. ..	(482D)	Kestrel	..	..	7·00	1·06	..	..	..	7·00	1·06	..
Do. ..	..	Voided leases	..	..	..	..	..	·41	1,821·46	7,026·40	22,888·24	..
Do. ..	..	Sundry claims	..	·76	55·45	29·68	..	3·24	8·40	77·45	89·03	..
Webb's Patch	..	Voided leases	..	..	..	..	..	4·90	83·76	5,748·50	4,850·37	..
Do. ..	..	Sundry claims	..	5·27	..	..	..	..	111·50	61·00	300·51	..
		From District generally :—										
	Sundry parcels treated at : Various Works		..	..	..	..	..	..	16·61	940·75	1,537·30	..
	Reported by Banks and Gold Dealers		136·48	..	..	..	..	1,432·03	3·48	..	·77	..
		Total	**136·48**	**125·35**	**92,502·72**	**37,685·58**	**11,616·73**	**2,095·45**	**3,421·13**	**1,666,819·70**	**1,157,059·31**	**141,368·22**

MOUNT MAGNET DISTRICT.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Lennonville ..	(1014M)	Boshter	..	..	10·00	1·81	..	..	..	10·00	1·81	..
Do. ..	(1000M)	City View	..	..	6·00	6·70	..	..	..	57·00	55·61	..
Do. ..	964M	Empress	..	..	108·00	590·11	..	..	..	208·00	843·88	..
Do. ..	767M	(Galtee Moore)	..	..	..	..	..	..	6·80	3,025·00	1,180·85	..
Do. ..	767M	Galtee Moore	..	..	1,477·00	207·48	..	..	..	3,655·00	721·91	..
Do. ..	963M	Galtee Moore Extended ..	..	..	485·00	74·74	..	..	..	867·00	149·86	..
Do. ..	767M, (807M) ..	(Galtee Moore leases) ..	..	..	..	..	..	..	..	578·00	171·97	..
Do. ..	(932M)	Good Hope	..	..	..	..	..	..	..	680·00	340·51	..
Do. ..	(985M)	Moonstone	..	..	12·25	3·86	..	..	..	93·25	37·63	..
Do. ..	1038M	Sunrise	..	..	90·00	75·31	..	..	..	90·00	75·31	..
Do. ..	(877M)	Victoria	..	..	18·00	15·58	..	..	1·74	212·90	190·25	..
Do. ..	971M	Wheel of Fortune	..	..	37·00	33·14	..	..	..	89·00	52·71	..
Do. ..	(1008M)	Wheel of Fortune North ..	..	..	..	..	..	..	..	74·50	17·78	..
Do. ..	..	Voided leases	..	..	..	..	..	..	3,184·07	120,981·77	106,471·42	458·82
Do. ..	..	Sundry claims	..	8·31	96·90	84·83	..	..	21·67	1,465·80	797·05	..
Mt. Magnet ..	(1003M)	Alicia	..	..	28·15	4·85	..	..	..	146·15	19·94	..
Do. ..	317M	(Birthday)	..	..	..	..	..	..	..	184·50	29·11	..
Do. ..	314M, 317M, 320M, 988M, 989M	(Black Hill Development Co., Ltd.) ..	..	..	3,500·00	1,707·94	..	..	..	15,702·43	9,416·32	..
Do. ..	(1023M)	Boogardie	..	..	12·00	87·52	..	..	..	12·00	87·52	..
Do. ..	1024M	Boogardie View	..	766·13	42·00	437·94	..	..	766·13	42·00	437·94	..
Do. ..	1021M	Boomer	..	..	120·00	29·53	..	..	..	120·00	29·53	..
Do. ..	(953M)	Brittannia	..	..	..	..	..	..	..	189·00	50·55	..
Do. ..	507M	(Bronzewing)	..	..	..	..	..	..	43·48	..	..	..
Do. ..	853M	(Brown Hill North)	..	..	..	..	..	..	..	771·02	417·40	..
Do. ..	853M	Brown Hill North	..	..	..	..	..	..	..	106·00	9·33	..
Do. ..	853M, (882M) ..	Brown Hill North leases ..	..	..	..	..	..	..	..	1,269·50	274·29	..
Do. ..	979M	(Carbine)	..	..	..	..	..	..	..	167·50	137·29	..
Do. ..	979M, (980M) ..	Carbine leases	..	..	43·50	17·21	..	..	..	448·00	279·14	..
Do. ..	942M	(Coronet)	..	..	..	..	..	..	..	848·00	256·28	..
Do. ..	490M	(Cushie Doo)	..	..	..	..	..	..	76·71	166·00	263·35	..
Do. ..	905M	Cushie Doo East	..	..	16·40	9·23	..	..	..	46·40	14·64	..
Do. ..	490M, 507M ..	Cushie Doo leases	..	..	13·00	9·35	..	..	73·65	1,591·02	651·46	3·05
Do. ..	1032M	Early Bird	..	114·00	1·00	355·17	..	..	114·00	1·00	355·17	..
Do. ..	(1002M)	Emancipator	..	..	..	..	..	..	..	58·00	10·47	..
Do. ..	752M, 826M, 833M, 1025M	Great Boulder No. 1, Ltd.	..	..	25,115·00	6,766·20	..	..	..	85,369·50	24,785·10	..
Do. ..	761M	Havelock	..	77·04	27·00	16·36	..	..	102·04	773·30	646·22	..
Do. ..	(771M)	Jupiter	..	..	..	..	..	..	..	1,148·58	857·55	..
Do. ..	1016M	Mabel Dorothy	..	11·20	48·00	62·76	..	..	11·20	72·00	97·32	..
Do. ..	1013M	Mars	..	..	84·60	38·81	..	..	..	105·60	43·33	..

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

Murchison Goldfield—*continued.*

MOUNT MAGNET DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Mt. Magnet ..	997M	Morning Star Extended ..	..	..	118·00	37·45	..	..	..	118·00	37·45	..
Do. ..	314M, 317M, 320M, 942M, 972M, 988M, 989M	Morning Star Gold Mines, Ltd. ..	..	..	7,359·00	3,059·23	..	..	..	7,359·00	3,059·23	..
Do. ..	314M, 317M, 320M	(Morning Star leases)	..	..	..	..	..	..	..	63,938·00	35,059·35	..
Do. ..	972M	(Morning Star North)	..	..	..	..	..	..	..	13·50	37·10	..
Do. ..	314M, 317M, 320M	(Morning Star Quartz Co., N.L.) ..	..	..	..	..	..	..	..	50,750·59	28,994·38	655·73
Do. ..	(1017M)	Mount View	..	..	..	..	..	..	22·50	35·00	16·48	..
Do. ..	445M	Neptune	..	..	..	..	..	..	868·97	1,802·41	2,386·60	..
Do. ..	1039M	Princess Royal	..	38·44	46·00	157·62	..	..	38·44	46·00	157·62	..
Do. ..	892M	Revenue	..	..	..	..	..	..	..	173·00	888·75	..
Do. ..	911M	(Saturn)	..	..	..	..	..	..	..	305·00	78·29	..
Do. ..	911M	(Saturn: Black Hill Development Co., Ltd.)	..	..	..	..	..	..	..	64·00	38·50	..
Do. ..	911M	Saturn: Morning Star Gold Mines, Ltd.	..	..	566·00	111·58	..	..	..	566·00	111·58	..
Do. ..	696M	Sirdar	..	..	403·00	80·77	..	..	..	10,150·50	3,177·25	..
Do. ..	1027M	Star View	..	..	125·50	53·29	..	..	..	125·50	53·29	..
Do. ..	752M	(St. George)	..	..	..	..	..	..	..	3,335·00	1,439·07	..
Do. ..	..	Voided leases	..	..	..	..	..	27·83	633·70	49,067·39	56,260·02	13·83
Do. ..	..	Sundry claims	..	..	112·50	81·38	..	..	208·94	9,400·71	5,695·84	..
Mt. Magnet East	1010M	Lady Maud	..	10·59	16·03	13·26	..	..	10·59	16·03	13·26	..
Do. ..	..	Voided leases	..	..	..	..	..	63·29	753·94	5,506·25	2,798·49	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	37·22	214·50	144·10	..
Moyagee ..	(1001M)	Comet	..	..	..	..	..	..	..	41·00	134·98	..
Do. ..	973M	Moonlight	..	..	33·88	100·07	..	..	..	137·63	631·89	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	1,513·60	977·43	..
Do. ..	..	Sundry claims	..	..	18·00	23·79	..	..	84·93	220·25	342·63	..
Youanme ..	..	Sundry claims	..	..	..	..	..	..	..	33·00	44·58	..
		From District generally :—										
		Sundry parcels treated at:										
		State Battery—Boogardie	..	..	..	528·95	..	..	..	45·01	6,748·96	..
		State Battery—Lennonville	..	..	..	59·18	..	..	..	18·06	6,283·73	..
		State Battery—Mt. Magnet	..	..	..	..	..	..	..	..	114·79	..
		Various Works	..	..	..	..	..	..	..	25·00	7,028·75	1·00
		Reported by Banks and Gold Dealers	39·93	..	..	..	..	1,289·04	·35	..	..	..
		Total	**39·93**	**1,025·71**	**40,188·71**	**14,943·00**	..	**1,380·16**	**7,061·07**	**446,444·65**	**313,032·19**	**1,132·43**

Yalgoo Goldfield.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Adavale		Sundry claims	..	..	..	..	..	..	..	10·00	12·56	..
Bilberatha		Voided leases	..	..	..	..	..	..	..	554·00	200·07	..
Carlaminda		Voided leases	..	..	..	..	..	..	..	947·32	524·72	3·30
Do.		Sundry claims	..	..	..	..	..	..	..	114·00	71·96	..
Field's Find	(588)	Commodore	..	1·27	..	..	..	..	7·85	71·00	67·94	..
Do.	414, 441, 442, 443	(Field's Find G.Ms., Ltd.)	..	..	..	..	..	..	..	30,579·00	20,437·49	..
Do.	414, 441, 442, 443	(Field's Reward G.Ms., Ltd.)	..	..	..	..	..	..	..	138·00	266·95	..
Do.	414, 441, 442, 443, 519	Reward G.Ms., Ltd.	..	..	..	..	..	..	60·78	2,409·00	2,307·54	..
Do.		Voided leases	..	..	..	..	..	..	..	31·50	11·64	..
Do.		Sundry claims	..	..	..	..	..	..	42·13	161·75	148·72	..
Goodingnow	607	Sweet William	..	2·16	4·85	81·59	..	..	2·16	4·85	81·59	..
Gullewa	170, 171, 174	(Monarch G.M. Syndicate)	..	..	..	..	..	..	..	12·00	9·04	..
Do.	170, 171, 174	(Monarch leases)	..	..	..	..	..	..	..	5,571·00	1,640·88	..
Do.	586	Shannadoah	..	..	197·00	159·16	..	..	..	644·00	497·03	..
Do.	170, 171, 174, 562, 576, 577, 578, 579	Victory United G.M. Co., N.L.	..	..	60·00	12·36	..	..	..	238·00	77·36	..
Do.		Voided leases	..	..	..	..	..	..	..	12,600·50	11,170·02	..
Do.		Sundry claims	..	..	..	..	..	..	..	169·50	127·99	..
Kirkalucka		Sundry claims	..	..	..	..	..	..	..	8·80	4·01	..
Melville		Voided leases	..	..	..	..	..	..	14·37	2,716·50	1,420·76	..
Do.		Sundry claims	..	..	..	..	..	11·55	..	238·00	158·11	..
Messenger's Patch	(580)	Black Johnson	..	..	..	..	..	..	18·71	..	..	..
Do.	(581)	Crescent	..	..	..	..	..	..	..	212·50	45·07	..
Do.	(596)	Mug's Blow	..	..	..	..	..	..	..	84·00	21·13	..
Do.		Voided leases	..	..	..	..	..	..	280·17	290·70	239·69	..
Do.		Sundry claims	..	27·94	..	..	..	463·12	27·94	304·30	181·28	..
Noongal	600	Perseverance	..	..	50·00	6·88	..	..	..	50·00	6·88	..

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

Yalgoo Goldfield—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Nyounda ..	..	Voided leases	..	..	..	..	..	..	217·63	416·00	183·91	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	18·00	21·67	..
Pinyalling ..	501, 523, 533, 534, 536, 537,	Baron Rothschild G.Ms., Ltd. ..	..	..	..	..	..	..	..	216·00	40·60	..
Do. ..	501	(Beryl)	..	..	..	..	..	..	..	432·00	249·01	..
Do. ..	..	Voided leases	..	..	..	..	..	..	1·36	1,543·50	577·47	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	42·50	22·14	..
Rothesay ..	..	Voided leases	..	..	..	..	..	..	..	8,971·00	3,300·07	..
Wadgingarra	..	Voided leases	..	..	..	..	..	..	..	541·61	600·91	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	71·50	38·21	..
Yalgoo ..	495	(Ivanhoe)	..	..	..	..	..	..	..	6·00	5·98	..
Do. ..	495, 518 ..	Ivanhoe G.M. Co., N.L., Yalgoo ..	..	..	..	26·73	..	..	..	697·00	236·19	..
Do. ..	518	(Ivanhoe Extended: Ivanhoe G.M. Co., N.L., Yalgoo)	..	..	..	..	..	..	..	123·00	41·69	..
Do. ..	549	Royal Mint	..	..	3·00	1·69	..	..	..	291·50	179·62	..
Do. ..	..	Voided leases	..	..	..	..	..	..	·36	4,732·50	9,412·11	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	4·14	362·50	158·63	..
Yuin ..	409, 469, 470 ..	(Royal Standard leases) ..	..	..	..	..	..	..	..	20,289·50	11,113·24	..
Do. ..	409, 469, 470, 524, 525	Royal Standard leases ..	..	..	210·00	294·63	..	..	..	210·00	294·63	..
Do. ..	..	Voided leases	..	..	..	..	..	..	127·12	139·00	20·76	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	4·70	276·50	57·88	..
		From Goldfield generally :—										
		Sundry parcels treated at:										
		Royal Mint Cyanide Plant	..	..	..	..	..	..	..	..	32·64	..
		Wright's Works—Melville	..	..	..	44·95	..	..	..	..	44·95	..
		Various Works	..	..	..	..	..	9·42	..	664·00	961·86	..
		Reported by Banks and Gold Dealers	502·68	..	..	..	..	566·48	..	..	..	..
		Total	**502·68**	**31·37**	**524·85**	**627·99**	..	**1,050·57**	**809·42**	**98,203·83**	**67,324·60**	**3·30**

Mount Margaret Goldfield.

MOUNT MORGANS DISTRICT.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Australia United	..	Voided leases	..	..	..	..	..	..	1,911·63	15,863·19	23,228·34	1·76
Do. ..	..	Sundry claims	..	9·29	..	2·93	..	..	184·96	781·50	2,013·36	..
Federation Well	..	Voided leases	..	..	..	..	..	..	..	1,248·50	1,782·71	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	63·50	33·20	..
Korang ..	254F	Alicia	..	..	..	..	..	..	..	..	112·83	..
Do. ..	294F	Korang Queen	..	..	164·00	24·19	..	..	..	164·00	24·19	..
Do. ..	..	Voided leases	..	..	..	..	..	17·95	72·23	2,558·00	3,336·43	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	34·97	258·00	167·06	..
Mt. Margaret	277F	Bonanza	..	..	..	..	..	..	..	30·00	17·46	..
Do. ..	66F	Mt. Morven	..	..	..	117·23	..	·37	..	1,831·00	1,431·45	12·55
Do. ..	..	Voided leases	..	..	..	..	..	..	..	2,030·00	1,229·19	..
Do. ..	..	Sundry claims	16·61	34·63	..	..	..	16·61	44·03	365·50	281·86	..
Mt. Morgans..	278F	Australian	..	..	26·50	5·55	..	..	..	71·50	19·99	..
Do. ..	(285F)	David III.	..	..	..	..	..	..	..	..	4·52	..
Do. ..	6F	Lily of the Valley South: Westralia Mt. Morgans G.Ms., Co. Ltd.	..	..	..	..	..	..	..	1,587·50	808·18	..
Do. ..	6F	(Lily of the Valley South: Westralia Mt. Morgans Syndicate, Ltd.)	..	..	..	..	..	..	..	3,002·00	1,022·90	..
Do. ..	(8F)	Millionaire: Millionaire, Ltd. ..	..	..	..	108·25	..	..	..	12,387·00	6,576·69	..
Do. ..	29F, 30F ..	(Mt. Morgans Transvaal G.Ms., Ltd.)	..	..	..	..	..	..	..	3,276·00	1,133·47	..
Do. ..	29F, 30F ..	(Transvaal leases)	..	..	..	..	..	..	..	2,309·00	3,605·48	..
Do. ..	29F, 30F ..	(Transvaal leases)	..	..	..	..	..	..	..	5,526·75	1,516·54	..
Do. ..	29F, 30F, 260F, 261F	Transvaal leases	..	29·18	150·00	81·28	..	..	29·18	350·00	166·76	..
Do. ..	(100F)	(Turn of the Tide)	..	..	..	..	..	..	..	214·00	84·52	..
Do. ..	(287F)	Waratah	..	7·38	10·00	19·31	..	..	47·38	19·50	108·42	..
Do. ..	5F, 10F, 19F, 22F, 32F, 73F	Westralia Mt. Morgans G.Ms. Co., Ltd.	..	..	35·00	1,269·72	..	..	..	575,148·00	294,739·32	5,552·63
Do. ..	7F, 20F, 21F ..	Westralia Mt. Morgans G.Ms. Co., Ltd.	..	..	..	94·17	..	..	..	18,261·00	8,127·69	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	5,772·00	5,088·07	2·10
Do. ..	..	Sundry claims	..	..	5·00	16·79	..	6·61	22·66	1,117·25	1,021·81	..
Murrin Murrin	208F	(Alex Junior)	..	..	..	..	..	..	..	2,182·25	2,791·98	..
Do. ..	208F	(Alex Junior)	..	..	..	..	..	..	..	170·00	88·73	..
Do. ..	208F, (250F) ..	(Alex Junior leases)	..	..	..	..	..	..	..	4,981·00	3,504·29	..
Do. ..	195F	(Elbe)	..	..	..	..	..	..	..	60·00	116·41	..
Do. ..	195F	(Elbe)	..	..	..	..	..	..	..	12·00	59·17	..

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

Mount Margaret Goldfield—*continued.*

MOUNT MORGANS DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Murrin Murrin	195F, (197F) ..	(Elbe leases)	..	..	..	..	..	..	..	2,731·75	2,891·06	3·60
Do. ..	193F, 194F, 195F, 196F, 198F, 199F, 200F, (201F), 202F, 208F, 258F, (259F), 269F, (272F, 273F), 274F, (275F, 279F, 280F), 281F, (295F)	Hill's Proprietary, Ltd.	..	..	2,563·47	1,636·94	..	..	..	2,563·47	1,636·94	..
Do. ..	269F	(Hopeful)	..	..	31·00	25·78	..	..	..	31·00	25·78	..
Do. ..	194F	(Murrin Murrin Proprietary) ..	..	..	..	..	..	..	..	3,767·00	4,461·70	..
Do. ..	196F	(Perseverance)	..	..	..	..	..	..	..	6,074·50	6,198·52	..
Do. ..	200F	(Princess Alix)	..	..	..	..	..	..	..	4,893·00	8,839·80	20·00
Do. ..	200F	(Princess Alix)	..	..	..	..	..	..	..	22·93	175·01	..
Do. ..	200F, (213F) ..	(Princess Alix G.M. Co., Ltd.) ..	..	..	..	..	..	..	..	1,090·00	890·65	..
Do. ..	200F, (213F) ..	(Princess Alix leases) ..	..	..	..	..	..	..	44·33	929·25	1,873·51	..
Do. ..	193F	(Proprietary Extended) ..	..	..	..	..	..	..	..	1,454·50	1,172·33	..
Do. ..	193F, 194F, 198F, 199F, (201F), 202F	(Proprietary Extended leases) ..	..	..	1,523·00	1,890·22	..	..	..	43,813·00	21,760·15	6·00
Do. ..	..	Voided leases	..	..	..	..	..	10·43	178·60	50,592·07	41,905·75	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	154·48	786·75	756·17	..
Redcastle ..	..	Voided leases	..	..	..	..	..	4·49	436·54	2,509·95	2,169·63	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	103·58	116·00	155·56	..
		From District generally :—										
		Sundry parcels treated at :										
		Orotava Works—Kalgoorlie	..	..	..	..	..	..	..	..	14·16	..
		Various Works	..	..	..	..	..	..	..	788·50	2,995·91	84·03
		Reported by Banks and Gold Dealers	94·63	..	..	..	..	1,364·94	32·47	..	..	..
		Total	**111·24**	**80·48**	**4,507·97**	**5,292·36**	..	**1,421·40**	**3,297·04**	**783,803·61**	**462,165·65**	**5,682·67**

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Cardinia ..	..	Voided leases	..	..	..	..	..	..	1,568·29	1,628·24	3,550·42	..
Diorite King..	1179c, 1310c, 1340c	Bullfinch West G.M. Co., N.L. ..	..	..	..	4·00	..	..	..	..	4·00	..
Do. ..	(1355c)	Diabase	..	..	8·00	3·09	..	..	..	8·00	3·09	..
Do. ..	1172c	(Homeward Bound)	..	..	..	..	..	..	..	1,127·00	625·59	..
Do. ..	1179c	(King of the Hills)	..	..	..	..	..	..	..	1,412·00	1,342·45	..
Do. ..	1179c, 1310c, 1340c	(King of the Hills leases) ..	..	..	158·00	97·71	..	..	..	158·00	97·71	..
Do. ..	1172c, 1205c ..	Leeta G.M. Co., Ltd.	..	..	200·00	112·60	..	..	..	3,883·00	1,571·70	..
Do. ..	(1332c)	Middlesex	..	..	..	..	..	..	..	12·00	16·73	..
Do. ..	1220c	Mount Stirling	..	..	218·50	332·91	..	..	..	567·75	1,022·20	..
Do. ..	1336c	Queen of the Hills	..	..	140·00	178·60	..	..	..	313·00	481·92	..
Do. ..	..	Voided leases	..	..	..	..	..	..	774·66	24,394·03	23,374·65	..
Do. ..	..	Sundry claims	..	5·66	70·00	77·14	..	..	65·50	2,205·05	2,741·61	..
Dodger's Well	(1331c)	Champion	..	..	7·50	4·13	..	..	..	56·00	19·30	..
Do. ..	1317c	Ivy	..	..	51·00	61·74	..	..	..	139·50	112·67	..
Do. ..	(1270c)	Myrtle	..	..	6·00	9·58	..	..	..	186·25	651·35	..
Do. ..	..	Voided leases	..	..	..	..	..	..	54·97	537·80	970·87	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	3·37	581·25	356·04	..
Leonora ..	(1314c)	Auckland	..	..	15·00	56·96	..	..	..	128·60	194·19	..
Do. ..	1356c	Auckland	..	..	53·50	73·45	..	..	..	53·50	73·45	..
Do. ..	(1309c) ..	Camel	..	..	81·00	37·09	..	..	..	140·00	141·10	..
Do. ..	1288c	Casino	..	..	323·50	482·21	..	..	133·18	537·95	1,297·61	..
Do. ..	198c	(Eastern)	..	..	..	..	..	..	..	302·00	321·72	..
Do. ..	1360c	Federal Mint	..	..	6·00	6·03	..	..	..	6·00	6·03	..
Do. ..	210c, 253c ..	(Forest leases)	..	..	..	..	..	..	60·69	843·00	1,109·34	..
Do. ..	218c, 219c, 776c, 902c, 903c, 904c, (1106c, 1109c, 1110c, 1111c, 1142c, 1157c), 1167c	(Great Tower Hill G.Ms., Ltd.) ..	..	..	..	..	..	..	..	62,255·00	20,034·56	10·71
Do. ..	1357c	Gwalia North Consolidated ..	..	..	260·00	91·23	..	..	..	260·00	91·23	..
Do. ..	218c, 219c, 776c, 902c, 903c, 904c, 1167c	Gwalia Proprietary, Ltd.	..	..	150·00	98·48	..	..	..	244·00	111·12	..
Do. ..	(1056c)	(Harbour Lights)	..	..	..	..	..	..	..	6,989·25	1,665·07	..
Do. ..	(1056c)	Harbour Lights	..	..	236·50	65·56	..	..	..	236·50	65·56	..
Do. ..	1407c	Harbour Lights	..	..	285·00	48·70	..	..	..	285·00	48·70	..
Do. ..	(1056c, 1214c) ..	(Harbour Lights leases) ..	..	..	..	..	..	..	..	7,775·50	1,533·40	..
Do. ..	(1322c)	Jasper Hill	..	..	..	..	..	..	..	78·00	45·29	..
Do. ..	195c, 196c ..	Leonora Gold Blocks leases ..	..	..	1,239·00	675·48	..	..	..	14,390·00	13,041·94	..
Do. ..	210c, 253c ..	Leonora Main Reefs, Ltd.	..	..	44·00	205·33	..	..	..	14,630·00	5,897·43	..
Do. ..	(1358c)	Napoleon	..	..	8·00	66·81	..	..	..	8·00	66·81	..
Do. ..	1413c	Nil Desperandum	..	..	50·00	210·46	..	..	..	50·00	201·46	..

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

Mount Margaret Goldfield—*continued.*

MOUNT MALCOLM DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Leonora ..	(1315c)	North Gwalia	..	..	..	..	..	..	..	10·00	1·02	..
Do. ..	218c, 219c ..	(Octagon Explorers, Ltd.)	..	..	..	..	..	..	..	5,000·00	1,569·68	..
Do. ..	1217c	Ping Pong	..	..	186·00	351·51	..	..	..	1,271·50	2,279·89	..
Do. ..	1216c	Rajah	..	..	102·00	36·63	..	..	..	360·50	530·94	..
Do. ..	190c, 207c, 352c, 353c, 380c, 446c, 447c, 450c, 476c, 489c, 490c, 504c, 523c, 741c, 742c, 807c, 809c, 811c, 812c, 813c, 814c, 980c, 981c, 1225c, 1226c, 1227c, 1228c, 1229c, 1230c, 1231c, 1232c, 1291c, 1292c, 1341c, 1342c, 1343c, 1344c, 1345c, 1346c, 1347c	Sons of Gwalia, Ltd.	..	..	147,491·00	70,412·34	4,030·87	..	..	1,430,160·50	757,578·81	33,536·48
Do. ..	198c, 1082c ..	(Sons of Gwalia South G.M. Co., N.L.)	..	..	..	..	..	..	..	631·00	903·61	..
Do. ..	198c, 1082c, (1257c, 1258c), 1259c, (1284c, 1285c, 1300c, 1301c)	Sons of Gwalia South G.Ms., Ltd. ..	..	..	27,516·00	9,806·79	..	..	..	98,239·00	51,593·99	8·66
Do. ..	263c	Trump	..	..	326·00	1,384·59	..	..	..	495·00	1,979·72	..
Do. ..	263c, (774c, 793c)	(Trump leases)	..	..	..	..	..	..	..	21,794·45	16,002·07	..
Do. ..	1307c	Victor	..	39·62	163·50	205·51	..	..	71·40	179·55	254·22	..
Do. ..	..	Voided leases	..	..	..	..	..	..	532·09	8,397·65	5,895·65	..
Do. ..	..	Sundry claims	..	10·68	1,089·00	639·68	..	..	19·49	5,883·55	5,004·86	..
Malcolm ..	1362c	Alice	..	..	77·00	13·55	..	..	..	77·00	13·55	..
Do. ..	1294c	Great Northern	..	..	174·00	117·75	..	..	..	302·00	213·52	..
Do. ..	1175c	North Star: Malcolm Prospecting Co., N.L.	..	..	2,665·00	1,335·84	..	..	..	15,800·00	9,232·34	..
Do. ..	991c	Richmond Gem	..	..	22·50	86·82	..	..	..	8,968·00	7,347·21	..
Do. ..	(1306c)	Sunday	..	5·36	50·00	51·49	..	..	5·36	234·00	153·13	..
Do. ..	..	Voided leases	..	..	..	..	..	..	41·71	26,037·28	24,084·88	..
Do. ..	..	Sundry claims	..	..	22·15	89·90	..	..	6·64	2,674·40	1,936·21	..
Mertondale ..	648c	(Merton's Boulder, Ltd.)	..	..	..	..	..	..	..	160·00	117·64	..
Do. ..	(645c)	(Merton's Consols)	..	..	..	..	..	..	..	23·00	68·27	..
Do. ..	638c, 644c, (645c), 648c, 653c, (1146c, 1178c)	(Merton's Reward G.M. Co., Ltd.) ..	..	..	244·00	426·31	..	..	..	75,476·50	37,151·80	1,497·58

Do. ..	638c	(Merton's Reward North) ..	..	..	..	..	..	..	..	11,396·50	20,033·09	..
Do. ..	638c, 644c, 648c, 653c	Merton's Reward North leases..	..	..	294·00	446·06	..	..	..	294·00	446·06	..
Do. ..	648c	(Merton's Reward No. 1 North)	..	..	..	..	..	..	..	122·00	89·97	..
Do. ..	(1311c)	Toss-up	..	..	..	..	..	..	..	99·50	51·82	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	882·50	610·81	..
Do. ..	..	Sundry claims	..	21·05	94·00	43·06	..	..	51·91	1,046·00	716·41	..
Mt. Clifford ..	1337c	Just-in-Time	..	312·21	10·00	272·72	..	..	791·79	10·00	272·72	..
Do. ..	1329c	Victory No. 1	..	..	106·00	1,163·10	..	..	..	133·21	4,956·32	..
Do. ..	(1305c)	Yes-No	..	..	..	..	..	..	451·45	28·00	346·27	..
Do. ..	..	Voided leases	..	..	..	..	..	..	121·21	3,227·50	6,377·23	..
Do. ..	..	Sundry claims	..	..	45·00	172·57	..	9·75	208·44	562·25	871·33	..
Pig Well ..	(1271c)	Ada Crossley	..	..	..	..	..	..	..	168·00	15·47	..
Do. ..	(1272c)	Ada Crossley North	..	..	..	..	..	..	..	42·00	10·96	..
Do. ..	1089c	(Gambier Lass)	..	..	..	..	..	..	..	4,320·50	4,485·26	26·40
Do. ..	1089c, 1210c ..	Gambier Lass leases	..	..	..	..	..	..	..	4,415·50	3,588·50	..
Do. ..	(1326c)	Morning Star	..	..	..	..	..	..	..	21·00	5·03	..
Do. ..	1295c	(Starlight)	..	..	..	..	..	..	..	181·50	695·73	..
Do. ..	1295c, 1324c ..	Starlight leases	..	..	49·50	204·55	..	..	..	49·50	204·55	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	4,015·07	5,432·98	37·28
Do. ..	..	Sundry claims	..	..	67·00	35·70	..	..	34·06	2,391·40	1,036·51	..
Randwick ..	(1334c)	Kia-Ora	..	1·14	..	..	..	..	1·14	118·00	55·72	..
Do. ..	(978c)	Randwick	..	..	..	..	..	..	234·23	4,096·75	2,312·65	..
Do. ..	1401c	Triangle	..	..	·15	61·84	..	..	..	···15	61·84	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	3,667·00	4,745·98	..
Do. ..	..	Sundry claims	..	..	56·00	37·17	..	66·57	79·80	1,236·35	844·89	..
Webster's Find	..	Voided leases	..	..	..	..	..	25·00	..	21,760·00	13,970·17	..
Do. ..	..	Sundry claims	..	..	53·00	35·49	..	..	15·73	1,347·30	911·15	..
Wilson's Creek	..	Voided leases	..	..	..	..	..	..	..	333·50	168·27	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	4·24	5·00	19·04	..
Wilson's Patch	1411c	All Nations	..	..	339·00	96·28	..	..	..	339·00	96·28	..
Do. ..	1120c	(Great Western)	..	..	..	..	..	..	..	4,770·00	3,206·85	..
Do. ..	1220c, 1127c, 1130c	(Great Western leases)	..	..	..	..	..	..	..	12,698·50	5,572·69	..
Do. ..	1220c, 1127c, 1130c	Great Western (Wilson's Patch) G.M., Ltd.	..	..	2,336·50	710·93	..	..	..	2,453·50	816·80	..
Do. ..	(1348c)	Teutonic	..	..	48·00	9·15	..	..	..	73·00	13·42	..
Do. ..	..	Voided leases	..	..	..	..	..	..	99·38	2,206·10	1,187·85	1·05
Do. ..	..	Sundry claims	..	..	72·50	28·06	..	..	1·50	626·00	334·58	..
		From District generally :—										
		Sundry parcels treated at :										
		Allsop and Howell's Works—Kalgoorlie	..	..	..	..	..	..	..	..	5·00	..
		Drew and Mason's Cyanide Works	..	..	..	..	..	..	..	..	93·57	..
		King of the Hills Works	..	..	..	204·33	..	..	..	19·00	749·03	..
		Lang's Cyanide Works	..	..	..	..	..	..	..	..	751·23	..
		Mt. Clifford Battery	..	..	..	..	..	..	..	..	526·76	..
		Mulcahy's Cyanide Works	..	..	..	..	..	..	..	..	116·47	..
		Orotava Works—Kalgoorlie	..	..	..	..	..	..	..	..	15·90	..
		Randwick Battery	..	..	..	3·77	..	..	..	88·50	124·98	..
		State Battery—Leonora	..	..	50·00	832·34	..	..	..	95·50	8,399·77	98·14
		State Battery—Pig Well	..	..	..	15·30	..	..	..	22·00	2,297·22	20·12
		Various Works	..	..	..	..	..	..	..	242·00	1,398·34	..
		Reported by Banks and Gold Dealers	94·15	..	..	..	..	1,679·06	131·00	..	..	..
		Total	**94·15**	**395·72**	**187,359·30**	**92,321·42**	**4,030·87**	**1,780·38**	**5,563·23**	**1,938,199·13**	**1,105,845·19½**	**35,236·42**

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

Mount Margaret Goldfield—*continued.*

MOUNT MARGARET DISTRICT.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Burtville ..	(1857T)	Away from Home	..	7·83	..	..	..	..	7·83	6·00	7·52	..
Do. ..	1883T	Birthday Gift	..	..	10·00	2·72	..	..	..	10·00	2·72	..
Do. ..	1832T	Boomerang	..	..	109·00	156·87	..	..	..	342·00	511·81	..
Do. ..	(1770T)	(Dog Star)	..	..	..	..	..	..	..	10·00	2·21	..
Do. ..	(1770T, 1778T) ..	Dog Star leases	..	..	..	..	..	..	..	436·00	267·18	..
Do. ..	1553T	Golden Bell	..	..	..	..	..	..	..	2,463·00	6,889·87	..
Do. ..	1851T	Golden Bell North	..	..	880·00	1,167·47	..	..	..	880·00	1,167·47	..
Do. ..	(1859T)	Intricate	..	..	..	..	..	..	..	20·00	15·48	..
Do. ..	1010T	(Karridale)	..	..	..	..	..	..	..	3,727·08	11,278·43	200·00
Do. ..	1010T, 1655T ..	Karridale leases	..	..	101·50	236·19	..	..	..	273·50	488·90	..
Do. ..	1655T	(Karridale South)	..	..	..	..	..	..	..	17·00	17·20	..
Do. ..	1869T	Lone Hand	..	..	161·00	267·72	..	..	..	161·00	267·72	..
Do. ..	(1782T)	Maori King	..	..	..	..	..	..	..	127·00	193·85	..
Do. ..	943T	(Mikado)	..	..	..	..	..	..	..	342·00	206·14	..
Do. ..	943T, 1124T ..	Mikado G.M. Co., Ltd.	..	..	336·00	153·06	..	..	..	11,417·10	9,111·15	8·30
Do. ..	1044T	Nil Desperandum	..	..	517·00	776·74	..	..	..	3,799·00	7,022·28	..
Do. ..	1885T	Nulla Nulla	..	..	43·00	23·15	..	..	..	43·00	23·15	..
Do. ..	(1887T)	Olive Branch	..	..	12·00	41·20	..	..	..	12·00	41·20	..
Do. ..	1841T	Reedemed	..	24·26	129·50	166·55	..	..	24·26	404·50	471·48	..
Do. ..	(1695T)	Rock of Ages	..	..	..	..	..	..	..	689·00	891·98	..
Do. ..	1871T	Rock of Ages	..	..	34·00	17·17	..	..	..	34·00	17·17	..
Do. ..	781T	(Sailor Prince)	..	..	..	..	..	1·27	..	4,771·00	4,725·83	16·00
Do. ..	1089T	Savage Captain	..	..	19·00	34·97	..	..	..	1,768·20	5,194·01	..
Do. ..	1644T, 1747T ..	Specimen Hill leases	..	..	..	..	..	..	..	2,628·00	1,397·73	..
Do. ..	(1860T)	True Blue	..	..	22·00	34·64	..	..	..	55·00	55·98	..
Do. ..	..	Voided leases	..	..	..	..	..	1·02	120·95	22,652·80	40,979·30	..
Do. ..	..	Sundry claims	..	..	126·00	146·24	..	..	54·75	2,502·15	2,426·56	..
Duketon ..	1875T	Mulga Queen	..	..	264·00	143·90	..	..	..	264·00	143·90	..
Do. ..	..	Voided leases	..	..	..	..	..	..	110·53	29,502·00	20,300·54	..
Eagle's Nest ..	..	Voided leases	..	..	..	..	..	..	145·34	331·00	1,215·78	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	55·00	42·21	..
Erlistoun ..	(1853T)	Allanby's	..	..	17·00	42·79	..	..	..	17·00	42·79	..
Do. ..	(1679T)	Hootanui	..	..	..	..	..	..	..	455·00	2,027·20	..

Erlistoun ..	1382T	King of Creation	..	..	..	..	..	..	11·66	819·00	249·43	..
Do. ..	1874T	Mistake	..	..	..	98·17	..	..	..	..	98·17	..
Do. ..	(1858T)	South Erliston Proprietary ..	..	..	..	..	..	..	..	99·00	13·81	..
Do. ..	1665T	Westralia Tasmania	..	..	3,019·00	470·99	..	..	..	10,910·00	2,054·22	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	11,925·40	13,353·92	..
Do. ..	..	Sundry claims	..	..	348·00	290·70	..	1,175·43	..	1,955·90	1,630·41	..
Euro	(1771T)	Childe Harold	..	..	..	26·06	..	..	..	50·00	321·02	..
Do. ..	(1546T)	(Euro)	..	..	..	..	..	..	..	352·00	289·24	..
Do. ..	(1546T)	Euro	..	65·14	..	..	..	..	65·14	..	..	..
Do. ..	(1546T, 1625T) ..	(Euro leases)	..	..	..	..	..	..	..	16,767·00	6,616·59	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	66,795·25	28,730·27	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	209·00	87·27	..
Laverton ..	1895T	Aeroplane	..	59·34	6·00	59·03	..	..	59·34	6·00	59·03	..
Do. ..	371T	(Augusta)	..	..	..	..	..	..	..	11,216·00	11,670·72	..
Do. ..	371T	(Augusta: Golden Rhine G.Ms., (W.A.), Ltd.)	..	..	..	..	..	..	..	15,497·50	11,031·75	..
Do. ..	371T, 1650T ..	Augusta G.M. Co., N.L.	..	..	..	46·81	..	..	..	1,753·00	2,037·66	..
Do. ..	1822T	Brothers United	..	..	20·00	19·36	..	..	8·93	94·00	264·34	..
Do. ..	1797T, 1798T ..	Craiggiemore leases	..	..	7,148·00	1,457·87	..	..	..	27,211·00	5,673·20	..
Do. ..	838T	(General Wabash)	..	..	..	..	..	..	..	100·00	288·72	..
Do. ..	(1849T)	Halley's Comet	..	..	..	..	..	..	..	31·00	26·10	..
Do. ..	829T	(Ida H.)	..	..	..	..	..	..	..	111·00	285·13	..
Do. ..	829T, 838T, 846T, 1219T, 1310T, 1671T	Ida H. G.M. Co., Ltd.	..	..	8,897·00	8,711·09	..	..	..	138,144·00	103,696·61	4,674·69
Do. ..	(1783T)	Just-in-Time	..	..	..	..	..	..	..	671·00	267·57	..
Do. ..	(1783T, 1784T) ..	(Just-in-Time G.M. Co., N.L.) ..	..	..	..	..	..	..	..	469·00	180·50	..
Do. ..	1897T	Lady Harriet	..	..	51·00	6·84	..	..	..	51·00	6·84	..
Do. ..	715T, 806T, 1206T, 1207T, 1483T, 1523T, 1524T, 1525T, 1542T, 1544T, 1548T	(Lancefield G.M. Co., Ltd.)	..	..	..	..	..	..	..	153,829·00	58,842·47	5,824·39
Do. ..	715T, 806T, 1206T, 1207T, 1483T, 1523T, 1524T, 1525T, 1542T, 1544T, 1548T	(Lancefield G.M. Co., Ltd.)	..	..	..	..	..	..	..	102,179·78	39,402·81	..
Do. ..	715T, 806T, 1206T, 1207T, 1483T, 1523T, 1524T, 1525T, 1542T, 1544T, 1548T	Lancefield G.M. Co., Ltd.	..	..	95,305·00	37,505·50	8,189·85	..	..	233,055·00	92,263·21	19,196·30
Do. ..	1840T	(Mary Mac)	..	..	1,245·00	456·23	..	..	..	2,434·00	1,426·40	..
Do. ..	1840T, 1867T ..	Mary Mac G.M. Co., Ltd.	..	..	661·00	262·28	..	..	..	661·00	262·28	..
Do. ..	1828T	Normanton	..	..	54·00	98·20	..	..	11·31	217·00	291·52	..
Do. ..	1868T	Shiela	..	..	43·00	15·76	..	..	..	43·00	15·76	..
Do. ..	1855T	White Horse	..	..	44·00	89·93	..	..	..	44·00	89·93	..
Do. ..	..	Voided leases	..	..	..	..	..	..	1,226·99	112,519·60	41,290·32	..
Do. ..	..	Sundry claims	..	45·45	216·00	274·78	..	43·56	725·05	2,460·20	2,090·49	..
Mt. Barnicoat	..	Voided leases	..	..	..	..	..	..	..	652·00	359·12	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	23·00	23·37	..

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

Mount Margaret Goldfield—*continued.*

MOUNT MARGARET DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Quartz Hill ..	..	Voided leases	..	..	..	..	..	..	..	10·00	3·86	..
		From District generally :—										
		Sundry parcels treated at :										
		Caledonia Works	..	..	..	..	..	..	..	7·00	53·58	..
		Craggiemore Works	..	..	..	..	..	..	..	..	110·28	..
		Mulcahy Works	..	..	..	..	..	..	..	..	67·90	..
		Mulga Queen Works	..	..	..	..	..	..	..	..	140·39	..
		Orotava Works—Kalgoorlie	..	..	..	..	..	..	..	..	19·54	..
		Prosser's Cyanide Works	..	..	..	..	..	..	..	..	31·28	..
		State Battery—Burtville	..	..	..	361·66	..	..	..	62·00	3,741·39	..
		State Battery—Laverton	..	..	..	59·30	..	..	..	49·50	665·11	..
		Various Works	..	..	..	..	..	..	..	82·00	2,769·40	..
		Reported by Banks and Gold Dealers	255·06	..	..	..	..	1,004·71	..	..	..	..
		Total	**255·06**	**202·02**	**119,838·00**	**53,721·94**	**8,189·85**	**2,225·99**	**2,572·08**	**1,003,779·46**	**550,339·67**	**29,919·68**

North Coolgardie Goldfield.

MENZIES DISTRICT.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Comet Vale ..	5217z	(Gladsome)	..	..	..	..	..	..	..	10,879·50	8,678·16	95·29
Do. ..	5217z, 5333z ..	Gladsome leases	..	..	6,328·00	4,802·03	129·21	..	..	15,215·00	10,386·93	194·21
Do. ..	5379z	Goodenough-for-me	..	..	21·00	4·41	..	..	..	21·00	4·41	..
Do. ..	5300z	(Happy Jack)	..	..	..	..	..	..	..	1,363·50	776·10	..
Do. ..	5300z, 5325z ..	Happy Jack leases	..	..	2,180·00	834·75	..	..	..	3,115·50	1,560·45	..
Do. ..	5325z	(Iron King)	..	..	..	..	..	..	..	41·50	20·62	..
Do. ..	5312z	Sand King	..	..	23·50	26·70	..	..	..	23·50	26·70	..
Do. ..	5211z	(Sand Queen)	..	..	..	..	..	..	..	3,436·75	3,639·12	2·00

Do.	(5208z), 5211z, 5224z, 5320z	(Sand Queen G.Ms., Ltd.)	..	..	..	..	..	..	..	6,803·50	2,949·83	..
Do.	5211z, 5224z, 5320z	Sand Queen G.Ms., Ltd.	..	..	7,585·54	5,455·10	..	..	..	9,803·54	7,369·91	..
Do.	..	Voided leases	..	..	..	..	..	..	409·70	9,939·60	5,508·73	2·00
Do.	..	Sundry claims	..	..	13·00	8·93	..	..	23·00	394·25	346·35	..
Goongarrie	(5346z)	Great Luck	..	..	36·50	24·90	..	..	..	98·50	81·14	..
Do.	..	Voided leases	..	..	..	..	..	·94	329·39	14,666·14	9,290·87	..
Do.	..	Sundry claims	..	..	76·00	18·97	..	27·93	23·11	553·25	450·95	..
Menzies	5253z	(Africander)	..	..	..	..	..	..	..	236·50	557·54	..
Do.	5253z, 5267z	Africander leases	..	..	135·50	197·12	..	..	..	1,122·50	901·77	4·13
Do.	5364z	Alathea	..	..	..	..	..	..	..	815·00	209·63	..
Do.	(3011z)	Alpha	..	..	20·00	44·76	..	..	..	561·75	471·70	..
Do.	5354z	Balkis	..	..	867·00	1,032·05	..	..	..	1,067·50	1,217·90	..
Do.	(5319z)	Black Jack	..	..	118·50	40·28	..	..	..	641·00	898·42	..
Do.	(536_z)	Clay	..	..	..	..	..	..	..	439·50	35·59	..
Do.	5377z	Coronation	..	..	98·50	88·69	..	..	..	98·50	88·69	..
Do.	(5352z)	Dart	..	..	..	..	..	..	..	25·00	40·97	..
Do.	(5294z)	(Dreadnought)	..	..	..	..	..	..	..	465·00	408·35	..
Do.	(5294z)	Dreadnought G.M. Co., N.L.	..	..	321·00	119·61	..	..	..	2,474·50	1,062·55	..
Do.	(4965z), 4966z	(Etrenna and Aurelia)	..	..	..	..	..	..	..	655·25	371·14	..
Do.	(2821z)	(Florence)	..	..	..	..	..	..	..	3,425·00	3,306·86	..
Do.	5372z	Florence : Florence G.Ms.. Ltd.	..	..	34·00	34·60	..	..	..	34·00	34·60	..
Do.	(2821z, 2829z)	Florence G.Ms., Ltd.	..	..	1,176·25	263·23	..	..	..	7,813·75	5,690·50	4·01
Do.	5089z	Flying Fish	..	..	324·00	25·93	..	..	..	1,790·00	2,190·32	..
Do.	4855z	(Goodenough)	..	..	..	..	..	..	..	3,430·95	5,177·86	..
Do.	4855z, (4901z, 4977z)	(Goodenough leases)	..	..	..	..	..	..	..	1,017·00	1,042·80	25·71
Do.	4855z, (4901z, 4977z)	(Goodenough leases : Westralian Machinery Corporation, Ltd.)	..	..	..	..	..	..	..	169·00	219·03	..
Do.	(5368z)	Lady Adelaide	..	..	22·50	4·90	..	..	..	71·00	11·53	..
Do.	5302z	Lady Harriet	..	..	618·00	954·59	..	..	4·74	2,731·00	2,758·63	..
Do.	2820z, 3006z	(Lady Shenton G.M., Ltd.)	..	..	..	..	..	..	..	96,611·00	132,656·24	..
Do.	2835z	Lady Sherry	..	..	153·25	64·21	..	..	4·74	1,663·21	730·09	..
Do.	2835z, (3914z)	(Lady Sherry leases)	..	..	..	..	..	..	60·77	904·25	683·88	3·11
Do.	(5353z)	Lincoln	..	..	73·00	101·93	..	..	..	127·50	178·39	..
Do.	(5230z)	Lone Hand	..	..	..	..	..	..	..	493·00	859·29	..
Do.	4855z	Lusitania	..	..	400·00	163·69	..	..	..	400·00	163·69	..
Do.	4855z, (4901z, 4977z)	(Lusitania leases)	..	..	..	..	..	..	..	367·00	303·98	170·94
Do.	(4987z)	Maori Chief	..	..	58·50	22·29	..	..	5·44	1,354·25	900·01	..
Do.	4895z, 4944z, 5251z, 5252z	Maranoa leases	..	..	2,270·00	1,213·90	..	..	..	8,075·30	7,769·84	2·50
Do.	(3011z), 3031z	(Menzies Alpha leases)	..	..	..	..	..	..	..	11,807·50	16,330·18	..
Do.	4931z, 4934z, 4935z, 4936z, 5074z, 5075z, 5160z, 5261z, 5315z	Menzies Consolidated G.Ms., Ltd.	..	..	25,320·00	10,458·94	..	..	..	229,396·00	128,875·55	78·67
Do.	2820z, 3006z	(Menzies Gold Mine leases)	..	..	..	..	..	..	..	29,247·25	14,788·25	754·13
Do.	2820z, 3006z, 3031z	Menzies Gold Mine leases	..	..	4,500·00	2,539·80	351·47	..	..	7,109·00	3,426·07	509·84
Do.	2835z	(Menzies Lady Sherry G.M. Co., N.L.)	..	..	..	..	..	10·88	..	2,208·00	2,330·60	..

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

North Coolgardie Goldfield—*continued.*

MENZIES DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Menzies ..	2832z, 2844z, 3100z, 3138z, 4966z	Menzies Mining and Exploration Corporation, Ltd.	..	..	548·00	225·66	..	..	..	24,974·75	29,270·01	..
Do. ..	5359z	No Name	..	..	363·00	183·91	..	..	..	582·50	302·75	..
Do, ..	(2829z)	(Pericles : Menzies, Ltd.)	..	..	..	..	..	..	..	308·00	457·23	..
Do. ..	(5360z)	Q.M.	..	..	..	..	..	..	..	92·00	25·81	..
Do. ..	(2836z), 4855z, (4901z, 4977z, 5275z)	(Queensland Menzies G.M. Co., N.L.)	..	..	..	..	..	..	..	50,321·50	76,928·28	6,486·90
Do. ..	2823z	Robinson Crusoe	..	..	543·00	246·96	..	..	13·24	2,054·50	970·49	..
Do. ..	2823z	(Robinson Crusoe : Crusoe Gold Claims, Ltd.)	..	..	..	..	..	..	..	33,135·00	32,978·74	1,038·47
Do. ..	5345z	Seemore	..	..	301·50	209·99	..	..	..	401·50	305·35	..
Do. ..	3031z	(Stirling)	..	..	..	..	..	..	..	827·00	277·81	..
Do. ..	5318z	Surprise	..	95·46	63·00	115·18	..	..	480·50	200·00	548·45	..
Do. ..	5370z	Surprise North	..	..	48·00	137·31	..	..	..	48·00	137·31	..
Do. ..	3048z, 5336z ..	Warrior leases	..	..	845·00	467·48	..	..	..	6,585·50	3,764·15	5·00
Do. ..	3048z	(Warrior : Menzies G.M. Co., N.L.) ..	..	..	..	..	..	..	..	1,165·00	731·48	..
Do. ..	..	Voided leases	..	..	..	..	..	34·54	472·43	36,555·75	45,066·74	125·02
Do. ..	..	Sundry claims	..	15·74	1,413·50	595·40	..	6·69	270·76	11,690·25	6,524·79	..
Mt. Ida ..	5307z	(Copperfield)	..	..	..	..	..	..	..	120·00	24·89	..
Do. ..	5307z	Copperfield	..	..	363·00	214·01	..	..	..	1,198·00	1,261·36	..
Do. ..	(5306z,) 5307z ..	(Copperfield leases)	..	..	..	..	..	..	..	158·00	89·34	..
Do. ..	5035z	Federation	..	..	25·00	42·43	..	..	..	1,783·00	4,650·39	..
Do. ..	5250z	Forest Belle	..	..	528·00	657·77	..	..	..	2,520·00	2,356·24	..
Do. ..	5243z, 5321z, (5322z, 5341z, 5355z)	(Mt. Ida Meteor leases)	..	..	745·00	417·64	..	..	..	9,472·00	7,148·80	39·00
Do. ..	5243z, 5321z ..	Mt. Ida Meteor leases	..	..	414·00	421·70	..	..	..	414·00	421·70	..
Do. ..	5367z	Sandstone	..	..	384·00	269·30	..	..	..	384·00	269·30	..
Do. ..	5349z	South Timoni	..	..	24·00	35·43	..	..	..	174·00	354·85	..
Do. ..	5374z, 5375z ..	Theory leases	..	..	25·00	7·54	..	..	..	25·00	7·54	..
Do. ..	5321z	(Timoni)	..	..	..	..	..	..	..	20·00	36·62	..
Do. ..	5177z	Unexpected	..	..	584·00	727·14	..	..	..	3,485·00	7,260·56	..
Do. ..	5363z	Unexpected North	..	..	49·00	23·19	..	..	..	87·00	52·03	..
Do. ..	5290z, 5329z ..	Unexpected South leases ..	..	..	1,001·00	1,386·11	..	..	..	3,953·00	7,405·87	35·64
Do. ..	5292z	Wild Rose	..	..	36·00	26·12	..	..	..	556·00	457·64	..
Do. ..	..	Voided leases	..	..	..	..	..	..	77·07	22,698·58	27,660·91	23·74
Do. ..	..	Sundry claims	..	..	164·00	234·57	..	..	9·57	3,325·50	2,289·46	..

From District generally :—											
Sundry parcels treated at :											
Allsop & Howell's Works—Kalgoorlie	..	..	..	..	..	..	..	..	..	3·00	..
Fremantle Trading Co., Ltd., Works	..	..	..	..	25·97	..	..	..	..	27·16	..
Goongarrie Cyanide Works	..	..	..	..	..	..	..	..	..	288·51	..
Lady Harriet Battery	..	..	..	..	..	..	..	..	33·50	79·43	..
Menzies Milling Co., Ltd., Works	..	..	..	..	90·66	..	..	..	..	365·56	..
Menzies Mining and Exploration Corporation Ltd., Works	..	..	..	..	..	..	..	..	639·50	732·04	..
Mt. Ida Cyanide Works	..	..	..	..	294·88	..	..	..	..	3,323·96	..
Orotava Works—Kalgoorlie	..	..	..	..	..	..	..	..	..	82·42	..
State Battery—Menzies	..	..	128·00	2,303·03	..	..	..	..	987·00	12,808·94	..
State Battery—Mt. Ida	..	..	..	1,046·08	..	..	..	..	1,783·25	4,170·51	..
Various Works	..	..	..	..	..	..	..	..	763·55	2,371·64	122·93
Reported by Banks and Gold Dealers	..	..	..	..	..	881·60	195·48	..	..	..	..
Total	..	**111·20**	**61,368·54**	**38,951·77**	**480·68**	**962·58**	**2,379·94**	**718,723·12**	**672,072·77**	**9,723·24**	

ULARRING DISTRICT.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Davyhurst ..	854U, 860U ..	Callion G.M. Co., W.A., N.L. ..	..	..	213·00	178·33	..	..	..	819·00	335·47	..
Do. ..	860U	(Callion Gold Mining Syndicate, N.L.)	..	..	..	..	..	..	..	307·00	109·01	..
Do. ..	459U	(Golden Pole)	..	..	..	..	..	..	..	34·00	47·51	..
Do. ..	459U, 461U, 468U, (484U, 786U, 873U)	(Golden Pole G.Ms., Ltd.)	..	..	1,393·00	594·87	..	..	..	74,110·90	71,961·09	.. ..
Do. ..	459U, 461U, 468U	Golden Pole G.Ms., Ltd.	..	..	1,330·00	983·60	..	..	..	1,330·00	983·60	
Do. ..	459U, 461U, 468U, (484U)	(Golden Pole G.Ms., N.L.)	..	..	..	..	..	..	..	970·00	2,321·69	..
Do. ..	613U	(Great Ophir)	..	..	..	..	..	..	..	161·00	96·79	..
Do. ..	613U	(Great Ophir G.Ms., Ltd.)	..	..	..	..	..	..	3·34	559·10	311·83	..
Do. ..	613U, 834U, 857U, 864U, 878U, 907U, 924U	Great Ophir Gold Corporation, Ltd. ..	..	..	190·00	24·90	..	..	..	3,342·00	468·57	..
Do. ..	440U	(Homeward)	..	..	..	..	..	..	..	418·50	681·40	..
Do. ..	440U, 496U ..	Homeward G.M. Co., Ltd.	..	..	68·50	43·25	..	..	..	1,335·73	1,049·98	118·60
Do. ..	440U, 496U ..	(Homeward leases)	..	..	..	..	..	..	..	139·00	146·37	..
Do. ..	882U	Lady Ellen	..	5·66	117·50	308·26	..	..	20·33	601·50	866·20	..
Do. ..	898U	Light of Israel	..	..	2,435·00	308·88	..	..	..	2,817·60	482·28	..
Do. ..	914U	Light of Israel North	..	..	..	..	..	..	..	76·00	18·98	..
Do. ..	(931U)	Lone Hand	..	..	140·00	51·79	..	..	6·99	213·00	88·17	..
Do. ..	877U	(Melrose)	..	..	..	..	..	..	..	29·00	11·27	..
Do. ..	928U	Pirate	..	..	119·00	310·75	..	..	..	278·00	643·92	..
Do. ..	874U	(Resurgam)	..	..	..	..	..	..	..	415·00	769·72	..
Do. ..	874U, 877U ..	Resurgam leases	..	..	395·00	1,044·32	..	..	..	825·00	2,194·15	..
Do. ..	438U	(Waihi)	..	..	..	..	..	..	4·51	243·50	851·09	..
Do. ..	496U	(Waihi Consols)	..	..	..	..	..	..	..	95·00	153·55	..

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

North Coolgardie Goldfield—*continued.*

ULARRING DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Davyhurst ..	438U	(Waihi : Westralia Waihi G.Ms., N.L.)	..	..	..	..	..	..	..	1,437·00	1,526·94	58·90
Do. ..	438U	Waihi : Westralia Waihi G.Ms., N.L.	..	..	59·00	114·11	..	..	..	745·50	579·71	..
Do. ..	438U, (792U) ..	(Westralia Waihi G.Ms., N.L.) ..	..	..	..	..	..	..	..	26,192·00	15,004·51	5,225·54
Do. ..	..	Voided leases	..	..	..	..	..	2·93	103·82	20,087·90	14,695·66	..
Do. ..	..	Sundry claims	..	..	218·50	89·05	..	..	30·12	4,600·10	2,358·58	..
Mulline ..	(916U)	Bella Maie	..	..	15·50	10·24	..	..	..	286·50	160·02	..
Do. ..	943U	Corona	..	..	13·50	11·67	..	..	..	13·50	11·67	..
Do. ..	941U	Elsie	..	..	41·00	73·30	..	..	..	41·00	73·30	..
Do. ..	871U	Golden Horn	..	..	56·50	79·67	..	..	..	378·00	702·15	1·93
Do. ..	936U	Golden Rock	..	..	206·00	400·94	..	..	..	206·00	400·94	..
Do. ..	(894U)	Great Leviathian	..	..	10·50	29·71	..	..	27·53	199·00	403·69	..
Do. ..	940U	Guy	..	..	61·00	45·28	..	..	..	61·00	45·28	..
Do. ..	934U	Home Turn	..	..	59·50	77·97	..	..	..	59·50	77·97	..
Do. ..	139U, 235U, 555U, 670U, (671U, 679U, 732U, 862U)	(Lady Gladys G.M. Co., N.L.) ..	..	..	517·50	374·38	..	..	..	16,871·50	17,777·42	..
Do. ..	139U, 235U, 555U, 670U	Lady Gladys G.M. Co., N.L. ..	..	..	859·00	366·73	..	..	..	859·00	366·73	..
Do. ..	670U	(Lady Gladys Junction) ..	..	..	..	..	..	..	..	..	52·78	..
Do. ..	139U, 235U, 555U	(Lady Gladys leases)	..	..	..	..	..	..	170·89	7,741·00	15,025·05	..
Do. ..	(892U)	Mount Woolhouse	..	..	..	..	..	..	..	159·00	182·33	..
Do. ..	872U	Peachtree	..	..	48·00	67·71	..	..	..	274·00	338·48	..
Do. ..	324U, 600U, 730U	Riverena South leases	..	..	279·00	362·44	..	..	43·37	12,621·50	9,238·67	..
Do. ..	123U	Riverina	..	..	400·00	106·13	..	..	..	3,894·00	2,507·66	..
Do. ..	123U, (773U) ..	(Riverina G.M. Co., N.L.)						..	..	11,254·00	7,096·21	..
Do. ..	763U	Young Australian	..	..	600·50	1,877·40	..	..	..	1,295·00	3,609·26	..
Do. ..	910U	Young Australia North ..	..	..	..	..	..	..	..	24·50	22·32	..
Do. ..	..	Voided leases	..	..	..	..	..	..	31·80	19,674·97	20,264·34	·78
Do. ..	..	Sundry claims	..	15·50	192·50	183·53	..	..	33·51	3,301·00	2,896·16	·69
Mulwarrie ..	(932)	Golden Agate	..	5·15	26·50	77·43	·07	..	17·62	33·00	99·74	·07
Do. ..	(909U)	Killaloe	..	..	..	..	..	..	..	192·50	270·10	..
Do. ..	919U	Mulwarrie	..	..	86·00	57·19	..	..	..	230·50	120·85	..
Do. ..	494U	Mulwarrie Main Reef	..	..	68·00	113·35	..	..	..	1,988·50	3,123·58	20·81
Do. ..	..	Voided leases	..	..	..	..	..	..	39·22	14,951·89	21,112·05	5·49
Do. ..	..	Sundry claims	..	13·88	291·50	278·47	..	..	19·24	1,251·25	954·45	..
Ularring ..	(900U)	Cardinal	..	..	76·00	205·21	..	..	518·76	808·00	1,564·07	..
Do. ..	(888U)	Shamrock	..	..	..	..	..	..	6·01	799·50	599·48	..
Do. ..	..	Voided leases	..	..	..	..	..	..	1·86	7,356·35	10,888·31	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	143·00	113·15	..

	From District generally :—										
	Sundry parcels treated at :										
	Orotava Works—Kalgoorlie	..	..	..	..	..	..	..	..	54·39	..
	State Battery—Mulline	..	..	..	367·86	..	..	..	442·50	10,477·39	..
	State Battery—Mulwarrie	..	..	..	213·94	..	..	..	579·45	2,863·39	..
	Various Works	..	..	..	..	..	..	15·82	77·25	44·75	..
	Reported by Banks and Gold Dealers	..	..	..	..	..	18·53	·77	..	..	..
	Total	..	**40·19**	**10,586·50**	**9,432·66**	**·07**	**21·46**	**1,096·01**	**250,249·99**	**252,296·17**	**5,432·81**

NIAGARA DISTRICT.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Armidale ..	..	Sundry claims	..	..	67·00	24·48	..	..	..	87·50	34·00	..
Desdemona ..	(673G)	(Desdemona)	..	..	..	..	..	..	..	4,289·00	4,894·18	12·04
Do. ..	(740G)	Desdemona	..	..	21·50	6·78	..	..	..	21·50	6·78	..
Do. ..	(664G, 673G, 715G)	(Desdemona leases)	..	..	..	..	..	..	..	1,736·00	776·31	..
Do. ..	(664G, 673G) ..	Desdemona leases	..	..	..	..	..	..	..	1,123·75	323·43	..
Do. ..	725G	Hawk	..	..	35·00	85·88	..	..	..	156·00	326·00	..
Do. ..	685G	Othello	..	..	..	..	..	..	5·73	1,442·00	615·85	..
Do. ..	(664G)	(Rising Sun)	..	..	..	..	..	..	..	246·50	143·81	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	349·00	145·62	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	8·99	1,164·20	577·52	..
Kookynie ..	27G	Altona : Cosmopolitan Proprietary, Ltd.	..	..	..	..	..	..	..	4,396·00	4,102·63	..
Do. ..	27G, 28G ..	(Altona leases : Cosmopolitan Proprietary, Ltd.	..	..	..	..	..	..	..	538·00	423·30	..
Do. ..	31G	Altona No. 1 North : Cosmopolitan Proprietary, Ltd.	..	..	..	..	..	..	..	596·50	441·64	..
Do. ..	28G	Altona No. 1 South : Cosmopolitan Propietary, Ltd.	..	..	343·50	390·43	..	..	..	5,515·00	5,467·00	..
Do. ..	320G	Champion	..	..	6,147·00	2,292·22	..	..	..	18,463·50	8,829·79	2·28
Do. ..	320G	(Champion : Champion Proprietary, Ltd.)	..	..	..	..	..	..	..	36,310·00	18,381·09	425·32
Do. ..	320G, (335G, 347G)	(Champion leases)	..	..	..	..	..	..	..	2,157·50	2,554·15	..
Do. ..	320G, (335G, 347G)	(Champion leases : Guthrie & Co., Ltd.)	..	..	..	..	..	..	..	2,705·00	1,556·16	..
Do. ..	739G	Christmas Gift	..	..	23·00	77·36	..	..	..	23·00	77·36	..
Do. ..	(20G, 87G, 94G, 338G, 438G, 533G, 534G)	(Cumberland Niagara G.Ms., Ltd.) ..	..	..	..	..	..	..	..	11,082·00	5,179·17	..
Do. ..	(20G, 87G, 94G, 338G, 438G, 533G, 534G)	Cumberland Niagara G.Ms., Ltd. ..	..	..	..	..	..	..	..	53,770·00	26,609·77	..

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

North Coolgardie Goldfield—*continued.*

NIAGARA DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Kookynie ..	26G	Englishman : Cosmopolitan Proprietary, Ltd.	..	..	383·50	216·24	..	..	..	543,686·12	264,206·44	4,948·37
Do. ..	(647G)	(Happy-go-Lucky)	..	..	..	..	..	..	..	106·50	57·78	..
Do. ..	(647G)	Happy-go-Lucky : Mulwarrie Exploration Co., Ltd.	..	..	32·00	7·78	..	..	..	2,320·00	1,035·21	..
Do. ..	24G	Irishman : Cosmopolitan Proprietary Ltd.	..	..	..	..	..	..	..	44·50	44·14	..
Do. ..	743G	Lady Alice	..	..	44·00	15·49	..	..	..	44·00	15·49	..
Do. ..	25G	Scotchman : Cosmopolitan Proprietary Ltd.	..	..	..	..	..	..	..	508·00	241·62	..
Do. ..	696G	Two D's.	..	..	68·00	44·80	..	..	..	284·00	235·05	..
Do. ..	..	Voided leases	..	..	..	..	..	..	256·48	43,544·85	41,114·26	..
Do. ..	..	Sundry claims	..	..	227·50	248·61	..	30·59	74·79	3,486·25	2,248·08	..
Niagara ..	518G, 529G, 577G	(Eagle Hawk Heather Co., N.L.) ..	..	..	..	..	..	..	..	6,650·00	2,423·32	..
Do. ..	(718G)	Ettocsam	..	..	27·50	16·68	..	..	..	679·50	315·60	..
Do. ..	419G, 461G ..	(Hannan's Main Reef G.M. Co., Ltd.)	..	..	..	..	..	..	..	11,119·00	5,910·89	..
Do. ..	661G	Justice	..	..	39·00	134·43	..	..	..	641·00	753·35	..
Do. ..	734G	(Lubra Queen)	..	..	449·00	88·34	..	..	..	831·00	285·51	..
Do. ..	734G, 735G ..	Lubra Queen leases	..	..	1,230·00	966·71	..	..	..	1,230·00	966·71	..
Do. ..	(732G)	Mara : Mara Mines, Ltd.	..	..	..	..	..	..	..	13·50	29·84	..
Do. ..	721G	May	..	..	316·00	148·31	..	..	..	690·50	444·94	..
Do. ..	518G	(Missing Link)	..	..	..	..	..	..	23·93	431·00	563·27	..
Do. ..	518G, 529G, 577G	Missing Link leases	..	..	..	2·24	..	..	..	440·00	204·15	..
Do. ..	419G	(Opal)	..	..	..	..	..	..	..	552·50	490·53	..
Do. ..	419G	(Opal : Hannan's Main Reef G.M. Co., Ltd.)	..	..	..	..	..	..	..	119·00	70·99	..
Do. ..	419, 461G, 679G, 688G, 689G, 705G	Orion Mines, Ltd.	..	..	6,751·00	2,043·50	..	..	..	24,485·00	10,671·94	..
Do. ..	461G	(Pearl : Hannan's Main Reef G.M. Co., Ltd.)	..	..	..	..	..	..	..	398·00	224·38	..
Do. ..	674G	Pine Lodge	..	..	127·50	134·48	..	..	..	641·50	603·06	..
Do. ..	733G	Rally Again	..	..	16·50	8·13	..	..	..	46·50	24·05	..
Do. ..	(611G)	(W. E. G. Extended)	..	..	..	..	..	..	..	85·00	51·32	..
Do. ..	(505G, 611G) ..	W.E.G. leases	..	..	..	..	..	..	..	7,266·00	5,257·88	..
Do. ..	..	Voided leases	..	..	..	..	..	..	66·97	21,669·50	17,582·11	..
Do. ..	..	Sundry claims	..	..	257·00	166·15	..	13·27	42·50	6,678·75	4,120·98	..

Tampa ..	278G	(Fortuna)	..	..	..	..	..	..	..	..	109·00	187·42	..
Do. ..	278G, 349G ..	Fortuna leases	..	..	50·00	60·51	..	..	..		1,668·50	2,302·46	..
Do. ..	349G	(Grafter)	..	..	..	..	..	..	..		1,751·00	2,487·00	..
Do. ..	722G	Gregory	..	..	..	..	..	..	..		235·00	59·36	..
Do. ..	(692G)	Sunbeam	..	·80	..	..	..	..	·80		352·00	330·06	..
Do. ..	..	Voided leases	..	..	..	..	..	..	14·86		3,612·05	8,872·59	..
Do. ..	..	Sundry claims	..	..	83·00	39·58	..	5·07	2·06		2,412·00	1,362·83	..
	From District generally :—												
	Sundry parcels treated at :												
	Cumberland Cyanide Works		..	..	..	..	..	..	..		53·00	569·04	..
	Eagle Hawk Heather Works		..	..	..	..	..	..	..		128·00	862·26	..
	Grafter Battery		..	..	..	..	..	..	..		82·00	209·74	..
	Murie's Works—Desdemona		..	..	..	237·41	..	..	..		..	237·41	..
	State Battery—Niagara		..	..	..	892·80	..	..	..		622·50	7,192·88	..
	Various Works		..	..	..	..	..	..	..		2·0·00	4,687·72	41·17
	Reported by Banks and Gold Dealers		73·41	..	..	..	..	1,238·68	776·90		..	..	..
	Total		**73·41**	**·80**	**16,738·50**	**8,349·34**	..	**1,287·61**	**1,274·01**		**846,153·47**	**471,019·12**	**5,429·18**

YERILLA DISTRICT.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Edjudina ..	(961R)	Blue Wing	..	..	25·00	19·47	..	..	..	25·00	19·47	..
Do. ..	969R	Crow's Nest	..	..	66·50	61·95	..	..	..	66·50	61·95	..
Do. ..	401R, 500R ..	Edjudina Goldfields Ltd.	..	..	225·50	292·88	..	..	..	225·50	292·88	..
Do. ..	980R	Flavian	..	..	125·00	48·47	..	..	..	125·00	48·47	..
Do. ..	497R	(Gawler)	..	..	..	..	..	..	..	130·00	173·15	..
Do. ..	418R, 497R ..	Gawler G.M. Co., Ltd.	..	..	515·00	614·88	..	..	..	1,292·50	2,337·63	..
Do. ..	964R	Gawler South	..	..	38·50	32·10	..	..	..	38·50	32·10	..
Do. ..	968R	Golden Lizard	..	3·83	295·00	238·51	..	..	3·83	295·00	238·51	..
Do. ..	(948R)	Highland Mary	..	..	43·00	31·06	..	..	..	186·50	161·22	..
Do. ..	401R	(Neta)	..	..	..	..	..	..	..	4,280·50	5,466·29	..
Do. ..	418R	(Neta Extended)	..	..	..	..	..	..	..	1,182·50	1,421·81	..
Do. ..	401R, 418R, 497R, 500R	(Neta leases)	..	..	..	..	..	..	..	5,217·00	9,968·12	34·58
Do. ..	401R, 500R ..	(Neta leases)	..	..	..	..	..	..	..	1,274·50	1,264·91	..
Do. ..	539R, 557R ..	Senate leases	..	..	86·50	136·19	..	..	..	4,605·50	8,528·92	..
Do. ..	..	Voided leases	..	..	..	..	..	..	3·65	8,173·25	7,140·66	3·21
Do. ..	..	Sundry claims	..	13·06	388·00	259·54	..	..	13·06	1,886·50	1,546·78	..

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

North Coolgardie Goldfield—*continued.*

YERILLA DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Eucalyptus ..	..	Voided leases	..	..	..	..	..	..	2,864·77	1,351·35	3,020·68	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	367·50	170·50	194·49	..
Linden ..	966R	Alawa	..	..	26·00	3·18	..	..	..	26·00	3·18	..
Do. ..	951R	Camel Back	..	..	118·00	79·48	..	..	..	118·00	79·48	..
Do. ..	965R	Danube	..	..	71·50	63·74	..	..	..	71·50	63·74	..
Do. ..	871R	Democrat	..	..	488·50	1,070·46	..	..	9·01	1,096·50	2,901·43	..
Do. ..	(898R)	Dreadnought	..	..	..	..	..	..	..	199·50	183·41	..
Do. ..	(949R)	Dreadnought South	..	..	..	..	..	..	..	28·00	14·24	..
Do. ..	978R	Federal	..	..	127·50	68·75	..	..	..	127·50	68·75	..
Do. ..	967R	Golden Ridge	..	..	28·00	21·23	..	..	..	28·00	21·23	..
Do. ..	928R	Great Carbine	..	..	289·00	408·06	..	7·53	..	912·00	790·34	..
Do. ..	942R	Great Junction	..	..	80·00	47·55	..	..	..	355·00	437·85	..
Do. ..	(937R)	Linden Star	..	1·70	8·00	8·12	..	..	1·70	165·50	218·95	..
Do. ..	971R	Linden Star	..	..	12·50	10·30	..	..	..	12·50	10·30	..
Do. ..	(963R)	Maudsley	..	..	17·50	14·89	..	..	..	17·50	14·89	..
Do. ..	972R	New Years' Gift	..	..	53·50	76·95	..	..	..	53·50	76·95	..
Do. ..	(869R)	Rock	..	..	..	..	..	..	52·57	12·00	70·69	..
Do. ..	..	Voided leases	..	..	..	..	..	..	461·77	7,556·40	11,144·72	..
Do. ..	..	Sundry claims	..	..	897·00	482·52	..	77·81	25·30	3,846·50	2,721·63	..
Mt. Celia ..	..	Voided leases	..	..	..	..	..	..	..	14·00	5·39	..
Mt. Howe ..	..	Sundry claims	..	..	..	..	..	..	..	5·00	11·13	..
Mt. Remarkable	..	Voided leases	..	..	..	..	..	..	17·74	528·72	415·09	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	4·00	1·32	..
Pinjin ..	729R	Anglo-Saxon	..	..	457·50	304·47	..	..	..	5,221·90	4,606·28	..
Do. ..	(910R)	Coles	..	..	..	..	..	..	..	1,327·50	417·10	..
Do. ..	974R	Coronation	..	..	47·50	23·76	..	..	..	47·50	23·76	..
Do. ..	(953R)	King Pin	..	..	..	..	..	..	..	60·00	28·39	..
Do. ..	962R	Unification	..	..	255·50	191·08	..	..	..	255·50	191·08	..
Do. ..	..	Voided leases	..	..	..	..	..	..	46·99	5,637·90	4,006·06	..
Do. ..	..	Sundry claims	..	..	12·060	63·40	..	..	99·36	2,546·35	1,768·21	..

Yarri ..	788R	Dostmund	..	..	135·50	192·65	2·00	..	..	695·00	1,421·26	2·00
Do. ..	947R	Dostmund West	..	..	166·50	187·17	..	..	..	244·50	407·69	..
Do. ..	581R	Wallaby	..	..	290·50	104·60	..	..	41·36	7,238·50	3,243·27	..
Do. ..	580R	(Wallaby Central)	..	..	..	..	..	..	..	2,411·00	2,335·30	..
Do. ..	580R	Wallaby Central	..	..	642·50	279·39	..	..	..	959·00	385·25	..
Do. ..	580R	(Wallaby Central : Lake View South, Ltd.)	..	..	..	..	..	..	..	10,109·00	4,488·20	..
Do. ..	960R	Wallaby North	..	..	558·00	190·61	..	..	..	558·00	190·61	..
Do. ..	737R	Yarri South	..	..	40·00	18·62	..	..	..	1,053·00	1,212·62	..
Do. ..	..	Voided leases	..	..	..	..	..	6·30	30·81	5,747·25	3,283·78	..
Do. ..	..	Sundry claims	..	..	465·50	335·81	..	..	3·31	3,675·50	2,147·75	..
Yerilla ..	850R	(Central East)	..	..	..	..	..	..	..	244·00	166·12	..
Do. ..	970R	Melba	..	..	251·00	54·65	..	..	..	251·00	54·65	..
Do. ..	752R, 850R ..	Viola leases	..	..	278·00	89·39	..	..	9·64	1,154·00	830·77	2·82
Do. ..	(684R)	Yerilla Central	..	..	20·00	22·28	..	..	..	2,056·00	2,624·97	..
Do, ..	851R	Yerilla King	..	..	134·00	90·96	..	..	..	1,844·00	1,364·24	..
Do. ..	..	Voided leases	..	..	..	..	..	..	3,078·91	4,661·46	2,929·25	8·54
Do. ..	..	Sundry claims	..	..	239·00	83·26	..	19·30	15·88	1,745·00	920·80	..
Yilgangie ..	..	Voided leases	..	..	..	..	..	..	..	218·75	295·45	..
Do. ..	..	Sundry claims	..	10·69	..	..	..	121·67	29·83	25·50	46·17	..
Yundamindera	931R	Battles Ville	..	..	475·00	87·01	..	..	..	606·00	243·36	..
Do. ..	(457R, 479R) ..	Golden Treasure leases ..	..	..	..	..	..	..	..	524·00	331·97	..
Do. ..	(457R, 479R, 493R)	(London and Hamburg Gold Recovery Co., Ltd.)	..	..	..	..	..	..	..	1,942·00	943·02	..
Do. ..	(541R)	(Maori Queen)	..	..	..	..	..	..	..	1,063·00	1,569·26	..
Do. ..	450R, (456R) ..	(Mt. Margaret Reward Claim, Ltd.)	..	..	..	..	..	..	..	10,833·00	6,875·91	..
Do. ..	450R	(Potosi)	..	..	..	..	..	..	..	76·00	152·80	..
Do. ..	450R, (456R, 457R, 466R, 479R, 567R)	(Potosi Consolidated, Ltd.)	..	..	..	..	..	..	..	40,693·85	21,307·98	..
Do. ..	450R, 456R ..	Potosi leases	..	..	56·00	155·00	..	..	..	1,148·00	2,308·29	..
Do. ..	(466R)	(Queen of the May)	..	..	..	..	..	..	..	1,810·60	1,719·92	..
Do. ..	(466R)	Queen of the May	..	..	224·00	235·80	..	..	..	616·00	620·81	..
Do. ..	(493R, 541R) ..	(Treasure East leases)	..	..	..	..	..	..	..	450·00	313·70	..
Do. ..	(493R, 541R, 916R)	Treasure East leases	..	..	..	..	..	..	..	671·00	561·49	5·82
Do. ..	..	Voided leases	..	..	..	..	..	..	71·37	6,159·65	8,033·19	..
Do. ..	..	Sundry claims	..	..	20·00	15·41	..	..	85·22	1,902·00	1,537·59	..
		From District generally :—										
		Sundry parcels treated at :										
		Fremantle Trading Co., Ltd., Works	..	..	..	4·92	..	..	..	..	4·92	..
		State Battery—Linden	..	..	..	205·96	..	..	..	72·00	1,642·49	..
		State Battery—Pinjin	..	..	..	37·05	..	..	..	115·50	1,138·99	..
		State Battery—Yarri	..	..	13·50	537·33	..	..	..	231·50	2,771·38	3·50
		State Battery—Yerilla	..	..	..	125·10	..	2·17	..	72·00	410·94	..
		Various Works	..	..	..	..	..	..	..	660·85	3,179·33	..
		Reported by Banks and Gold Dealers	45·08	..	..	..	..	988·70	154·74	..	..	..
		Total	**45·08**	**29·28**	**8,956·50**	**7,725·96**	**2·00**	**1,223·48**	**7,488·32**	**175,337·78**	**156,239·12**	**60·47**

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

Broad Arrow Goldfield.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Bardoc ..	(1430w)	Baden Powell	..	..	16·00	6·31	..	..	..	16·00	6·31	..
Do. ..	(1392w)	Excelsior	..	..	..	..	..	..	..	388·00	35·25	..
Do. ..	(1393w)	Excelsior Extended	..	..	..	..	..	..	..	106·00	41·14	..
Do. ..	1423w	Golden Eagle	..	..	78·75	311·30	..	..	..	96·25	427·12	..
Do. ..	1426w	Grafter	..	..	20·40	16·44	..	..	..	20·40	16·44	..
Do. ..	(1272w)	Mt. Pleasant	..	..	18·25	16·05	..	..	..	18·25	17·45	..
Do. ..	(1272w)	(Mt. Pleasant : Zoroastrian, Ltd.) ..	..	..	..	..	..	..	..	946·00	417·85	..
Do. ..	..	Voided leases	..	..	..	..	..	..	256·68	70,393·06	49,494·16	203·60
Do. ..	..	Sundry claims	..	57·80	160·32	144·55	..	..	180·70	2,375·25	1,718·16	..
Black Flag ..	(1406w)	Ajax	..	..	..	..	..	..	8·50	115·75	78·01	..
Do. ..	(1398w)	Crown	..	..	..	..	..	..	..	244·00	60·14	..
Do. ..	(1177w)	(King Edward)	..	..	..	..	..	..	..	172·00	429·74	..
Do. ..	(1177w)	King Edward	..	..	15·24	70·64	..	..	4·31	585·94	546·96	..
Do. ..	(1177w, 1182w, 1208w)	(King Edward leases)	..	..	..	..	..	..	..	370·86	1,293·21	..
Do. ..	(1378w)	King Edward North	..	..	..	..	..	..	..	64·00	55·23	..
Do. ..	1384w	Lady Bountiful	..	3·11	126·50	195·93	..	..	3·11	273·55	409·87	..
Do. ..	(3 ..w)	Westella	..	..	..	..	..	..	..	113·00	35·77	..
Do. ..	..	Voided leases	..	..	..	..	..	27·81	340·64	37,988·81	21,305·65	..
Do. ..	..	Sundry claims	..	..	22·00	13·02	..	686·51	154·78	1,863·95	1,763·27	..
Broad Arrow	3w, 138w, 139w 173w, 1334w	Claremont G.M., Ltd.	..	..	..	..	..	..	..	6,177·00	4,378·66	..
Do. ..	1334w	(Claremont)	..	..	..	..	..	..	..	118·00	33·50	..
Do. ..	(1415w)	Credo	..	..	..	..	..	..	..	13·00	17·99	..
Do. ..	(1209w)	Dixie	..	..	205·00	28·91	..	..	60·72	673·35	539·95	..
Do. ..	1391w	Duke	..	..	2,529·00	275·53	..	..	..	2,859·00	343·29	..
Do. ..	1636w	Eldorado	..	..	20·00	35·65	..	..	..	20·00	35·65	..
Do. ..	3w, 138w, 139w, 173w	(Golden Arrow Mine, Ltd.)	..	..	..	..	..	..	..	35,878·75	20,187·46	15·85
Do. ..	1411w	Panhandle	..	..	172·60	134·70	..	..	..	325·10	265·88	..
Do. ..	1256w	Talbot	..	..	197·00	177·98	..	..	21·13	1,168·00	1,326·66	..
Do. ..	(1357w)	Tara	..	..	..	..	..	..	..	608·00	428·83	..
Do. ..	(643w, 1178w) ..	Victory leases	..	..	..	..	..	..	266·40	1,310·00	1,583·02	..
Do. ..	..	Voided leases	..	..	..	..	..	54·85	468·96	66,777·06	65,647·18	..
Do. ..	..	Sundry claims	..	127·57	303·60	141·76	..	958·29	546·45	6,180·22	3,541·69	..
Paddington ..	(53w, 57w, 60w, 61w, 128w, 1050w)	Gwalia Proprietary, Ltd.	..	..	..	..	..	73·02	..	2,428·00	453·21	..
Do. ..	(45w)	Mount Corlic	..	..	..	..	..	243·89	4·57	10,153·75	4,303·27	..
Do. ..	1639w	Mount Corlic	..	..	160·50	112·72	..	..	..	160·50	122·72	..
Do. ..	(53w, 57w, 60w, 61w, 128w, 1050w)	(New Standard Exploration Co., Ltd.)	..	..	..	..	..	5,240·81	..	133,036·00	60,672·23	18·96

Do.	(1351w)	Pakeha	..	..	..	..	..	106·40	135·69	..	..	..	226·00	28·09	..
Do.	1356w	Recovery	..	..	..	..	..	98·15	78·67	..	..	253·38	671·40	1,008·30	..
Do.	1047w	Star of W.A.	..	..	..	..	..	..	..	..	..	..	10,881·15	9,055·48	..
Do.	..	Voided leases	..	..	..	..	..	..	..	..	1,714·16	..	15,481·40	4,499·31	..
Do.	..	Sundry claims	..	..	..	..	..	..	..	..		..	9,200·09	5,324·68	..
Siberia	(1345w)	Cave Hill	..	..	..	..	..	40·00	77·78	..	..	..	651·00	1,825·94	..
Do.	(1372w)	Denver City	..	..	..	..	..	..	..	..	..	8·94	..	..	..
Do.	1347w	Expectation	..	..	..	..	..	96·50	95·48	..	..	..	353·50	344·72	..
Do.	(1382w)	Federal	..	..	..	..	..	30·00	28·41	..	..	..	117·00	138·30	..
Do.	1475w	Gimblet Duke	..	..	..	..	..	83·00	28·11	..	..	..	83·00	28·11	..
Do.	1371w	Gimblet South	..	..	..	..	..	..	..	..	..	..	7,767·50	1,840·60	..
Do.	1399w	(Gimblet South Extended)	..	..	..	..	..	5·50	103·58	..	..	..	525·00	835·44	..
Do.	1399w, 1424w, 1429w, 1442w	Gimblet South Extended leases	..	..	..	..	..	215·00	39·98	..	..	..	215·00	39·98	..
Do.	1338w	(Gimblet West)	..	..	..	..	..	..	..	..	..	..	680·50	482·83	..
Do.	1286w	Golden	..	..	..	..	2·22	8·00	45·87	..	..	277·97	118·41	433·36	..
Do.	1390w	Golden Gimblet	..	..	..	..	..	..	..	..	..	1·23	202·00	150·42	..
Do.	1358w	Golden Mount	..	..	..	..	..	290·00	186·17	..	..	4·26	1,211·00	719·14	..
Do.	129 .w	Invincible	..	..	..	..	..	133·50	26·68	..	..	..	1,217·50	326·28	..
Do.	1434w	Jack Hugh	..	..	..	..	..	16·00	121·87	..	..	..	16·00	121·87	..
Do.	1289w, 1308w	Lady Evelyn leases	..	..	..	..	..	231·00	102·38	..	..	6·90	2,548·25	2,543·59	..
Do.	1332w	Lily	..	..	..	..	..	52·00	3·11	..	..	..	52·00	3·11	..
Do.	1293w, 1298w	Mexico leases	..	..	..	..	..	88·00	198·90	..	..	..	417·00	916·43	..
Do.	1291w	Missouri	..	..	..	..	..	195·00	108·15	..	..	8·64	1,258·50	470·17	..
Do.	1403w	Nuggety Hill	..	..	..	..	4·51	..	..	..	..	4·51	..	..	..
Do.	(1583w)	Ora Banda North	..	..	..	..	..	75·00	21·35	..	..	..	75·00	21·35	..
Do.	1416w	Prince Foote	..	..	..	..	..	..	..	..	..	..	22·50	23·26	..
Do.	1375w	Siberia Consols	..	..	..	..	..	426·50	1,238·17	..	..	..	610·00	2,606·03	..
Do.	1587w	Sink to Rise	..	..	..	..	..	24·00	15·90	..	..	..	24·00	15·90	..
Do.	1336w	(Slippery Gimblet)	..	..	..	..	..	..	..	..	..	..	26,110·50	8,217·79	..
Do.	1336w, 1338w, 1419w	Slippery Gimblet leases	..	..	..	..	..	1,735·00	831·36	..	..	..	1,735·00	831·36	..
Do.	1420w	Slug Hill Bend	..	..	..	..	11·00	77·50	90·77	..	..	28·29	77·50	90·77	..
Do.	1409w	(Stirling West—*late* Stirling Extended)	..	..	..	..	..	..	..	..	..	..	125·00	23·40	..
Do.	1409w, 1446w	Stirling West leases	..	..	..	..	..	100·00	27·19	..	..	..	100·00	27·19	..
Do.	1608w	Twilight	..	..	..	..	..	21·00	3·15	..	..	..	21·00	3·15	..
Do.	(1283w)	Waverley	..	..	..	..	..	62·00	28·17	..	..	..	1,028·00	365·29	..
Do.	1569w, 1570w	Waverley leases	..	..	..	..	..	70·00	18·14	..	..	..	70·00	18·14	..
Do.	1510w	Whitehaven	..	..	..	..	..	93·00	38·89	..	..	..	93·00	38·89	..
Do.	1586w	Whitehaven Extended	..	..	..	..	..	120·00	74·41	..	..	..	120·00	74·41	..
Do.	1576w	Whitehaven North	..	..	..	..	..	36·00	1·99	..	..	..	36·00	1·99	..
Do.	1575w	Whitehaven Westralia	..	..	..	..	..	59·00	31·20	..	..	..	59·00	31·20	..
Do.	..	Voided leases	..	..	..	..	..	..	..	..	..	121·11	11,233·25	3,384·63	..
Do.	..	Sundry claims	..	..	..	..	7·34	317·75	187·92	..	84·34	294·23	2,980·50	3,673·09	..
Smithfield	..	Voided leases	..	..	..	..	..	..	..	..	..	..	1,027·00	200·90	..
Do.	..	Sundry claims	..	..	..	..	..	..	..	..	..	..	20 00	9·54	..
		From Goldfield generally :—													
		Sundry parcels treated at :													
		Allsop & Howell's Works—Kalgoorlie	..	..	..	..	..	..	..	..	..	..	..	6·70	271·76
		Braybrook's Cyanide Works	..	..	..	..	..	..	..	..	..	..	..	427·54	..
		Broad Arrow Consols Works	..	..	..	..	..	..	..	..	..	..	..	118·29	..
		Duke Cyanide Works	..	..	..	..	..	..	5·25	..	..	..	..	5·25	..

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

Broad Arrow Goldfield—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
		From Goldfield generally :—										
		Sundry parcels treated at :										
		Fremantle Trading Co., Ltd., Works	..	..	..	76·10	..	..	..	..	76·10	..
		New Arrow Proprietary Works	..	..	..	..	..	299·35	..	5,229·08	4,666·06	..
		Northey's Venture Works	..	..	..	149·65	..	..	..	..	241·58	..
		Ora Banda Works	..	..	..	..	..	..	..	77·00	2,383·53	..
		Orotava Works—Kalgoorlie	..	..	..	..	..	..	..	..	94·89	..
		Paddington Consols Works	..	..	..	..	..	..	..	9·75	6,839·74	..
		Paddington Slimes Plant	..	..	..	499·79	..	..	..	..	789·17	..
		Pole Works	..	..	..	42·20	..	..	..	..	42·20	..
		Regan's Works	..	..	..	..	..	..	..	27·00	348·42	..
		State Battery—Siberia	..	..	..	267·60	..	..	..	..	406·02	..
		Vettersburg Cyanide Works	..	..	..	42·64	..	..	..	..	654·93	..
		Zoroastrian Works	..	..	..	..	..	..	..	116·50	1,082·23	..
		Various Works	..	..	..	..	..	1,971·82	..	11,306·85	12,401·29	7·09
		Reported by Banks and Gold Dealers	185·02	..	..	..	..	7,221·41	..	..	..	..
		Total	**185·02**	**213·55**	**8,949·96**	**6,754·16**	..	**18,576·26**	**3,326·21**	**500,263·43**	**323,401·29**	**517·26**

North-East Coolgardie Goldfield.

KANOWNA DISTRICT.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Black Swan	..	Voided leases	..	..	..	..	..	..	..	160·00	141·76	..
Gambier	434x, (878x)	(Atlas G.Ms., Ltd.)	..	..	..	..	..	..	..	8,007·00	3,378·99	..
Do.	434x	(Camelia)	..	..	..	..	..	..	..	242·50	3·5·82	..
Do.	434x	Camelia	..	..	..	..	..	..	3·53	2,415·00	1,103·70	..
Do.	(878x)	Camelia Extended	..	..	..	..	..	..	..	838·00	857·86	..
Do.	..	Voided leases	..	..	..	..	..	..	35·20	1,226·50	971·93	·07
Do.	..	Sundry claims	..	..	..	..	..	24·70	245·94	858·75	750·42	..
Gindalbie	(1047x)	Eclipse	..	..	..	5·33	..	..	..	939·00	754·40	..
Do.	1067x	Edith	..	..	716·00	431·97	..	..	..	900·50	611·08	..
Do.	(1286x)	Jack's Dream	..	..	85·00	12·41	..	..	..	85·00	12·41	..

Do.	..	394x, 396x ..	Kalgoorlie Foundry, Ltd.	..	..	1,701·00	951·42	..	..	..	1,701·00	951·42	..
Do.	..	(392x), 394x, 396x, (1048x, 1207x)	(Melton Gold Mining Co., N.L.) ..	..	..	..	..	..	..	..	654·00	485·80	..
Do.	..	(392x), 394x, 396x, (1048x, 1207x)	(Queen Margaret G.M. Co., Ltd.) ..	..	..	..	..	..	..	..	25,540·03	24,642·71	38·31
Do.	..	(1275x)	Snowy Finch	..	..	189·00	63·43	..	..	..	189·00	63·43	..
Do.	..	(392x), 394x, 396x	(South Gippsland leases) ..	..	..	..	..	..	..	..	3,697·00	3,805·05	..
Do.	..	(392x), 394x, 396x, (1048x, 1207x)	(South Gippsland leases) ..	..	..	60·00	22·90	..	..	..	1,060·00	1,119·69	..
Do.	..	1174x, 1176x ..	United leases	..	..	278·00	128·47	..	..	..	2,576·50	2,214·36	..
Do.	..	..	Voided leases	..	..	..	..	..	..	19·94	3,306·05	3,197·61	..
Do.	..	..	Sundry claims	..	..	24·00	20·07	..	..	674·82	1,005·75	1,048·08	..
Gordon	..	891x	(Sirdar)	..	..	..	..	..	..	32·60	168·50	1,319·35	..
Do.	..	891x, 1222x, 1223x, 1229x	Sirdar G.M. Co., Ltd.	..	..	11,330·00	1,472·09	..	..	..	32,138·00	5,400·71	..
Do.	..	..	Voided leases	..	..	..	..	..	..	205·17	1,570·80	1,074·78	..
Do.	..	..	Sundry claims	..	..	44·00	52·19	..	..	54·65	630·50	577·80	..
Kanowna	..	(1279x)	Anatana	..	..	40·00	2·70	..	..	..	120·00	16·50	..
Do.	..	1270x	Andrew Fisher	..	720·15	1·00	122·06	..	..	881·38	1·00	122·06	..
Do.	..	35x, 64x.. ..	Ballarat and Prince Oscar Co., Ltd. ..	..	267·31	848·00	341·25	22·77	3·59	667·72	8,607·00	3,283·98	227·93
Do.	..	35x, 64x, (345x)	(Ballarat and Prince Oscar Syndicate, Ltd.)	..	..	..	..	..	..	47·79	5,497·00	2,926·09	..
Do.	..	1283x	Black Feather	..	..	168·00	79·69	..	..	..	168·00	79·69	..
Do.	..	1160x	Bulong United	..	..	30·00	11·67	..	..	355·64	326·00	365·50	..
Do.	..	(367x)	(Commonwealth G.Ms., Ltd.) ..	..	..	..	..	..	..	..	4,266·00	1,685·13	..
Do.	..	(1274x)	Four in Hand	..	..	..	..	..	..	..	17·00	1·92	..
Do.	..	1062x	Gentle Polly	..	..	491·00	97·72	..	..	23·82	6,795·25	12,409·97	359·00
Do.	..	(1285x)	Glassy Marble	..	74·97	159·50	57·38	..	..	74·97	159·50	57·38	..
Do.	..	1287x	Golden Cement	..	..	3,142·00	580·35	..	..	..	3,142·00	580·35	..
Do.	..	(83x, 180x, 200x, 201x)	(Golden Cement claims) ..	..	..	..	..	..	..	..	5,848·00	2,570·51	..
Do.	..	(55x)	(Golden Crown)	..	..	..	..	..	..	290·71	2,070·75	1,534·42	..
Do.	..	1288x	Golden Crown	..	..	521·00	102·28	..	..	..	521·00	102·28	..
Do.	..	(1224x)	(Golden Crown Extended) ..	..	..	..	..	..	..	..	16·00	46·33	..
Do.	..	(55x, 1224x) ..	Golden Crown leases	..	..	227·00	35·83	..	..	7·19	2,155·00	572·71	..
Do.	..	(1290x)	(Golden Eagle)	..	..	10·00	1·57	..	..	..	10·00	1·57	..
Do.	..	1289x	Golden Valley	..	..	52·00	4·71	..	..	..	52·00	4·71	..
Do.	..	(367x, 1036x, 1042x)	(Golden Valley leases)	..	..	..	..	..	..	..	213·00	80·31	..
Do.	..	(367x, 1036x, 1042x)	(Golden Valley Mines of W.A., Ltd.)	..	..	..	..	..	..	..	7,602·00	4,688·97	..
Do.	..	1256x	Havilah	..	..	65·00	74·83	..	..	..	205·00	231·61	..
Do.	..	1019x	Kanowna	..	..	627·00	331·94	..	..	691·94	5,661·50	8,263·73	..
Do.	..	1055x	Kintore	..	..	182·00	102·28	..	..	..	1,848·75	2,428·28	..
Do.	..	18x, 19x.. ..	(Lily Australis G.Ms., Ltd.)	..	..	..	..	..	..	..	197·00	119·18	..
Do.	..	(1269x)	Lode	..	..	..	..	..	..	1·50	20·00	5·29	..
Do.	..	1282x	Luck at Last	..	..	220·00	176·51	..	..	..	220·00	176·51	..
Do.	..	1076x	Madame Melba	..	2·30	150·00	83·60	..	..	42·13	2,013·50	2,866·21	18·00
Do.	..	52x	(Marquis of Queensbury : Lake View South G.M. (W.A.), Ltd.)	..	..	..	..	..	..	..	23,579·65	10,136·28	24·33
Do.	..	52x	Marquis of Queensbury : Lake View South, Ltd.	..	..	815·00	277·00	..	..	..	1,594·25	797·16	..
Do.	..	52x	(Marquis of Queensbury : Robinson G.Ms., Ltd.)	..	..	..	..	..	..	..	16,478·75	16,213·33	..

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

North-East Coolgardie Goldfield—*continued.*

KANOWNA DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Kanowna ..	55x	(New Standard Exploration Co., Ltd.)	..	..	..	..	..	..	11·49	2,128·50	2,740·13	..
Do. ..	(3x,) 14x, 15x, 18x, 19x, (60x, 81x, 838x), 974x, 1035x, 1103x, 1263x	(North White Feather G.Ms., Ltd.)	..	..	..	..	..	..	..	147,974·75	74,343·01	159·19
Do. ..	14x, 15x, 18x, 19x, 974x, 1035x 1103x, 1263x (1276x), 1278x	North White Feather G.Ms., Ltd. ..	..	..	18,602·05	5,425·14	..	..	..	34,871·50	9,747·62	..
Do. ..	(1268x)	Oldham	..	..	..	..	..	..	..	402·00	81·52	..
Do. ..	1261x	Prince Foote	..	..	48·00	13·77	..	..	..	429·00	155·03	..
Do. ..	(1291x)	Prince of Wales	..	..	40·00	8·40	..	..	..	40·00	8·40	..
Do. ..	1273x	Sunrise	..	2·26	243·00	86·42	..	..	2·26	243·00	86·42	..
Do. ..	1232x	Try Again	..	..	510·00	61·36	..	..	..	1,678·50	471·90	..
Do. ..	1232x	Try Again : Last Chance G.M. Co., N.L.	..	..	68·00	12·84	..	..	..	68·00	12·84	..
Do. ..	12x, 13x, 14x, 15x, 855x, (1001x, 1012x), 1103x, (1107x, 1108x, 1109x)	(White Feather Main Reefs, Ltd.) ..	..	..	..	..	..	..	..	123,327·56	82,334·52	1,675·68
Do. ..	(9x, 10x), 12x, 13x, 72x, (83x, 201x,) 855x, (1001x, 1012x, 1108x, 1249x)	White Feather Main Reefs (1906), Ltd.	..	..	2,045·00	963·26	..	..	20·45	24,221·50	9,035·28	..
Do. ..	(9x, 10x), 72x, (83x, 180x, 200x, 201x, 431x)	(White Feather Reward, Ltd.) ..	..	..	..	..	..	..	..	42,767·75	22,255·23	14·80
Do. ..	(367x)	Wood's Find	..	..	..	..	..	..	..	3,772·50	1,909·24	..
Do. ..	..	Voided leases	..	..	..	..	..	..	1,017·76	78,847·31	36,451·19	..
Do. ..	..	Sundry claims	..	57·62	633·00	166·51	..	88·57	1,260·36	11,704·06	5,621·28	..
Mulgarrie ..	1228x	Lady Pratt	..	..	15·00	4·04	..	..	148·46	231·00	91·86	..
Do. ..	1284x	Moorilla	..	11·31	208·50	77·74	..	..	11·31	208·50	77·74	..
Do. ..	..	Voided leases	..	..	..	..	..	..	1,008·10	3,173·00	1,757·79	..
Do. ..	..	Sundry claims	..	..	237·00	110·08	..	..	13·29	642·50	354·19	..
Six-Mile ..	..	Voided leases	..	..	..	..	..	..	1,595·63	559·00	767·72	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	31·44	105·50	83·08	..
		From District generally :—										
		Sundry parcels treated at :										
		Edquist, Truman & Co.'s Works	..	..	..	163·60	..	..	..	..	1,677·87	..
		Golden Valley Works	..	..	..	43·59	..	..	..	..	43·59	..

Kalgoorlie Foundry Ltd., Works	..	..	..	..	..	235·79	..	..	..	..	235·79	..
Last Chance Cyanide Works	..	..	..	..	..	..	..	..	..	..	1,314·62	..
Middleton's Cyanide Works	..	..	..	..	..	..	..	..	..	..	1,765·01	..
Morrison's Cyanide Works	..	..	..	..	..	..	..	..	..	..	377·07	..
North White Feather Filter Press Plant	..	..	..	..	..	..	..	..	..	..	797·46	..
Old Cement Works	..	..	..	..	..	303·56	..	..	..	52·00	4,424·52	..
Riedel and Norton's Works	..	..	..	..	..	533·45	..	..	..	642·00	1,312·88	..
Robinson's Cyanide Works	..	..	..	..	..	..	..	..	..	..	5,657·98	..
State Battery Cyanide Works—Kalpini	..	..	..	..	..	..	..	..	..	..	95·12	..
W.A. Slimes Co., Ltd., Works	..	..	..	..	..	2,254·10	..	..	..	..	2,4[illegible]0·35	..
Various Works	..	..	..	..	..	..	..	25·01	..	903·10	8,244·57	..
Total for Leases and Quartz claims	..	..	1,135·92	44,825·50	16,107·30	22·77	141·87	9,477·19	668,306·81	403,929·94	2,517·31	
Cement from Alluvial Claims :—												
Reported by Owners	..	..	..	..	..	..	452·00	44·03	..	305·41	867·52	26,287·40	12,708·16	..
Treated locally (not reported by owners) at :												
Kalgoorlie Foundry Ltd., Works	..	..	..	..	..	50·00	12·75	..	..	..	50·00	12·75	..
Old Cement Works	..	..	..	..	..	1,103·00	222·45	..	..	..	7,894·00	2,772·31	..
Riedel and Norton's Works	..	..	..	..	..	2,547·00	354·99	..	..	..	8,733·00	1,173·83	..
State Battery—Kalpini	..	..	..	..	..	..	..	..	..	..	260·00	22·69	..
Various Works	..	..	..	..	..	..	..	..	..	..	77,090·21	54,895·82	..
Treated outside District (not reported by owners)	..	..	..	..	..	..	..	..	..	..	27,804·55	36,711·17	..
Reported by Banks and Gold Dealers	..	..	..	80·63	..	..	..	..	103,773·75	·86	..	84·69	..
Total	..	..	..	**80·63**	**1,135·92**	**48,977·50**	**16,741·52**	**22·77**	**104,221·03**	**10,345·57**	**816,425·97**	**512,311·36**	**2,517·31**	

KURNALPI DISTRICT.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Jubilee ..	(325K)	Saxon	..	..	10·75	7·97	..	..	..	10·75	7·97	..
Do. ..	..	Voided leases	..	..	..	..	..	..	145·13	1,810·50	1,400·54	..
Do. ..	..	Sundry claims	..	..	..	..	..	18·87	..	46·00	28·91	..
Kurnalpi ..	..	Voided leases	..	..	..	..	..	371·18	424·72	2,677·05	1,698·95	6·27
Do. ..	..	Sundry claims	..	9·70	38·50	35·30	..	217·92	43·51	125·00	139·97	..
Mulgabbie ..	323K	General Rodeski	..	..	3·50	841·57	..	..	..	3·50	841·57	..
Do. ..	303K	Hope	..	..	12·00	7·50	..	..	147·70	28·00	1,664·63	..
Do. ..	312K	Mulgabbie Perseverance ..	..	..	3·00	331·48	..	..	..	17·90	1,570·19	4·95
Do. ..	..	Voided leases	..	..	..	..	..	..	363·98	9·50	967·60	..
Do. ..	..	Sundry claims	..	..	..	..	..	6·50	1,365·03	81·00	614·78	..
		From District generally :—										
		Sundry parcels treated at :										
		Glover's Works	..	..	..	4·76	..	..	..	..	4·76	..
		Various Works	..	..	..	..	..	..	..	56·50	187·39	..
		Reported by Banks and Gold Dealers	358·40	..	..	..	..	11,083·30	19·62	..	..	..
		Total	**358·40**	**9·70**	**67·75**	**1,228·58**	..	**11,697·77**	**2,509·69**	**4,865·70**	**9,127·26**	**11·22**

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

East Coolgardie Goldfield.

EAST COOLGARDIE DISTRICT.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Binduli ..	..	Voided leases	..	..	..	..	..	..	..	120·00	76·93	..
Do. ..	..	Sundry claims	..	..	37·00	23·45	..	..	..	62·00	48·05	..
Boorara ..	3908E, 3910E, 3912E, 4033E, 4045E, 4327E	Golden Ridge G.M. Co., Ltd. ..	..	..	29,387·00	17,496·80	..	..	..	120,141·75	77,351·83	..
Do. ..	3908E, 3910E, 3912E, 4033E	(Waterfall leases)	..	..	..	..	..	..	..	2,849·00	2,389·48	..
Do. ..	..	Voided leases	..	..	..	..	..	..	268·28	56,587·63	31,157·14	..
Do. ..	..	Sundry claims	..	..	..	..	..	·49	2·30	45·00	20·87	..
Boulder ..	392E	(Acrobat : Paringa Consolidated Mines, Ltd.)	..	..	..	..	..	..	..	10·25	37·15	..
Do. ..	38E, 71E, 72E, 101E	Associated G.Ms., of W.A., Ltd. ..	..	..	87,546·00	32,838·72	975·00	..	8·49	1,102,644·70	771,903·76	26,325·18
Do. ..	49E, 4211E ..	Associated Northern Blocks (W.A.), Ltd.	..	..	18,038·76	11,406·49	527·00	..	524·18	296,420·42	374,738·86	2,448·20
Do. ..	(4426E)	Boko	..	..	..	..	..	..	..	525·00	36·06	..
Do. ..	(890E)	Boomerang	..	..	35·00	10·28	..	..	..	1,121·75	330·30	..
Do. ..	(682E), 902E, 923E, 986E, (1064E), 1124E, 1196E, 4075E	(Boulder Deep Levels, Ltd.) ..	..	..	..	..	..	..	..	3,043·00	1,778·10	26·71
Do. ..	902E, 923E, 986E, 1124E, 1196E, 4075E	(Boulder Deep Levels (1907), Ltd.) ..	..	..	..	..	..	..	..	787·50	210·30	..
Do. ..	281E	(Brookman Bros : Boulder G.M. Co., Ltd.)	..	..	..	..	..	..	..	8,655·00	8,417·00	..
Do. ..	989E	(Brown Hill Central G.Ms., Ltd.) ..	..	..	..	..	..	..	..	2,957·50	2,071·92	..
Do. ..	558E, 1175E, 3961E	Brown Hill Extended, Ltd.	..	..	1,077·35	371·16	..	..	..	30,584·31	42,784·36	..
Do. ..	1163E	Cassidy's North	..	..	..	..	..	..	..	67·00	7·95	..
Do. ..	24E, 888E, 949E	Central and West Boulder G.Ms., Ltd.	..	..	10,377·41	6,304·09	..	..	..	41,632·84	24,952·72	..
Do. ..	352E	(Chaffers G.M. Co., Ltd.)	..	..	..	..	..	..	..	4,256·00	1,299·03	161·50
Do. ..	352E, 873E, 4334E	Chaffers G.M. Co., Ltd.	..	..	26,592·50	10,322·07	..	..	..	110,839·00	44,688·98	..
Do. ..	4307E	Confidence	..	..	..	..	..	..	8·20	201·00	86·05	..
Do. ..	(238E)	Croesus North No. 1, Ltd.	..	..	70·00	11·62	..	..	..	10,891·25	4,062·38	..
Do. ..	1621E	(Croesus Proprietary G.M. Co.) ..	..	..	..	..	..	..	..	79·00	45·87	..
Do. ..	13E, 90E, 302E, 989E	Croesus South G.Ms., Ltd.	..	..	3,939·74	1,275·08	..	..	..	58,065·02	23,578·86	..

Do.	..	351E, 1001E, 1002E, 1085E, 1113E, 1219E, 1326E, 1397E	Golden Horseshoe Estates Co., Ltd.	..	..	269,667·00	95,079·80	22,948·46	..	..	2,431,590·00	1,908,950·73	211,269·02
Do.	..	750E	(Golden Link Consolidated G.Ms., Ltd.)	..	..	..	..	..	..	..	10,729·00	6,096·80	..
Do.	..	2325E, 2326E ..	(Golden Link Consolidated G.Ms., Ltd.)	..	..	..	..	..	..	..	1,525·00	733·48	..
Do.	..	750E, 1621E ..	(Golden Links, Ltd.)	..	..	..	..	..	..	..	87,115·02	43,504·60	19·06
Do.	..	4475E	Golden Mile Extended	..	..	299·00	52·56	..	..	..	299·00	52·56	..
Do.	..	1294E	Golden Pike and Lake View East Mines Ltd.	..	..	..	..	..	..	..	490·50	131·44	..
Do.	..	873E	(Great Boulder Main Reef, Ltd) ..	..	..	..	..	..	..	..	143,292·39	119,541·14	761·98
Do.	..	50E	Great Boulder No. 1, Ltd.	..	..	915·23	409·62	..	..	..	13,064·02	11,309·26	..
Do.	..	66E	Great Boulder Perseverance G.M. Co., Ltd.	..	..	217,058·00	72,120·88	9,577·09	..	..	1,741,646·23	1,231,969·49	88,245·55
Do.	..	16E, 51E, 61E, 102E, 280E, 1109E, 4366E	Great Boulder Proprietary G.Ms., Ltd.	..	..	187,510·00	133,776·44	19,011·00	..	..	1,784,981·00	1,870,581·02	138,939·64
Do.	..	902E, 1124E ..	(Great Boulder South G.M. Co., Ltd.)	..	..	..	..	..	..	..	437·00	122·11	..
Do.	..	3643E	Hainault G.Ms., Ltd.	..	..	54,264·00	18,578·07	..	..	..	453,877·70	166,153·24	113·30
Do.	..	6E	(Hannan's Block 45, Ltd.)	..	..	..	..	..	..	..	2,343·55	3,226·69	..
Do.	..	131E, 245E, 269E, 743E, 794E, 969E	(Hannan's Central G.M., Ltd.) ..	..	..	..	..	..	..	..	6,098·00	3,360·33	..
Do.	..	739E	(Hannan's Croesus G.M. Co., Ltd.) ..	..	..	..	..	..	..	..	4,256·75	4,416·90	..
Do.	..	1294E	(Hannan's Golden Pike G.M., Ltd.) ..	..	..	..	..	..	..	..	25·00	15·15	..
Do.	..	1004E	(Hannan's North Croesus G.M. Co., Ltd.)	..	..	..	..	..	..	..	50·00	13·21	..
Do.	..	15E, 60E, 902E, 923E, 986E, 1116E, 1124E, 1196E, 4075E	(Hannan's Star Consolidated, Ltd.). .	..	..	..	..	..	..	..	360·00	175·59	..
Do.	..	15E, 60E, 1116E	(Hannan's Star G.M. Co., Ltd.) ..	..	..	..	..	..	..	..	85,652·75	40,438·85	2,142·59
Do.	..	15E, 60E, 1116E	(Hannan's Star, Ltd.)	..	..	..	..	..	..	..	13,470·50	4,716·66	191·22
Do.	..	4317E, 4318E, 4442E	Idaho leases	..	201·98	2,576·02	2,027·49	..	..	1,235·52	11,627·77	11,315·08	..
Do.	..	946E, 4370E ..	Ironsides North leases	..	..	4,189·00	3,656·89	..	..	..	19,542·50	20,107·88	..
Do.	..	946E	(Ironsides North G.M. Co., N.L.) ..	..	..	..	..	..	..	..	1,348·00	807·48	..
Do.	..	31E, 1357E, 1413E, 1507E, 4399E, 4445E, 4476E	Ivanhoe Gold Corporation, Ltd. ..	..	..	213,358·00	113,742·34	19,070·58	..	..	2,115,538·00	1,579,300·92	211,177·44
Do.	..	1507E, (2899E, 3712E, 3713E)	(Ivanhoe Junction G.M. Co., N.L.) ..	..	..	..	..	..	..	..	1,764·00	121·43	..
Do.	..	(4379E)	Ivanhoe Venture	..	..	..	..	..	18·42	..	65·00	8·95	..
Do.	..	6E, 131E, 245E, 269E, 301E, 739E, 743E, 794E, 969E	(Kalgoorlie Amalgamated, Ltd.) ..	..	..	..	..	..	..	..	32,589·00	8,859·95	..
Do.	..	6E, 131E, 245E, 269E, 301E, 739E, 743E, 794E, 969E	(Kalgoorlie Amalgamated (new) Ltd.)	..	..	..	..	..	..	..	27,145·00	6,265·27	..
Do.	..	6E, 131E, 245E, 269E, 301E, 739E, 743E, 794E, 960E	(Kalgoorlie Amalgamated (1909) Ltd.)	..	..	..	..	..	..	..	7,940·50	1,568·40	..
Do.	..	33E	(Kalgoorlie Bank of England G.M. Co., Ltd.)	..	..	..	..	..	..	..	11,775·50	7,080·49	..
Do.	..	73E, (74E) ..	(Kalgoorlie Mint and Iron King Gold Estates, Ltd.)	..	..	..	..	..	..	..	3,0[illegible]0·00	1,762·00	..

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

East Coolgardie Goldfield—*continued.*

EAST COOLGARDIE DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Boulder ..	73E, (74E) ..	(Kalgoorlie Mint and Iron King G.Ms., Ltd.)	..	..	..	..	..	..	..	3,647·00	7,454·80	..
Do. ..	1004E	(Kalgurli Golden Eagle) ..	..	..	..	..	..	..	..	4,891·50	1,289·65	..
Do. ..	1004E	(Kalgurli Golden Eagle : Golden Links Ltd.)	..	..	..	..	..	..	..	193·00	31·63	..
Do. ..	22E, 34E ..	Kalgurli G.Ms., Ltd.	..	..	112,464·00	63,306·75	..	..	..	911,514·98	694,643·05	..
Do. ..	15E, 25E, 32E, 60E, 902E, 923E, 986E, 1116E, 1124E, 1196E, 2325E, 2326E, 4075E, 4432E, 4433E, 4434E	Lake View and Star, Ltd.	..	..	155,451·75	57,361·92	7,437·51	..	..	222,501·73	81,623·14	9,886·64
Do. ..	25E, 32E, 2325E, 2326E	(Lake View Consols, Ltd.)	..	..	..	..	..	..	..	1,179,303·55	1,016,875·27	38,491·89
Do. ..	75E	(Lake View South G.M. (W.A.), Ltd.)	..	..	..	..	..	..	..	10,712·98	11,393·57	..
Do. ..	75E	Lake View South, Ltd.	..	..	4,629·07	1,324·19	..	..	..	8,969·90	2,388·91	..
Do. ..	4439E	Lake View Extended	..	..	192·00	54·27	..	..	..	268·50	73·99	..
Do. ..	33E, 35E, 975E	New North Boulder G.Ms., Ltd. ..	..	..	1,284·23	1,574·13	..	..	..	4,491·04	5,665·62	..
Do. ..	33E, 35E, 975E	(North Boulder G.M. Co., Ltd.) ..	..	..	..	..	..	..	..	33,549·15	47,532·52	..
Do. ..	32E, 35E, 975E	(North Boulder G.Ms., Ltd.) ..	..	..	..	..	..	..	..	4,542·50	4,256·55	·63
Do. ..	281E, 287E, 444E	North Kalgurli Co., Ltd.	..	..	10,987·01	7,994·89	..	43·99	..	90,337·70	53,532·32	7,147·23
Do. ..	(890E, 912E) ..	(North Western Associated G.Ms., (W.A.), Ltd.)	..	..	..	..	..	..	..	459·00	264·55	..
Do. ..	(890E, 912E) ..	North Western Associated G.Ms., (W.A.), Ltd.	..	..	..	..	..	..	..	1,657·00	859·11	..
Do. ..	535E	(Octagon Explorers, Ltd.)	..	..	..	..	..	..	..	3,180·00	1,069·29	..
Do. ..	73E, 410E, 448E, 532E, 578E, 698E, 944E, 1395E, 3031E, 4180E	(Oroya Brownhill, Co., Ltd.) ..	..	..	..	..	..	..	..	1,075,862·55	1,163,881·77	61,682·30
Do. ..	4211E	(Oroya East (Hannan's) G.M., Ltd.)..	..	..	..	..	..	..	..	625·00	288·39	..
Do. ..	6E, 73E, 131E, 245E, 269E, 301E, 410E, 448E, 532E, 578E, 698E, 739E, 743E, 750E, 794E, 944E, 969E, 1004E, 1395E, 1621E, 3031E, 4180E	Oroya Links, Ltd.	..	..	105,697·62	40,827·71	4,088·54	..	..	206,843·07	73,424·99	8,522·22
Do. ..	4E, 392E ..	(Paringa Mines, Ltd.)	..	..	..	..	..	..	..	37,962·98	16,779·96	..
Do. ..	4E, 392E ..	Paringa Mines (1909), Ltd.	..	..	10,499·73	3,908·21	..	..	..	21,115·51	7,152·91	..

Do. ..	1208E, 3612E ..	South Kalgurli G.Ms., Ltd.	..	..	100,981·00	33,773·41	1,739·14	..	..	683,562·00	301,825·79	13,865·34
Do. ..	(4423E)	Success	..	..	96·00	9·58	..	..	..	96·00	9·58	..
Do. ..	(3031E)	(Trafalgar G.M. (W.A.), Ltd.) ..	..	..	..	..	..	..	..	189·95	56·84	..
Do. ..	535E	(Union Jack)	..	..	..	..	..	..	..	23·00	4·49	..
Do. ..	535E	Union Jack G.M. Co., N.L.	..	..	579·78	138·04	..	..	..	579·78	138·04	..
Do. ..	..	Voided leases	..	..	..	..	..	91·48	5,772·66	42,230·75	33,595·36	..
Do. ..	..	Sundry claims	..	..	..	57·40	..	24·58	..	1,072·00	909·06	..
Feysville ..	Block 48.. ..	Hampton Plains Estate, Ltd. ..	..	..	21·40	41·81	..	4,565·62	..	20,583·40	2,413·76	..
Do. ..	Block 50 ..	(Hampton Plains Estate (1906), Ltd.)	..	..	..	..	..	..	..	85·00	108·82	..
Do. ..	Block 50 ..	(Hampton Properties, Ltd.)	..	..	..	..	..	..	7·26	6,348·00	3,956·22	..
Do. ..	Block 45 ..	Hampton Properties, Ltd.	..	..	..	..	..	..	52·75	51·75	76·63	..
Do. ..	Block 50 ..	Hampton Properties, Ltd.	..	..	..	..	..	..	6·26	349·65	349·65	..
Do. ..	..	Voided leases	..	..	..	..	..	..	22·86	214·85	106·88	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	134·00	42·81	..
Kalgoorlie ..	(1101E, 4051E, 4230E, 4275E, 4281E, 4302E, 4124E)	A. W. A. United leases ..	..	..	194·00	22·84	..	..	..	59,640·50	14,017·42	8·57
Do. ..	(4438E)	Battler East	..	..	..	..	..	..	..	44·00	3·70	..
Do. ..	796E, 1228E ..	(Bonnie Lass leases)	..	..	..	..	..	..	160·69	6,011·00	5,945·22	..
Do. ..	796E, 1228E, 3771E	Bonnie Lass leases	..	..	875·00	1,063·48	..	..	..	1,460·00	2,216·07	..
Do. ..	4088E	Bonnie Play	..	..	..	..	..	..	..	21·00	4·23	..
Do. ..	(1101E)	(Brown Hill Junction G.M. Co., N.L.)	..	..	..	..	..	..	..	1,122·00	327·15	..
Do. ..	(4436E)	Caesar	..	..	..	..	..	..	..	41·51	14·14	..
Do. ..	3880E, 4146E ..	(Devon Consols leases)	..	..	..	..	..	..	36·73	26,777·00	11,650·19	..
Do. ..	4037E, 4039E, 4054E	(Devon Consols South Extended leases	..	..	..	..	..	..	..	2,251·00	1,400·94	..
Do. ..	4037F, 4039E, 4054E, 4231E, 4368E	Devon Consols South Extended leases	..	..	3,205·00	404·70	..	..	..	7,763·14	2,598·24	..
Do. ..	3770E	Eagle Hawk United	109·01	157·30	2,386·00	1,423·88	..	109·01	753·07	4,114·00	3,165·47	..
Do. ..	4052E, 4063E, 4319E	Fair Play leases	..	..	193·75	147·78	..	..	4·77	2,338·54	3,718·45	..
Do. ..	(4107E, 4371E) ..	Federal Gold Mine, Ltd.	..	..	..	..	..	..	..	11,324·00	1,188·63	..
Do. ..	4331E	Gem	..	..	..	..	..	..	30·75	57·00	10·40	..
Do. ..	1694E	(Golden Zone)	..	..	..	..	..	..	..	5,614·50	2,639·52	..
Do. ..	1694E	(Golden Zone)	..	..	..	..	..	..	489·50	2,106·00	3,295·08	..
Do. ..	1694E, 4272E, 4274E, 4331E, 4380E	Golden Zone leases	..	..	8,990·00	10,814·20	..	..	28·25	28,881·00	38,585·23	..
Do. ..	4412E	Gordon	..	..	98·00	28·67	..	..	..	599·00	76·84	..
Do. ..	(4397E)	Great Golden Lead	..	..	..	..	..	..	..	68·00	1·64	..
Do. ..	14 CE, 415E, 1163E	Hannans Consols leases ..	..	..	9,275·00	1,277·93	..	..	..	40,539·00	4,902·73	..
Do. ..	14 CE, 415E, 1163E	(Hannans Consols, Ltd.)	..	..	..	..	..	..	..	6,584·00	3,806·65	..
Do. ..	(4451E)	Hannan's Find	..	..	51·00	1·48	..	..	..	51·00	1·48	..
Do. ..	4470E	(Hannan's Find)	..	..	140·00	27·38	..	..	..	140·00	27·38	..
Do. ..	4470E, 4471E ..	Hannan's Find leases	..	..	265·00	43·30	..	..	..	265·00	43·30	..
Do. ..	983E	(Hannan's Golden Group, Ltd.) ..	..	..	..	..	..	..	..	6·00	17·27	..
Do. ..	4273E, 4274E ..	(Hannan's North G.Ms., Ltd.) ..	..	..	..	..	..	..	..	1,244·00	392·72	..
Do. ..	(4224E, 4225E, 4226E, 4382E)	Hannan's Proprietary, Ltd.	..	..	..	..	..	35·08	12·10	7,311·50	1,253·51	..
Do. ..	97E, 160E, 211E, 212E, 213E, 1653E	(Hannan's Reward and Mt. Charlotte, Ltd.)	..	..	..	..	..	..	2·58	121,605·10	47,203·84	..

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

East Coolgardie Goldfield—*continued.*

EAST COOLGARDIE DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Kalgoorlie ..	97E, 160E, 211E, 212E, 213E, 1653E	Hannan's Reward, Ltd.	..	..	24,544·00	3,555·83	..	..	..	123,938·50	17,164·79	..
Do. ..	796E, 1228E ..	(Hannan's Reward North G.M. Co., N.L.)	..	..	..	..	..	..	16·87	334·00	247·34	..
Do. ..	4001E, 4035E, 4036E	Hidden Secret leases	..	..	2,753·50	602·61	..	..	..	7,769·67	13,983·96	43,383·29
Do. ..	(4107E)	(Hidden Secret West)	..	..	..	..	..	..	..	561·00	68·04	..
Do. ..	3991E	Hird's lease	..	..	173·00	28·87	..	..	42·85	1,093·25	1,163·38	..
Do. ..	4406E	Hyman	..	..	..	..	..	..	..	80·00	3·44	..
Do. ..	983E	Isabel	..	..	356·75	156·35	..	..	98·63	5,149·82	1,218·44	..
Do. ..	4346E	(Little Wonder)	..	..	358·00	90·82	..	..	..	3,796·00	1,530·61	..
Do. ..	4346E, 4347E ..	Little Wonder leases	..	..	610·00	30·64	..	..	..	610·00	30·64	..
Do. ..	4345E	Lone Hand	..	..	4,420·00	231·66	..	..	..	6,092·00	408·02	..
Do. ..	4477E	Lord Nelson	..	..	84·00	59·41	..	..	..	84·00	59·41	..
Do. ..	4464E	Lucknow	..	..	31·00	3·91	..	..	..	31·00	3·91	..
Do. ..	2E, 279E ..	(Maritana G.M. Co., N.L.)	..	..	..	..	..	..	32·27	11,373·50	4,628·55	..
Do. ..	2E, 279E ..	Maritana leases	..	79·74	10,970·00	1,854·51	..	..	79·74	10,970·00	1,854·51	..
Do. ..	4393E	Medindie Hill	..	..	1,060·00	344·35	..	..	..	1,103·00	366·57	..
Do. ..	4293E	(Milanese)	..	..	1,917·00	580·72	..	..	..	7,663·00	1,389·36	..
Do. ..	4293E	Milanese: Golden Dream G.M. Co., N.L.	..	..	9,735·00	1,319·42	..	..	..	9,735·00	1,319·42	..
Do. ..	4347E	(Mystery)	..	..	2,129·00	364·25	..	..	..	8,783·00	1,815·12	..
Do. ..	4025E	Napoleon	..	..	..	..	..	..	..	2,721·00	1,431·25	..
Do. ..	1694E	(New Golden Zone Co., N.L.) ..	..	..	..	..	..	..	..	344·00	175·61	..
Do. ..	(4284E)	(New Reefers)	..	..	..	..	..	..	..	196·50	79·11	..
Do. ..	(4284E)	New Reefers	..	..	..	..	..	..	..	290·00	57·22	..
Do. ..	(4284E, 4341E) ..	(New Reefers G.M. Co., Ltd.) ..	..	..	..	..	..	..	..	868·00	50·24	..
Do. ..	983E	(New Standard Exploration Co., Ltd.)	..	..	..	..	..	..	..	213·00	86·76	..
Do. ..	4037E, 4039E, 4054E	(North End Mines, Ltd.)	..	..	..	..	..	..	..	5,876·00	2,425·03	4·00
Do. ..	4037E, 4039E, 4054E	(North End Mines, Ltd.)	..	..	..	..	..	..	..	1,812·00	883·27	..

Do.	4277E	Off Chance	..	..	..	..	247·00	40·46	..	..	98·80	1,751·75	280·63	..
Do.	(4405E)	Omeo	..	..	..	..	..	..	..	..	..	3,101·00	443·55	..
Do.	4E	(Paringa Consolidated Mines, Ltd.)	..	..	..	..	..	..	..	..	..	216·00	157·80	..
Do.	(4309E)	Poseidon	..	..	..	..	..	..	..	..	63·66	117·30	313·48	..
Do.	(4422E)	Pride of the Hills	..	..	..	..	..	..	..	..	..	50·00	5·41	..
Do.	(4428E)	Prince George	..	..	..	..	65·00	7·87	..	..	..	472·00	49·14	..
Do.	1228E	(Red, White, and Blue)	..	..	..	..	..	..	..	..	..	130·00	25·56	..
Do.	4039E	(Rising Sun)	..	..	..	..	..	..	..	..	..	170·00	28·50	..
Do.	4039E	(Rising Sun)	..	..	..	..	..	..	..	..	..	16·00	1·88	..
Do.	4037E, 4039E, 4054E, 4231E	(Rising Sun leases)	..	..	..	..	..	..	..	..	..	294·00	98·78	..
Do.	4468E	Sir John	..	..	..	..	92·00	6·83	..	..	..	92·00	6·83	..
Do.	3771E	Sons of Gwalia, Kalgoorlie	..	..	..	..	..	..	..	..	..	1,428·00	844·54	..
Do.	4429E	Territoria	..	..	..	..	410·00	100·27	..	..	..	410·00	100·27	..
Do.	4289E	(Union Club)	..	..	..	..	..	..	..	..	..	700·00	257·45	..
Do.	4289E	Union Club	..	..	..	..	374·00	149·83	..	..	..	374·00	149·83	..
Do.	4289E, 4320E	(Union Club leases)	..	..	..	..	936·00	450·67	..	..	53·28	4,626·00	1,437·28	..
Do.	(4383E)	Wandin	..	..	..	..	..	..	..	..	..	34·00	12·91	..
Do.	3880E, 4146E	Westralian Machinery Corporation, Ltd.	..	..	..	..	40·00	14·88	..	..	..	2,904·00	863·11	..
Do.		Voided leases	..	..	..	..	..	..	..	10·27	699·41	86,640·54	54,156·85	578·07
Do.		Sundry claims	..	..	..	..	33·75	1,682·40	431·84	..	207·69	107·26	5,713·42	1,127·33	..
Wombola	4349E	Sudden Jerk	..	..	..	..	..	..	..	..	..	301·49	..	..	..
Do.		Voided leases	..	..	..	..	..	..	..	..	..	312·37	4,708·78	1,882·55	..
Do.		Sundry claims	..	..	..	..	..	..	..	..	..	..	469·13	97·16	..
		From District generally :—													
		Sundry claims	..	..	..	..	..	..	..	10,907·93	431·95	5,208·00	1,560·12	..
		Sundry parcels treated at :												
		Adeline Mill	..	..	..	..	..	35·12	..	4,509·10	42·64	35·12	25·00	12,940·36	..
		Allsop and Don's Works	..	..	..	..	..	..	..	73·87	92·51	..	..	73·87	92·51
		Allsop and Howell's Works	..	..	..	..	..	..	..	..	..	..	..	89·63	231·72
		Associated Northern Works	..	..	..	..	..	..	..	63·68	..	..	..	63·68	..
		Barnes' Works	..	..	..	..	..	..	..	..	..	..	..	1,522·50	..
		Bonnie Lass Works	..	..	..	..	..	..	..	..	..	..	55·00	1,297·73	..
		Boulder Puddling Works	..	..	..	..	..	..	..	..	2·54	..	..	72·89	..
		Brown Hill Consols Works	..	..	..	..	..	..	..	4,122·14	..	..	673·35	29,006·76	..
		Crœsus South Works	..	..	..	..	..	..	..	..	..	..	9,230·35	13,912·25	..
		Fremantle Trading Company's Works	..	..	..	..	..	..	..	686·66	241·78	..	..	1,358·66	1,181·18
		Glenartney's Works	..	..	..	..	..	..	..	..	..	..	..	830·97	..
		Golden Dream Works	..	..	..	..	..	..	..	..	..	..	..	85·87	..
		Golden Zone Works	..	..	..	..	..	..	..	..	..	..	..	340·97	..
		Hannan's Central Lakeside Works	..	..	..	..	..	..	..	3,273·79	..	..	..	3,273·79	..
		Hannan's Central Works	..	..	..	..	..	..	..	5,227·37	..	..	100·00	26,428·22	..
		Ironsides North Works	..	..	..	..	..	..	..	494·68	..	..	23·00	7,640·61	..
		Kalgoorlie Gold Recovery Works	..	..	..	..	..	..	..	73·28	..	..	..	73·28	..
		Leviathan Tailings lease : Barnett's Works	..	..	..	..	..	..	..	96·55	..	..	..	96·55	..
		Orotava Works	..	..	..	..	..	..	..	..	..	..	..	1,458·29	..
		Whitehart Works	..	..	..	..	..	..	..	10·73	..	..	..	24·39	..
		Various Works	..	..	..	..	..	..	..	..	..	15·15	29,452·55	43,397·55	403·37
		Reported by Banks and Gold Dealers	..	..	..	..	244·05	..	..	..	339·18	9,013·32	..	4·57	..
		Total	..	..	..	..	**353·06**	**507·89**	**1,718,481·00**	**774,189·65**	**85,708·61**	**25,582·31**	**20,829·37**	**16,153,144·57**	**12,407,702·76**	**867,300·35**

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

East Coolgardie Goldfield—*continued.*

BULONG DISTRICT.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Balagundi ..	(1055Y)	Lady Molly	..	..	5·00	13·77	..	..	88·24	29·00	194·88	..
Do. ..	..	Voided leases	..	..	..	..	..	..	1,727·29	1,032·00	1,045·52	..
Do. ..	..	Sundry claims	..	3·97	13·00	8·05	..	..	3·97	138·65	74·42	..
Bulong ..	1078Y	Daisy	..	..	24·00	5·72	..	..	..	24·00	5·72	..
Do. ..	1074Y	Gorge	..	75·63	..	..	..	..	75·63	5·30	53·78	..
Do. ..	1067Y, 1076Y ..	Southern Cross leases	..	..	8,054·00	1,077·24	..	..	..	8,802·66	1,315·07	..
Do. ..	1077Y	Trump	..	..	14·00	11·28	..	..	..	14·00	11·28	..
Do. ..	..	Voided leases	..	..	..	..	..	107·54	8,288·59	84,660·26	80,205·35	..
Do. ..	..	Sundry claims	11·99	..	338·00	191·42	..	1,648·60	911·09	6,564·52	14,133·31	..
Hogan's Find	..	Voided leases	..	..	..	..	..	..	908·82	309·50	276·51	..
Majestic ..	..	Voided leases	..	..	..	..	..	..	..	1,001·25	318·78	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	43·20	..	..	..
Mt. Monger ..	..	Voided leases	..	..	..	..	..	..	1,862·57	1,121·35	969·69	..
Do. ..	..	Sundry claims	..	..	12·80	1·81	..	215·60	..	357·80	220·18	..
Randall's ..	(910Y)	Agnes	..	..	..	..	..	..	..	1,676·25	512·80	..
Do. ..	1079Y	Comstock, W.A.	..	..	56·00	29·62	..	..	..	56·00	29·62	..
Do. ..	805Y, 892Y, 990Y	New Santa Claus G.M. Co., Ltd. ..	..	..	..	..	..	..	..	7,342·80	3,827·39	..
Do. ..	805Y, 892Y ..	(Santa Claus G.M. Co., Ltd.) ..	..	..	..	..	..	..	..	50·00	41·29	..
Do. ..	..	Voided leases	..	..	..	..	..	..	60·04	2,384·05	1,210·68	..
Do. ..	..	Sundry claims	..	..	..	..	..	20·45	..	1,616·55	421·57	..
Sudden Jerk	..	Voided leases	..	..	..	..	..	..	63·91	14·25	53·67	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	·15	10·23	..
Taurus ..	..	Voided leases	..	..	..	..	..	2·06	3·70	1,678·15	760·83	..
Do. ..	..	Sundry claims	..	..	..	..	..	112·69	..	260·00	346·86	..
Woodline ..	..	Voided leases	..	..	..	..	..	..	..	792·75	610·57	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	39·33	61·57	..
		From District generally :—										
		Sundry claims	..	..	..	..	..	5·64	41·85	790·75	284·26	..
		Sundry parcels treated at :										
		Hilda Mill	..	..	..	12·64	..	..	..	..	150·78	..
		State Battery—Randall's	..	..	..	..	..	..	..	..	131·73	..
		Various Works	..	..	..	..	..	..	..	6,102·15	5,565·74	..
		Reported by Banks and Gold Dealers	..	..	..	..	..	24,387·42	52·39	..	..	..
		Total	**11·99**	**79·60**	**8,516·80**	**1,351·55**	..	**26,500·00**	**14,131·29**	**126,863·47**	**112,844·08**	..

Coolgardie Goldfield.

COOLGARDIE DISTRICT.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Bonnievale ..	(4404)	Burgess	..	..	..	..	..	..	..	67·00	11·04	..
Do. ..	(4413)	Kingfisher	..	..	60·00	10·96	..	..	..	60·00	10·96	..
Do. ..	1552	(New Victoria)	..	..	..	..	..	..	..	264·00	169·00	..
Do. ..	1552, 4313 ..	New Victoria leases	..	..	126·00	102·55	..	..	..	126·00	102·55	..
Do. ..	4313	(New Victoria South)	..	..	..	..	..	..	..	1,065·00	324·87	..
Do. ..	1552, (3947), 4353	(Vale of Coolgardie G.Ms., Ltd.) ..	..	..	..	..	..	..	..	74,835·00	38,993·49	..
Do. ..	(144, 1151, 4375, 4376, 4397)	Westralia and East Extension Mines, Ltd.	..	..	401·00	209·85	..	..	..	229,838·15	116,893·56	..
Do. ..	..	Voided leases	..	..	..	..	..	..	2·26	40,494·70	28,751·36	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	774·50	368·10	..
Bulla Bulling	4403	Golden Gate	..	..	52·63	18·66	..	..	..	106·63	51·75	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	426·50	281·51	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	12·82	305·50	181·23	..
Burbanks ..	134, 135, 136, 1527, 1705, 2761, 3571, 3661, (3806, 3996, 4025, 4032)	(Burbanks Birthday Gift G.M., Ltd.)	..	..	..	..	..	..	..	132,706·00	126,351·59	..
Do. ..	134, 135, 136, 1527, 1705, 2761, 3571, 3661, (3806, 3996, 4025, 4032)	(Burbanks Birthday G.Ms., Ltd.) ..	..	..	1,428·20	1,040·42	24·06	..	..	36,677·20	25,186·99	334·85
Do. ..	134, 135, 136, 1527, 2761, 3571, 3661	Burbanks Birthday G.Ms., Ltd. ..	..	..	2,249·13	1,477·69	89·38	..	..	2,249·13	1,477·69	89·38
Do. ..	2985, 2986, 3444, 3870, 4059	(Burbanks Main Lode, Ltd.) ..	..	..	..	..	..	..	..	3,209·00	1,671·63	..
Do. ..	2985, 2986, 3444, 3870, 4059	(Burbanks Main Lode (1902), Ltd.) ..	..	..	..	..	..	..	..	4,824·00	3,214·50	..
Do. ..	2985, 2986, 3444, 3870, 4059	(Burbanks Main Lode (1904), Ltd.) ..	..	..	4,289·00	2,676·22	..	..	..	76,844·10	44,924·94	..
Do. ..	1705, 2985, 2986, 3444, 3870, 4059	Burbanks Main Lode (1904), Ltd. ..	..	..	13,316·00	8,158·29	..	..	..	13,316·00	8,158·29	..
Do. ..	4409	Burbanks Mainstay	..	..	..	..	..	..	..	609·00	165·62	..
Do. ..	1705	(Burbanks North G.M., Ltd.) ..	..	..	..	..	..	..	..	22·50	7·70	..
Do. ..	(4412)	Burbanks Ursula	..	..	136·00	79·15	..	..	..	159·50	97·95	..
Do. ..	(4381)	Coalition	..	..	..	..	..	..	..	54·50	115·28	..

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

Coolgardie Goldfield—*continued.*

COOLGARDIE DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Burbanks ..	4429	Coronation	..	..	198·00	108·23	..	..	..	198·00	108·23	..
Do. ..	4168	Glenloth South	..	..	116·50	108·33	..	..	79·67	542·50	775·79	..
Do. ..	(4310)	(Grosmont)	..	..	..	..	..	..	..	1,225·50	421·27	..
Do. ..	(4310, 4355, 4380)	Grosmont leases	..	..	..	..	..	..	..	5,183·00	385·85	..
Do. ..	4379	Ivanhoe Burbanks	..	..	132·00	81·26	..	..	..	398·00	273·87	..
Do. ..	2160	(Lady Robinson)	..	..	..	..	..	..	..	5,315·40	3,327·12	..
Do. ..	2160, (3950, 4125)	(Lady Robinson G.M. Co., N.L.) ..	..	..	180·00	29·13	..	..	..	16,823·50	7,797·88	..
Do. ..	2160	Lady Robinson : Lady Robinson G.M. Co., N.L.	..	..	330·00	98·16	..	..	..	330·00	98·16	..
Do. ..	4241	(Lord Bobs)	..	..	..	..	..	..	..	1,264·00	2,829·90	..
Do. ..	4241, (4286, 4287)	(Lord Bobs G.M. Syndicate)	..	..	..	..	..	..	..	1,744·00	2,151·90	..
Do. ..	4241	Lord Bobs : Lord Bobs G.M. Syndicate	..	..	72·00	148·71	..	..	..	486·00	936·84	..
Do. ..	(4296)	Sunbeam	..	..	..	..	..	..	..	35·00	51·70	..
Do. ..	..	Voided leases	..	..	..	..	..	13·36	105·24	15,481·13	14,545·69	80·73
Do. ..	..	Sundry claims	..	..	326·00	149·39	..	..	56·60	2,267·50	1,491·46	..
Coolgardie ..	133, 139, 142 ..	(Bayley's G.Ms., Ltd.)	..	..	..	..	..	882·14	89·41	76,402·97	99,179·62	..
Do. ..	133, 139, 142 ..	Bayley's leases	7·18	6·71	2,332·05	653·20	..	7·18	171·21	7,017·05	6,890·53	..
Do. ..	133, 139, 142 ..	(Bayley's Mines, Ltd.)	..	..	..	..	..	15·10	10·59	2,319·74	2,323·66	..
Do. ..	4067	(Clydesdale)	..	..	..	..	..	..	..	9·00	24·48	..
Do. ..	(4389)	Columbia Park	..	..	..	..	..	..	..	139·50	275·75	..
Do. ..	4421	Columbia Park	..	9·00	..	..	..	..	9·00	..	..	..
Do. ..	(4363)	Coolgardie Enterprise	..	..	..	..	..	..	..	365·00	116·07	..
Do. ..	(4093, 4117) ..	Coolgardie Prospecting, Development and Mining Co., N.L.	..	..	..	..	..	..	..	915·00	294·21	..
Do. ..	(3918)	(Coolgardie Redemption) ..	..	..	..	..	..	..	1,257·62	4,419·00	3,747·28	..
Do. ..	(3918)	Coolgardie Redemption G.M. Co., N.L.	..	..	..	..	..	..	..	202·00	68·80	..
Do. ..	1865	Empress of Coolgardie	..	..	83·50	41·20	..	..	..	1,899·00	754·51	..
Do. ..	1865	(Empress of Coolgardie G.M. (1896), Ltd.)	..	..	..	..	..	..	..	2,868·00	950·53	..
Do. ..	1865	(Empress of Coolgardie : Phœnix G.Ms., Ltd.)	..	..	..	..	..	..	..	12,028·50	4,524·96	..
Do. ..	(4395)	Evelyn	..	..	..	..	..	..	2·74	122·50	80·70	..
Do, ..	(3827)	Garfield	..	12·30	10·00	16·18	..	..	474·51	890·50	1,339·14	..
Do. ..	(4391)	(Gladys)	..	..	..	..	..	..	..	184·00	13·92	..
Do. ..	(4431)	Good Luck	..	..	39·00	10·10	..	..	..	39·00	10·10	..
Do. ..	73, 1902, 3556, 3701, 3811, 3813, 3998	Griffiths leases	..	..	1,032·00	332·10	..	..	..	35,381·00	14,433·46	..

Do. ..	Block 53.. ..	Hampton Plains Estate, Ltd. ..	..	..	..	..	..	..	358·42	67·00	112·49	..
Do. ..	Block 59 ..	Hampton Plains Estate, Ltd. ..	..	..	384·00	153·97	..	..	..	6,169·00	5,732·01	..
Do. ..	(4288)	Indicator	..	..	..	..	..	2·94	19·26	135·00	139·61	..
Do. ..	(4288, 4294) ..	(Indicator leases)	..	..	..	..	..	..	81·52	98·00	114·85	..
Do. ..	(4370)	Iron Duke	..	..	..	..	..	..	..	140·00	56·32	..
Do. ..	4122	(King's Cross)	..	..	..	..	..	..	..	792·00	561·39	..
Do. ..	4297	King Solomon	..	..	30·00	7·91	..	..	10·45	1,084·50	766·19	..
Do. ..	3556	(Lily)	..	..	..	..	..	..	..	342·75	217·64	..
Do. ..	4411	May Queen	..	..	205·50	151·52	..	..	..	223·50	170·59	..
Do. ..	3701	(Morning Star South)	..	..	..	..	..	..	..	250·00	30·63	..
Do. ..	4067, 4122, 4372	New Bayley's Mines, Ltd.	..	..	40·00	28·23	..	..	..	117·00	65·85	..
Do. ..	(4152, 4153) ..	Queen's Cross leases	..	..	389·52	321·19	..	..	26·20	28,081·02	4,915·63	..
Do. ..	(4373)	Redeemer	..	..	..	..	..	..	..	142·00	260·90	..
Do. ..	4295, (4319) ..	(Richmond G.M. Syndicate)	..	154·82	..	..	..	..	154·82	457·00	607·40	..
Do. ..	4295, (4319) ..	(Richmond leases)	..	..	..	..	..	..	..	144·00	171·95	..
Do. ..	4295	Richmond : Richmond G.M. Syndicate	..	..	80·00	33·71	..	..	..	80·00	33·71	..
Do. ..	73	(Star of the South)	..	..	..	..	..	..	..	975·00	819·75	..
Do. ..	(4396)	Surprise	..	..	66·00	77·77	..	..	..	115·50	170·92	..
Do. ..	33, 3824, 3830, 4227, 4323, 4326	Tindal's Coolgardie G.M. Co., N.L. ..	..	..	18,642·00	5,151·73	..	..	..	121,280·25	30,386·82	..
Do. ..	(4410)	Try Again	..	..	104·00	154·22	..	..	..	138·00	187·11	..
Do. ..	(4093)	(Undaunted)	..	..	..	..	..	..	..	565·81	156·39	..
Do. ..	(4093, 4117) ..	(Undaunted leases)	..	..	..	..	..	..	..	1,737·00	462·21	..
Do. ..	4407	Union Jack South	..	..	6·50	18·32	..	..	..	22·50	69·79	..
Do. ..	(4377)	(Victor)	..	..	..	..	..	..	..	173·50	53·60	..
Do. ..	4260	W. A. Mint	..	8·80	119·50	86·93	..	..	51·58	648·00	232·92	..
Do. ..	4067, 4122 ..	(W.A. Sluicing Syndicate, Ltd.) ..	..	..	..	..	..	..	..	742·00	373·22	..
Do. ..	4368	Waterfall Prospecting Syndicate ..	..	..	392·50	397·42	..	..	..	632·50	1,457·90	..
Do. ..	..	Voided leases	..	..	..	..	..	389·14	740·44	194,052·37	122,904·60	·96
Do. ..	..	Sundry claims	42·14	148·82	1,615·00	506·30	..	42·14	748·61	13,814·95	6,667·23	..
Lundynie ..	4253	(Hidden Secret North)	..	..	..	..	..	..	..	68·00	60·72	..
Do. ..	4253, 4266, 4351	Hidden Secret North leases ..	..	..	3,942·00	2,108·60	..	..	..	10,331·00	4,860·42	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	1,473·50	644·31	1·75
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	117·00	31·11	..
Gibraltar ..	..	Voided leases	..	..	..	..	..	..	..	227·50	70·20	..
Do. ..	..	Sundry claims	..	..	12·50	1·69	..	..	..	41·50	18·33	..
Gnarlbine ..	4401	Baroota Wonder Extended ..	..	..	47·00	11·96	..	..	..	47·00	11·96	..
Do. ..	(4400), 4401 ..	(Baroota Wonder leases) ..	..	..	135·00	15·76	..	..	..	135·00	15·76	..
Do. ..	..	Voided leases	..	..	..	..	..	..	10·94	1,717·75	1,022·18	..
Do. ..	..	Sundry claims	..	..	44·50	29·41	..	..	1·31	108·00	57·62	..
Higginsville ..	4382	Fair Play	..	..	..	..	..	..	..	3,450·00	404·37	..
Do. ..	4184, (4185, 4191, 4206, 4207)	(Red Hill Westralia G.Ms., Ltd.) ..	..	..	..	..	..	..	..	16,983·00	6,848·02	127·78
Do. ..	4184	Sons of Erin : Forward, Down & Co., Ltd.	..	..	73·00	830·38	..	..	..	73·00	830·38	..
Do. ..	4184, (4185) ..	(Sons of Erin G.M. Co., N.L.).. ..	..	..	..	..	..	..	285·20	4,742·00	2,938·77	..
Do. ..	4184, (4185, 4191, 4206, 4207)	Sons of Erin leases	..	..	306·00	306·22	..	..	..	1,394·00	911·95	..
Do. ..	(4191)	(Sons of Erin North Extended)	..	..	..	..	..	..	..	172·00	194·44	..
Do. ..	..	Voided leases	..	..	..	..	..	..	2·06	1,652·00	421·64	..
Do. ..	..	Sundry claims	..	..	48·00	20·89	..	..	16·52	503·50	396·08	..

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

Coolgardie Goldfield—*continued.*

COOLGARDIE DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Londonderry	3834	Cheapside	..	..	431·50	211·65	..	..	..	3,371·25	1,930·39	..
Do.	(4352)	Cheapside North: Westralia Waihi G.Ms., N.L.	..	..	..	..	..	..	..	439·00	159·80	..
Do.	(4394)	Fenian Cat	..	..	31·00	30·93	..	..	..	123·00	136·22	..
Do.	(4310)	Grosmont	..	..	256·00	58·50	..	..	..	256·00	58·50	..
Do.	..	Voided leases	..	..	..	..	..	..	46·25	13,680·66	12,776·16	..
Do.	..	Sundry claims	..	..	40·00	16·39	..	..	..	660·85	349·21	..
Mungari	..	Voided leases	..	..	..	..	..	..	17·71	735·00	331·78	..
Do.	..	Sundry claims	..	..	73·25	29·18	..	..	..	179·25	61·90	..
Red Hill	(4331)	Edquist	..	..	..	..	..	..	11·80	17·50	48·65	..
Do.	..	Voided leases	..	..	..	..	..	..	1,427·62	40,775·70	31,015·40	..
Do.	..	Sundry claims	..	10·93	..	..	..	..	24·60	110·30	12·18	..
Widgiemooltha	4028	Flinders	..	6·00	25·00	137·83	..	..	29·11	359·10	1,925·82	..
Do.	3906	Yorkshire Lass	..	..	..	78·00	..	..	..	1,783·70	1,180·97	..
Do.	..	Voided leases	..	..	..	..	..	..	439·18	6,538·40	2,225·18	·17
Do.	..	Sundry claims	..	1·15	38·50	18·68	..	3·62	19·21	1,857·15	773·82	..
		From District generally:—										
		Sundry parcels treated at:										
		Allsop & Howell's Works—Kalgoorlie	..	..	..	..	..	..	..	..	360·85	..
		Burbanks Main Lode Works	..	..	..	168·69	..	2·77	..	557·50	880·66	..
		Carswell Cyanide Works	..	..	..	..	..	..	..	..	54·61	..
		Fremantle Smelting Works	..	..	..	..	..	..	..	..	135·52	108·89
		Highgate Works	..	..	..	17·80	..	..	..	100·00	286·51	..
		King Solomon Works	..	..	..	..	..	·87	..	695·00	1,299·50	..
		Lady Robinson Cyanide Works	..	..	..	..	..	..	..	70·00	348·28	..
		Moss' Cyanide Works	..	..	..	..	..	..	..	..	2,958·84	..
		Orotava Works—Kalgoorlie	..	..	..	..	..	..	..	..	171·81	..
		Red Hill Westralia Works	..	..	..	..	..	..	..	10·00	75·81	..
		State Battery—Coolgardie	..	..	..	1,513·19	..	..	..	647·50	3,490·70	..
		State Battery—Widgiemooltha	..	..	..	5·77	..	..	..	38·50	307·73	..
		Swain's Cyanide Works	..	..	..	·87	..	..	..	..	20·08	..
		Various Works	..	..	..	..	..	4·11	..	2,340·11	9,166·26	..
		Reported by Banks and Gold Dealers	322·80	..	..	..	..	5,660·22	543·04	..	..	..
		Total	**372·12**	**358·53**	**54,486·78**	**28,251·39**	**113·44**	**7,023·59**	**7,337·52**	**1,307,330·57**	**837,934·00**	**744·51**

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Balgarrie ..	622s	(Balgorrie G.M. Co., N.L.)	..	..	..	..	..	..	1·64	340·00	81·43	..
Do. ..	622s	United Australia..	..	..	..	..	..	..	8·53	1,253·50	687·39	..
Do. ..	..	Voided leases	..	..	..	..	..	10·94	65·31	3,530·75	4,036·92	1·38
Do. ..	..	Sundry claims	..	..	..	..	..	..	18·57	912·25	358·01	..
Carbine ..	33s	(Carbine)	..	..	..	..	..	..	10·85	2,401·00	1,164·53	..
Do. ..	33s, 710s, 711s..	Carbine leases	..	..	2,410·00	1,448·37	..	..	677·13	15,351·50	8,603·54	..
Do. ..	758s	(Carbine South)	..	..	..	..	..	..	..	22·00	10·29	..
Do. ..	758s, 771s, 805s	Homeward G.M. Co., Ltd. ..	..	..	327·00	35·12	..	..	..	327·00	35·12	..
Do. ..	776s	Spearmint..	..	..	104·00	95·53	..	..	..	440·00	541·22	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	1,653·00	1,977·02	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	39·00	21·87	..
Carnage ..	..	Voided leases	..	..	..	..	..	176·04	659·31	2,402·00	2,170·67	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	61·00	27·50	..
Cashmans ..	716s [1289w] ..	Lady Evelyn	..	..	..	..	..	..	..	241·75	479·81	..
Do. ..	..	Voided leases	..	..	..	..	..	67·51	793·44	7,187·90	6,395·33	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	6·16	116·00	67·61	..
Chadwin ..	(818s)	Chadwin	..	..	33·00	17·84	..	..	..	262·50	144·82	..
Do. ..	(813s)	Magdala	..	..	..	..	..	..	..	324·00	165·32	..
Do. ..	822s	Resolute	..	..	43·00	110·84	..	..	..	118·00	440·77	..
Do. ..	816s	Wheel of Fortune	..	..	72·00	235·70	..	..	..	141·25	422·68	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	·86	463·00	404·19	..
Dunnsville ..	836s	Elizabeth	..	..	15·00	16·51	..	..	..	15·00	16·51	..
Do. ..	796s	Herbert	..	..	..	..	..	..	..	193·00	163·41	..
Do. ..	828s	Robin Adair	..	..	87·10	38·33	..	..	..	87·10	38·33	..
Do. ..	..	Voided leases	..	..	..	..	..	..	181·12	17,080·00	7,740·31	..
Do. ..	..	Sundry claims	..	22·07	10·01	51·77	..	..	22·07	285·09	254·52	..
Jourdie Hills	(789s)	Derry's Own	..	..	369·00	67·63	..	..	18·00	1,099·00	361·35	..
Do. ..	773s, 786s ..	Jourdie Enterprise leases ..	..	..	690·00	241·42	..	..	..	9,159·00	3,318·70	..
Do. ..	786s	(Jourdie Enterprise South) ..	..	..	..	..	..	..	..	91·00	39·42	..
Do. ..	369s, (661s) ..	(Jourdie Hill G.M. Co., Ltd.) ..	..	..	..	..	..	..	..	9,635·00	7,868·08	..
Do. ..	369s, (661s) ..	(Jourdie United G.Ms., Ltd.) ..	..	..	407·00	199·71	..	..	..	1,520·00	1,027·63	..
Do. ..	514s	Pride of Jourdie North ..	..	..	400·00	260·14	..	..	..	2,427·00	1,948·42	..
Do. ..	369s	(Pride of the Jourdies) ..	..	..	..	..	..	..	..	410·74	465·47	..
Do. ..	369s	Pride of the Jourdies : Forward, Down & Co., Ltd.	..	..	375·00	165·19	..	..	..	375·00	165·19	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	724·00	365·32	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	760·50	405·00	..
Kundana ..	..	Voided leases	..	..	..	..	..	..	..	465·00	68·12	..

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

Coolgardie Goldfield —*continued.*

KUNANALLING DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Kintore ..	802s	Last Chance	..	..	11·00	35·51	..	..	..	138·33	264·86	..
Do. ..	808s	London	..	..	42·00	52·55	..	..	..	117·50	80·39	..
Do. ..	797s	Sugarloaf	..	..	84·00	139·91	..	..	..	446·00	564·15	..
Do. ..	..	Voided leases	..	..	..	..	..	..	143·66	42,289·81	30,778·32	..
Do. ..	..	Sundry claims	73·27	..	109·20	47·72	..	73·27	..	875·20	873·23	..
Siberia ..	674s [1286w] ..	Golden	..	..	..	..	..	..	82·17	22·40	120·37	..
Do. ..	720s [1292w] ..	Invincible	..	..	..	..	..	..	..	185·00	368·63	..
Do. ..	728s [1293w] ..	Mexico	..	..	..	..	..	..	..	216·50	427·07	..
Do. ..	718s [1291w] ..	Missouri	..	..	..	..	..	..	..	196·00	79·88	..
Do. ..	(124s [1283w]) ..	Waverley	..	..	..	..	..	..	496·67	1,466·80	1,873·81	..
Do. ..	..	Voided leases	..	..	..	..	..	1·07	978·97	6,130·15	7,660·38	..
Do. ..	..	Sundry claims	..	..	..	..	..	30·91	..	223·00	349·86	..
25-Mile ..	696s	(Blue Bell)	..	..	..	..	..	..	8·05	697·00	429·47	..
Do. ..	7 7s	(Blue Bell Extended) ..	..	..	..	..	..	..	..	113·00	71·32	..
Do. ..	696s, 727s ..	Blue Bell leases	..	..	..	50·07	..	..	..	1,390·00	1,495·16	..
Do. ..	(783s)	Hopeful	..	..	..	..	..	..	1·60	551·50	732·00	..
Do. ..	839s	Hopeful	..	..	23·00	57·16	..	..	..	23·00	57·16	..
Do. ..	(826s)	Kookaburra	..	..	..	..	..	..	..	3·20	64·41	..
Do. ..	(824s)	Our Birthday	..	..	..	..	..	..	5·98	6·00	58·76	..
Do. ..	823s	Premier	..	..	630·00	312·55	..	..	..	976·00	436·12	..
Do. ..	586s, 602s ..	Shamrock leases	..	..	337·00	366·94	..	..	192·12	3,924·35	5,070·42	..
Do. ..	645s	Star of Fremantle	..	..	..	105·04	..	..	..	4,853·50	3,189·39	..
Do. ..	603s	Sydney Mint	..	43·36	..	..	..	..	213·30	701·75	2,456·82	..
Do. ..	..	Voided leases	..	..	..	..	..	..	251·06	78,981·44	58,497·98	18·84
Do. ..	..	Sundry claims	3·79	..	628·60	326·49	..	3·79	87·17	3,850·95	1,976·31	..
		From District generally :—										
		Sundry parcels treated at :										
		Blue Bell Works	..	..	..	97·24	..	..	..	26·00	238·62	..
		Bow & Carswell's Works	..	..	..	..	..	9·22	..	239·00	640·13	..
		Lindsay's Works	..	..	..	..	..	..	..	..	6·40	..
		Orotava Works—Kalgoorlie	..	..	..	..	..	..	..	..	71·90	..
		Stanley Works	..	..	..	..	..	14·86	..	40·60	370·43	..
		Various Works	..	..	..	..	..	..	..	1,037·66	1,250·15	..
		Reported by Banks and Gold Dealers	53·90	..	..	..	..	80·26	1·10	..	..	..
		Total	**130·96**	**65·43**	**7,206·91**	**4,575·28**	..	**467·87**	**4,924·84**	**231,997·47**	**173,035·72**	**20·22**

Yilgarn Goldfield.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Blackbourne	(887)	Blackbourne	..	..	24·00	3·43	..	..	..	486·50	114·49	..
Do.	..	Voided leases	..	..	..	..	..	..	..	796·00	226·88	..
Bullfinch	969, 970	Bullfinch East G.M. Co., Ltd.	..	..	22·85	78·60	..	..	..	22·85	78·60	..
Do.	914, 915, 916, 926, 928, 942, 960	(Bullfinch leases)	..	..	..	..	..	..	..	1,027·52	10,958·88	..
Do.	914, 915, 916, 926, 928, 942, 960	Bullfinch Proprietary (W.A.), Ltd.	..	..	653·42	5,544·42	..	..	..	653·42	5,544·42	..
Do.	962	Chaffinch : Great Chaffinch G.M. Co., N.L.	..	..	1·00	6·55	..	..	..	1·00	6·55	..
Do.	2325	Golden Area	..	..	12·00	2·11	..	..	..	12·00	2·11	..
Do.	2337	Illawarra : Cosgrove Prospecting Syndicate	..	..	15·00	5·13	..	..	..	15·00	5·13	..
Corinthian	1589	(Babylonia Extended)	..	..	28·00	6·84	..	..	..	28·00	6·84	..
Do.	1589, 1590	Babylonia Extended G.M. Co., N.L.	..	..	35·00	8·50	..	..	..	35·00	8·50	..
Do.	1391, 1392, 1393	Babylonia North leases	..	..	251·00	193·25	..	..	..	251·00	193·25	..
Do.	893	Corinthian	..	..	1,075·00	567·50	..	..	..	1,262·00	737·01	..
Do.	(1092)	Corinthian Main Reef South	..	..	12·00	1·34	..	..	..	12·00	1·34	..
Do.	..	Sundry claims	..	..	53·00	66·18	..	..	..	53·00	66·18	..
Golden Valley	910	(Ada May)	..	..	115·00	179·99	..	..	..	115·00	179·99	..
Do.	(927)	Baby Queen	..	..	27·00	24·98	..	..	..	47·00	74·81	..
Do.	1751	Bullin Bullin	..	..	13·00	5·03	..	..	..	13·00	5·03	..
Do.	2304	Bullwark	..	..	14·00	16·69	..	..	..	14·00	16·69	..
Do.	1337	Golden Crown	..	..	40·00	5·19	..	..	..	40·00	5·19	..
Do.	2453	Golden Hole	..	..	19·50	16·24	..	..	..	19·50	16·24	..
Do.	2297	Green Harp	..	..	46·00	53·21	..	..	..	46·00	53·21	..
Do.	2435	Lady Mollie	..	..	17·25	6·76	..	..	..	17·25	6·76	..
Do.	2357	Light Wing	..	..	4·50	1·75	..	..	..	4·50	1·75	..
Do.	922	Lily of the Valley	..	..	94·00	16·41	..	..	..	117·00	22·70	..
Do.	2296	Manxman Main Lode	..	..	20·00	32·35	..	..	..	20·00	32·35	..
Do.	2255	Manxman South Extended	..	..	29·00	58·44	..	..	..	29·00	58·44	..
Do.	924	(Mountain Oaks)	..	..	230·50	303·10	..	..	..	302·50	418·46	..
Do.	829, 920, 924, 1043	Pine Hill G.M. Co., N.L.	..	..	326·00	393·06	..	..	..	326·00	393·06	..
Do.	829	(Pioneer)	..	..	80·00	18·36	..	..	..	102·00	336·35	..
Do.	1807	Red Robin	..	..	25·50	11·44	..	..	..	25·50	11·44	..
Do.	2240	Sunset : Sunset G.M. Co., Ltd.	..	..	20·00	5·96	..	..	..	20·00	5·96	..
Do.	(1008)	Valley Wonder	..	..	14·00	5·36	..	..	..	14·00	5·36	..
Do.	835	Violet	..	..	50·00	45·31	..	..	..	240·00	267·04	..
Do.	..	Voided leases	..	..	..	..	..	..	..	137·00	220·76	..
Do.	..	Sundry claims	..	..	..	..	..	..	..	137·50	78·77	..

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

Yilgarn Goldfield—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Greenmount..	503, (535, 555) ..	(Greenmount G.Ms., Ltd.)	..	..	..	..	..	..	..	5·00	2·11	..
Do. ..	503, (555) ..	Greenmount Mines, N.L.	..	..	10·00	920·61	..	..	..	64,186·00	15,788·99	364·72
Do. ..	(1210)	Lord Roberts	..	..	56·00	9·88	..	..	..	56·00	9·88	..
Do. ..	550	(Sunbeam)	..	..	..	..	..	14·00	..	4,472·00	1,427·25	..
Do. ..	550	Sunbeam	..	..	18·00	8·83	..	..	..	145·00	78·08	..
Do. ..	550, (565) ..	(Sunbeam leases)	..	..	..	..	..	..	..	3,191·00	816·42	..
Do. ..	536	Transvaal	..	..	..	..	..	..	..	30,233·00	7,317·08	579·78
Do. ..	503	(United Australia)	..	..	..	..	..	..	..	410·00	120·15	..
Do. ..	.. ..	Voided leases	..	..	..	..	..	31·99	21·62	5,640·00	1,538·75	..
Do. ..	..	Sundry claims	..	..	71·00	32·72	..	..	4·12	292·00	152·82	..
Hope's Hill ..	1052	Cross	..	..	15·00	17·45	..	..	..	15·00	17·45	..
Do. ..	(932)	Debtor's Friend	..	..	..	..	..	..	..	150·00	29·20	..
Do. ..	2502	Great Boulder No. 2	..	..	40·00	5·47	..	..	..	40·00	5·47	..
Do. ..	1927	Hopefinch	..	..	87·00	8·69	..	..	..	87·00	8·69	..
Do. ..	795	Hope's Hill	..	..	53·00	19·94	..	..	..	357·00	152·99	..
Do. ..	(880)	Hope's Hill North	..	..	..	..	..	..	..	165·00	31·83	..
Do, ..	895	Hope's Hill Perseverance ..	..	..	111·50	100·87	..	..	..	391·50	408·39	..
Do. ..	(841)	Lady Käthe	..	..	..	..	..	..	2·53	30·00	5·44	..
Do. ..	2524	Lady Käthe	..	..	45·00	7·76	..	..	..	45·00	7·76	..
Do. ..	(899)	Norwood	..	..	..	..	..	..	..	40·00	53·41	..
Do. ..	2523	Parisian	..	..	5·00	4·65	..	..	..	5·00	4·65	..
Do. ..	1432	Phœnix	..	12·59	182·00	89·45	..	..	50·20	192·00	98·72	..
Do. ..	(1488)	Red Wings	..	..	8·00	1·19	..	..	..	8·00	1·19	..
Do. ..	2354	Renegade	..	..	123·00	21·85	..	..	..	153·00	21·85	..
Do. ..	921	Rodda's Reward	..	..	262·00	34·23	1·00	..	..	312·00	42·13	1·00
Do. ..	(910)	Willbee	..	..	..	..	..	..	..	20·00	2·77	..
Do. ..	.. ..	Voided leases	..	..	..	..	..	..	..	125,636·35	31,920·06	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	2·71	338·50	144·36	..
Jacoletti ..	2484	Bee	..	..	68·00	36·16	..	..	..	68·00	36·16	..
Do. ..	923	Bohemian	..	16·48	125·00	58·39	..	..	16·48	613·00	230·21	..
Do. ..	1465	Comet	..	..	268·00	567·55	..	..	..	368·00	868·10	..
Do. ..	925	(Dell)	..	..	..	..	..	..	24·77	100·00	38·04	..
Do. ..	768	(Donovan's Find)	..	..	..	..	..	..	..	1,768·00	1,999·43	..
Do. ..	768	Donovan's Find: Greenmount Mines N.L.	..	..	100·00	85·58	..	..	..	1,057·00	950·88	..
Do. ..	1463	Eclipse	..	..	268·00	154·99	..	..	..	366·00	208·87	..
Do. ..	869	(Eveless Eden)	..	..	..	..	..	..	..	104·00	44·29	..
Do. ..	823	Exhibition	..	..	197·00	62·32	..	..	..	1,111·00	430·83	..
Do. ..	(779)	Frances Firness	..	..	..	..	..	..	3·68	1,825·00	822·79	..

Do. ..	8 0	Gentle Annie	..	..	260·00	189·68	..	..	..	845·00	432·20	..
Do ..	719	(Great Victoria)	..	..	..	..	..	..	..	1,356·00	281·53	..
Do. ..	719, 944, 945, 1227, 1228, 1606	Great Victoria leases	..	..	3,360·00	498·39	..	..	..	3,360·00	498·39	..
Do. ..	(851)	Green Jacket	..	..	..	..	..	..	..	8·00	6·37	..
Do. ..	490, 517, 558	Jacoletti G.Ms., Ltd.	..	..	426·00	272·57	..	..	..	6,187·00	2,348·18	..
Do. ..	490, 517, 558, (559)	(Lady Loch Mines, Ltd.)	..	..	..	..	..	..	..	2,091·00	674·01	..
Do. ..	714	(Marvel Loch) ..	..	..	..	..	..	..	..	500·00	316·81	..
Do. ..	714, 723, 822, 869	Marvel Loch G.M. Co., N.L.	..	..	..	277·80	..	..	..	25,045·00	10,527·31	379·96
Do. ..	739	Marvel Loch North	..	..	..	..	..	..	..	6:6·00	398·76	..
Do. ..	852	May Queen	..	4·07	46·00	148·30	..	..	4·07	161·00	927·05	..
Do. ..	1603	Mountain King	..	..	205·00	137·50	..	..	..	205·00	137·50	..
Do. ..	805	Mountain Prince	..	..	110·00	61·56	..	..	..	120·00	72·87	..
Do. ..	803, 838, 948, 949, 950	Mountain Queen leases ..	..	..	..	..	..	..	..	748·00	208·39	..
Do. ..	665	Never Never	..	..	50·00	54·67	..	..	..	29,395·00	7,709·26	..
Do. ..	2490	New Democrat	..	..	105·00	84·97	..	..	..	105·00	84·97	..
Do. ..	839	Scorpio	..	25·69	304·50	144·15	..	..	25·69	1,127·50	848·29	..
Do. ..	2522	Southern Kingfisher	..	..	114·00	13·15	..	..	..	114·00	13·15	..
Do. ..	1435	Starfinch	..	..	121·00	52·30	..	..	..	121·00	52·30	..
Jacoletti ..	490, 517 ..	(Turnbull leases)	..	..	..	..	..	..	..	2,143·00	1,481·72	..
Do. ..	1452	Undaunted	..	..	375·00	103·13	..	..	..	375·00	103·13	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	3,504·50	1,779·67	..
Do. ..	..	Sundry claims	..	..	48·00	53·86	..	..	28·14	2,268·25	1,421·14	..
Kennyville ..	813	Catherine	..	..	135·00	57·62	..	..	..	374·50	158·57	..
Do. ..	776	Cornishman	..	..	265·00	173·90	..	..	..	1,077·00	1,111·43	..
Do. ..	(856)	Glen Dower	..	..	50·00	20·19	..	..	..	237·00	150·09	..
Do. ..	570	(Great Leviathan)	..	..	..	..	..	..	..	3,821·85	2,948·67	..
Do. ..	570	Great Leviathan	..	..	425·00	489·23	..	..	..	1,679·00	1,459·56	..
Do. ..	570	(Great Leviathan: Northern Blocks Syndicate, Ltd.)	..	..	..	..	..	..	..	10,705·00	2,974·64	..
Do. ..	911	Trafalgar	..	..	168·00	197·89	..	..	..	508·00	508·64	..
Do. ..	..	Voided leases	..	..	..	..	..	..	5·58	256·00	84·37	·09
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	204·00	129·98	..
Koolyanobbing	..	Voided leases	..	..	..	..	..	..	..	308·00	116·74	..
Do. ..	..	Sundry claims	..	..	55·00	10·40	..	..	..	55·00	10·40	..
Mt. Jackson	2284, 2285 ..	Athlone Reward leases ..	..	..	5·00	22·20	..	..	..	5·00	22·20	..
Do. ..	(2271)	Effie's Reward	..	..	·25	3·70	..	..	..	·25	3·70	..
Do. ..	2362	Flemington	..	4·36	..	..	..	..	4·36	..	..	..
Do. ..	2053	Great Unknown	..	37·22	37·88	267·09	..	..	37·22	37·88	267·09	..
Do. ..	2444	Great Unknown North ..	..	30·62	..	..	..	..	30·62	..	..	..
Do. ..	2387	Marda East	..	..	7·50	12·01	..	..	..	7·50	12·01	..
Do. ..	2300	Queen of the Hills	..	..	8·00	20·85	..	..	..	8·00	20·85	..
Do. ..	2157	Three Kings	..	..	10·00	12·31	..	..	..	10·00	12·31	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	30,148·50	19,658·34	2,305·28
Mt. Rankin ..	..	Voided leases	..	..	..	..	..	3·84	5·20	496·00	122·17	..
Do. ..	..	Sundry claims	..	..	48·00	21·92	..	..	..	48·00	21·92	..
Parker's Range	508	Australia	..	..	90·00	16·67	..	..	..	2,317·00	1,445·67	..

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

Yilgarn Goldfield—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Parker's Range	2128	Ell-Ess-Dee	..	..	11·00	3·24	..	..	..	11·00	3·24	..
Do.	707	Golden Cube	..	..	..	..	..	..	12·85	1,344·00	505·95	..
Do.	1099	McIntosh	..	..	110·00	54·89	..	..	..	110·00	54·89	..
Do.	824	Newry	..	..	100·00	23·36	..	..	..	990·50	218·36	..
Do.	(8.7)	New Year's Gift	..	..	..	..	..	..	..	1,676·00	416·32	..
Do.	1688	Raven	..	..	25·00	4·71	..	..	..	25·00	4·71	..
Do.	2324	Searchlight North : Yarloop Prospecting Syndicate	..	..	150·50	31·77	..	..	..	150·00	31·77	..
Do.	1779	Searchlight : Zeigler Prospecting and Option Syndicate, N.L.	..	..	1·50	30·03	..	..	..	1·50	30·03	..
Do.	1425	Splendid Kingfisher : King of the Range G.M. Co., Ltd.	..	..	25·00	31·13	..	..	..	25·00	31·13	..
Do.	724, 760	Spring Hill leases	..	..	1,541·00	365·54	..	..	..	7,739·00	2,008·41	..
Do.	..	Voided leases	..	..	..	..	..	..	50·37	4,972·25	4,533·53	..
Do.	..	Sundry claims	..	..	44·00	30·22	..	..	..	586·25	208·50	..
Southern Cross	881, 882, 888, 889, 890	British and Foreign Development Syndicate, Ltd.	..	..	3,305·00	2,413·05	36·08	..	..	89,010·75	64,884·82	342·35
Do.	890	(Central)	..	..	..	..	..	..	..	44,958·00	19,702·85	..
Do.	749	(Central Extended)	..	..	..	70·50	..	..	28·39	760·82	904·29	8·00
Do.	2083	Christmas Birthday Central	..	..	4·00	11·49	..	..	..	4·00	11·49	..
Do.	(2423)	Excelsior No. 2	..	..	17·00	1·12	..	..	..	17·00	1·12	..
Do.	889	(Fraser's G.M. Co., N.L.)	...	..	..	..	..	..	..	151,771·00	67,870·33	..
Do.	888	(Fraser's South G.M. Co., N.L.)	..	..	..	..	..	..	..	48,233·00	20,013·23	..
Do.	2342	Haddon Consolidated	..	..	20·00	5·23	..	..	..	20·00	5·23	..
Do.	(1529)	King of the Cross	..	..	10·00	·79	..	..	..	10·00	·79	..
Do.	1056	(Lady Edeline)	..	..	12·00	13·87	..	..	..	12·00	13·87	..
Do.	749, 1056, 1543, 2218	Lady Edeline G.M. Co., N.L.	..	..	12·00	132·57	..	..	..	12·00	132·57	..
Do.	1042	Lord Cardigan	..	..	308·00	89·84	..	..	..	308·00	89·84	..
Do.	7416	Maori Lass	..	..	250·00	52·31	..	..	..	250·00	52·31	..
Do.	1889	Pretoria	..	..	127·00	32·26	..	..	..	127·00	32·26	..
Do.	2382	Yess	..	..	22·00	8·64	..	..	..	22·00	8·64	..
Do.	..	Voided leases	..	..	..	..	..	..	182·83	88,062·38	33,056·03	·06
Do.	..	Sundry claims	..	..	21·00	4·93	..	3·73	592·81	1,022·30	274·66	..
Westons	2086, 2087, 2088	Greenfinch Proprietary G.M., N.L.	..	..	472·00	478·93	..	..	..	472·00	478·93	..
		From Goldfield generally :—										
		Sundry parcels treated at :										
		Allsop and Don's Works	..	..	..	401·52	..	..	..	..	401·52	..

Allsop and Howell's Works	..	..	..	..	..	..	..	48·80	..	..	..	..	1,026·12	..
Andre's Cyanide Works	..	..	..	..	..	..	..	..	..	..	..	..	377·33	..
Barnett's Cyanide Works	..	..	..	..	..	..	..	..	..	..	..	..	40·88	..
British and Foreign Development Works	..	..	..	..	..	..	..	..	..	..	..	..	199·85	..
Fraser's South Extended Tailings Works	..	..	..	..	..	..	..	..	..	..	..	..	1,443·31	2·64
Fremantle Smelting Works	..	..	..	..	..	..	..	..	..	..	21·28	..	576·69	33·90
Greenmount Works	..	..	..	..	..	..	..	..	..	..	..	..	154·77	..
Hope's Hill Cyanide Works	..	..	..	..	..	..	..	..	..	..	..	..	5·81	..
Jacoletti Works	..	..	..	..	..	..	..	206·69	..	..	..	..	1,108·17	..
Jones' Cyanide Works	..	..	..	..	..	..	..	..	..	..	..	..	127·39	..
Layther's Cyanide Works	..	..	..	..	..	..	..	94·10	..	..	..	..	569·99	..
Miller's Cyanide Works	..	..	..	..	..	..	..	..	..	..	..	..	120·57	..
Never Never Works	..	..	..	..	..	..	..	..	..	..	..	..	53·83	..
Orotava Works—Kalgoorlie	..	..	..	..	..	..	..	..	..	..	..	..	238·22	..
Spring Hill Works	..	..	..	..	..	..	..	6·89	..	..	..	..	147·23	..
Sunbeam Works	..	..	..	..	..	..	..	585·24	..	..	8·00	..	1,578·37	..
Violet Works	..	..	..	..	..	..	..	94·99	..	..	..	..	94·99	..
Various Works	..	..	..	..	..	..	..	..	..	..	59·00	..	4,479·58	..
Reported by Banks and Gold Dealers	..	..	..	1·65	..	..	..	..	..	18·66	3·53	..	..	..
Total	..	..	..	**1·65**	**131·03**	**18,897·15**	**18,678·72**	**37·08**	**72·22**	**1,137·77**	**825,907·65**	**375,885·10**	**4,017·78**

Dundas Goldfield.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Buldania ..	1151	Coronation	..	..	33·00	37·82	..	..	..	33·00	37·82	..
Do. ..	(1154)	King George	..	3·02	43·50	32·87	..	..	3·02	43·50	32·87	..
Do. ..	(1134)	Orion	..	..	6·00	18·64	..	..	..	6·00	18·64	..
Do. ..	..	Voided leases	..	..	..	..	..	..	..	742·05	596·66	..
Do. ..	..	Sundry claims	..	5·28	90·52	186·43	..	..	5·28	281·52	448·26	..
Dundas ..	..	Voided leases	..	..	..	..	..	..	..	4,543·23	2,208·48	..
Do. ..	..	Sundry claims	..	..	10·00	4·23	..	..	385·37	182·50	143·88	..
Killaloe ..	..	Voided leases	..	..	..	..	..	..	..	20·65	6·88	..
Norseman ..	1144, 1147 ..	Abbotshall leases: Cumberland G.M. Co. N.L.	..	..	50·00	13·97	..	..	..	50·00	13·97	..
Do. ..	(1044)	(Acme)	..	..	..	..	..	..	..	266·50	82·15	..
Do. ..	(1044)	Acme: North Mararoa G.M. Co., N.L.	..	..	..	..	..	..	..	115·50	24·77	..
Do. ..	987, 1113 ..	After Years leases	..	..	528·00	157·22	..	..	..	709·00	248·18	..
Do. ..	(999)	(Austral Mararoa)	..	..	..	..	..	..	..	605·00	169·42	..
Do. ..	1018	Bandit King	..	..	33·00	12·24	..	..	8·86	270·10	146·10	..

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

Dundas Goldfield—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Norseman ..	1143	Bonanza	..	..	36·50	9·92	..	..	..	36·50	9·92	..
Do. ..	1150	Bonanza North	..	..	25·50	8·54	..	..	..	25·50	8·54	..
Do. ..	42, 43, 53, 579, (690), 889, (898, 1011)	(Cumberland G.M. Co., N.L.) ..	..	..	1,200·00	1,884·46	..	..	..	47,282·60	46,899·61	..
Do. ..	42, 43, 53, 579, 889	Cumberland G.M. Co., N.L.	..	..	475·00	813·95	..	..	..	475·00	813·95	..
Do. ..	966	(Esperanza No. 2)	..	·96	93·00	25·13	..	..	·96	689·00	948·88	..
Do. ..	(1122)	Fenian	..	4·48	..	..	..	..	4·48	..	..	..
Do. ..	(1105)	Great Empire	..	..	..	..	..	..	..	110·00	74·38	..
Do. ..	938, 945, 988 ..	(Hampton Plains Estate (1906), Ltd.)	..	..	..	..	..	..	9·50	8,493·00	2,229·24	..
Do. ..	938, 945, 988 ..	Hampton Uruguay Ltd.	..	..	..	..	..	..	..	..	424·22	..
Do. ..	53..	(John Bull)	..	..	..	..	..	..	..	314·00	281·93	..
Do. ..	53..	(John Bull : Midas G.M. Co., N.L.) ..	..	..	..	..	..	..	..	416·00	204·15	..
Do. ..	(1123)	Jupiter	..	3·89	..	3·53	..	..	64·94	..	3·53	..
Do. ..	1160	King	..	..	185·00	28·25	..	..	..	185·00	28·25	..
Do. ..	956	(Kirkpatrick West)	..	..	..	..	..	..	3·68	214·00	329·54	..
Do. ..	956, 1032 ..	Kirkpatrick West leases ..	..	..	83·00	57·82	..	..	1·10	182·00	202·01	..
Do. ..	945	(Lady Miller South)	..	..	..	..	..	..	..	17·00	4·36	..
Do. ..	1139	Little Gladys	..	41·51	18·00	15·58	..	..	41·51	18·00	15·58	..
Do. ..	1132	Lucky Call No. 2	..	..	35·00	11·00	..	..	..	35·00	11·00	..
Do. ..	(1136)	Majestic	..	4·37	124·00	36·00	..	..	4·37	124·00	36·00	..
Do. ..	852	(Mararoa)	..	..	..	..	..	..	..	9,167·00	4,484·90	..
Do. ..	992	(Mararoa Extended)	..	..	..	..	..	..	..	169·50	24·08	..
Do. ..	852, 912, 966, 977, 979, 980, 985, 1031	Mararoa G.M. Co., N.L.	..	..	27,913·50	16,520·73	..	..	..	100,056·50	53,691·08	21,868·38
Do. ..	991	(Mararoa North No. 1) ..	..	..	..	..	..	..	..	17·00	13·35	..
Do. ..	42, 43, 53 ..	(Mt. Benson G.M. Co., N.L.) ..	..	..	..	..	..	..	..	4,797·40	4,181·00	..
Do. ..	964	(New Moon)	..	..	..	..	..	..	..	983·00	940·25	64·27
Do. ..	964	New Moon	..	..	29·50	14·45	2·04	..	..	29·50	14·45	2·04
Do. ..	964, (1017, 1025)	(New Moon leases)	..	..	90·00	50·32	..	..	..	2,344·00	1,894·63	157·04
Do. ..	821	(Northern Star)	..	..	..	..	..	..	355·36	717·00	1,137·32	..
Do. ..	991, 992, (999)	North Mararoa G.M. Co., N.L. ..	..	..	..	..	..	..	..	564·50	110·05	..
Do, ..	903	(O.K.)	..	..	30·00	15·66	..	..	21·23	1,147·25	1,293·01	..
Do. ..	995	O.K. Extended	..	..	157·00	214·83	..	..	..	988·00	854·60	..
Do. ..	903, 1138 ..	O.K. leases	..	..	292·00	193·18	..	..	..	292·00	193·18	..
Do, ..	914	(Oversight)	..	..	..	..	..	..	..	373·00	534·12	..
Do. ..	914, 1020, 1037	Oversight leases	..	..	221.00	112.37	..	..	..	2,540·00	2,183·61	..
Do. ..	(1094)	Pearl	..	..	23·50	4·90	..	..	..	229·00	49·17	..
Do. ..	1104	Penneshaw	..	..	180·00	84·83	..	..	..	503·50	249·77	..

Do.	106, 187, 587, 840, 972	Princess Royal G.M. Co., N.L.	..	..	717·00	227·03	..	..	..	166,351·50	140,449·69	9,364·14
Do.	1021	Princess Royal North	..	..	..	93·73	..	..	..	593·00	817·83	..
Do.	1021	(Princess Royal North G.M. Co., N.L.)	..	..	..	..	..	..	..	1,311·00	1,197·01	..
Do.	187	(Princess Royal South)	..	..	..	..	..	..	..	358·00	568·05	..
Do.	(1086)	Scandinavian	..	..	..	..	..	..	..	43·00	7·60	..
Do.	849	St. Patrick	..	..	164·00	98·28	..	..	160·91	1,175·00	2,448·62	..
Do.	1092	Sun	..	142·26	253·00	316·77	..	..	142·26	655·50	737·49	..
Do.	(1099)	Sunrise	..	..	..	..	..	..	23·73	23·00	40·08	..
Do.	989	(Surprise)	..	..	232·50	107·84	..	..	..	806·50	395·44	..
Do.	989, 1145	Surprise leases	..	..	80·00	68·24	..	..	..	80·00	68·24	..
Do.	1103	Swanage	..	..	492·00	109·75	..	..	..	719·00	177·87	..
Do.	1026	Venture	..	..	57·00	14·68	..	..	..	221·50	85·32	..
Do.	1016	(Viking Extended)	..	..	..	..	..	..	133·35	72·50	419·67	4·90
Do.	990	(Viking No. 1)	..	..	..	..	..	..	..	1,274·00	3,095·95	..
Do.	990, 1060	(Viking No. 1 leases)	..	..	..	..	..	..	..	775·50	1,176·13	16·89
Do.	990, 1016, 1060, 1117	Viking No. 1 leases	..	..	2,726·00	5,941·64	83·60	..	..	3,537·50	7,368·67	100·49
Do.	1140	Viking North	..	..	12·75	11·86	..	..	..	12·75	11·86	..
Do.	1034	Viking South	..	..	86·50	66·64	..	..	..	86·50	66·64	..
Do.	986	Veni Vidi Vici	..	32·64	31·00	32·01	..	..	1,765·39	289·00	687·91	..
Do.	821, 1038	(Westralia Waihi G.Ms., N.L.)	..	..	..	..	..	..	..	10,244·00	2,836·19	561·04
Do.	821, 1120	Westralia Waihi G.Ms., N.L.	..	..	57·00	10·06	2·00	..	..	57·00	10·06	2·00
Do.	(1106)	White Reef	..	..	24·00	19·82	..	..	..	316·50	157·23	..
Do.		Voided leases	..	..	..	..	..	4·23	2,951·81	152,442·85	108,252·58	128·58
Do.		Sundry claims	..	53·96	1,098·50	423·21	..	996·60	680·57	12,155·15	6,185·25	·59
Peninsula		Voided leases	..	..	..	..	..	..	17·61	7,764·00	4,705·10	
		From Goldfield generally :—										
		Sundry parcels treated at :										
		Break-o'-Day Cyanide Works	..	..	..	..	..	..	..	..	179·38	..
		Lady Mary Works	..	..	..	..	..	..	..	16·00	984·04	..
		Little Wonder Cyanide Works	..	..	..	..	..	..	..	..	174·54	..
		Mararoa Crushing and Cyaniding Works	..	..	..	..	..	..	..	232·50	2,543·56	38·75
		Pike and Ross' Works	..	..	..	..	..	..	..	..	2·73	..
		Rawlings, Bullen, and Rumble's Works	..	..	..	315·36	..	..	..	..	315·36	..
		State Battery—Norseman	..	..	..	238·68	..	..	..	316·00	9,898·17	885·41
		Various Works	..	..	..	..	..	..	54·52	103·00	2,574·46	607·70
		Reported by Banks and Gold Dealers	31·98	..	..	1·04	..	998·97	..	..	1·04	..
		Total	**31·98**	**292·37**	**38,036·77**	**28,665·51**	**87·64**	**1,999·80**	**6,839·81**	**553,435·05**	**427,191·50**	**33,802·22**

Phillips River Goldfield.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Kundip	(99)	Alice Mary	..	..	..	..	..	..	10·61	23·28	21·53	20·44
Do.	M.L. 184	Christmas Gift	..	..	42·00	32·61	..	..	26·34	1,098·50	626·93	71·55
Do.	147	Fair Play	..	..	147·00	100·99	..	..	..	189·75	147·84	12·63
Do.	136, 137, 138, (139)	Flag Gold and Copper Mining Co., Ltd.	..	..	..	..	..	..	..	7,031·50	4,729·53	1,078·38

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

Phillips River Goldfield—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Kundip ..	65	(Gem)	..	..	..	..	..	..	..	687·50	613·34	..
Do. ..	151	(Gem Consolidated) ..	..	..	..	..	..	..	..	777·50	616·30	..
Do. ..	151, 156 ..	Gem Consolidated leases ..	..	..	1,561·00	703·20	8·00	..	..	1,561·00	703·20	8·00
Do. ..	65, 79	Gem leases	..	..	100·00	130·30	..	..	..	7,898·35	3,341·99	..
Do. ..	M.Ls. 52, 94 ..	(Harbour View leases)	..	..	..	..	..	..	379·86	3,619·25	1,560·86	61·41
Do. ..	M.Ls. 52, 94 ..	Harbour View leases	..	..	1,364·00	1,092·68	..	..	..	1,864·00	1,328·45	1·88
Do. ..	98	Hillsborough	..	..	310·00	445·79	..	..	..	1,096·34	2,259·23	118·03
Do. ..	ML. 338 ..	Little Wonder	..	..	4·44	2·18	10·76	..	..	4·44	7·39	10·76
					..	* 5·21						
Do. ..	MLs. 52, 94 ..	(Ravensthorpe G.M. Syndicate, N.L.)	..	..	..	..	..	..	..	1,124·00	433·94	164·98
Do. ..	74	Two Boys	..	..	2,032·00	970·33	..	..	3·90	6,102·62	4,932·78	..
Do. ..	..	Voided leases	..	..	..	..	..	113·28	135·46	4,621·97	3,737·16	1,889·07
Do. ..	..	Sundry claims	2·87	11·86	77·50	38·91	..	62·63	27·36	371·04	289·37	15·45
Mt. Desmond	M.L. 203 ..	(British Flag)	..	..	..	..	..	..	..	..	7·76	..
Do. ..	M.L. 335 ..	Comstock	..	..	..	*4·04	34·51	..	..	..	6·46	38·53
Do. ..	M.L. 208 ..	(Desmond)	..	..	..	..	..	..	..	..	·77	..
Do. ..	M.L. 208 ..	Desmond : Phillips River Gold and Copper Co., Ltd.	..	..	..	*8·49	14·55	..	..	..	8·49	14·55
Do. ..	M.L. 95	Elverdton : Phillips River Gold and Copper Co., Ltd.	..	..	..	*925·23	2,108·68	..	..	..	2,342·03	6,537·35
Do. ..	M.L. 95	(Elverdton : Phillips River Option Syndicate, N.L.)	..	..	..	..	..	..	..	..	9·63	..
Do. ..	M.L. 275 ..	Ironclad	..	..	..	*14·74	16·42	..	..	..	82·41	109·48
Do. ..	M.L. 109 ..	(Mt. Desmond)	..	..	..	..	..	..	1·40	..	36·97	..
Do. ..	M.L. 109 ..	Mt. Desmond : Phillips River Gold and Copper Co., Ltd.	..	..	..	*7·06	10·11	..	..	..	188·27	180·06
Do. ..	M.L. 199 ..	P.L.P.	..	..	..	..	..	..	..	..	13·69	7·41
Do. ..	..	Voided leases	..	..	..	..	..	..	..	9·00	24·14	4·21
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	..	·56	..
Mt. Purchas	89	Mount Agnes Reward	..	..	..	..	..	..	..	281·00	230·51	..
Do. ..	..	Voided leases	..	..	..	..	..	..	4·38	17·05	20·45	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	4·75	4·68	..
Ravensthorpe	(159)	Bridgetown	..	..	11·00	6·11	..	..	..	11·00	6·11	..
Do. ..	172	Ellendale	..	..	20·00	28·09	..	..	..	20·00	28·09	..
Do. ..	155	Kooyoura	..	6·11	82·60	28·90	..	..	26·96	189·38	99·40	2·16
Do. ..	M.L. 116 ..	Last Chance	..	..	..	*1·21	1·99	..	..	..	13·13	46·57
Do. ..	(166)	Lucy	..	..	9·00	6·36	..	..	..	9·00	6·36	..
Do. ..	(157)	Maori Chief	..	..	11·50	2·44	..	..	..	11·50	2·44	..

Do. ..	153	Maori Queen	..	..	170·00	94·14	..	..	..	263·67	166·13	..
Do. ..	M.L. 16	(Marion Martin)	..	..	..	..	..	..	..	..	20·09	..
Do. ..	M.L. 16	Marion Martin : Phillips River Gold and Copper Co., Ltd.	..	..	..	*43·19	46·08	..	..	..	175·09	205·97
Do. ..	M.L. 175 ..	(Mount Benson)	..	..	..	..	..	..	..	..	287·88	..
Do. ..	M.L. 331 ..	Mt. Benson Extended	..	..	..	*4·03	3·47	..	..	..	4·39	3·47
Do. ..	M.L. 175 ..	Mt. Benson : Phillips River Gold and Copper Co., Ltd.	..	..	..	..	..	..	..	..	458·77	199·83
Do. ..	M.L. 15	(Mt. Cattlin)	..	..	..	..	..	..	·49	200·00	85·50	..
Do. ..	M.L. 15	(Mt. Cattlin : Mt. Cattlin Copper Mining Co., Ltd.)	..	..	..	..	..	..	..	..	1,496·92	52·92
Do. ..	M.L. 15	(Mt. Cattlin : Phillips River Gold and Copper Co., Ltd.)	..	..	..	..	..	..	..	..	387·33	..
Do. ..	M.L. 15	Mt. Cattlin : Phillips River Gold and Copper Co., Ltd.	..	..	..	*340·03	549·31	..	..	..	2,942·81	3,814·45
Do. ..	(M.L. 219)	Mt. Cattlin West	..	..	..	..	..	..	..	..	13·76	13·00
Do. ..	160	Revival	..	..	155·50	206·89	..	..	..	155·50	206·89	..
Do. ..	..	Voided leases	..	..	..	..	..	..	114·35	20,388·44	16,810·90	45·70
Do. ..	..	Sundry claims	9·13	..	947·33	383·42	..	143·92	..	1,499·68	828·23	20·65
West River	..	Voided leases	..	..	..	..	..	..	..	..	10·34	31·06
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	..	1·69	3·44
		From Goldfield generally :—										
		Sundry parcels treated at :										
		Phillips River Smelter	..	..	..	..	..	..	..	..	170·27	398·82
		Two Boys' Works	..	..	..	..	..	..	..	..	100·95	..
		Various Works	..	..	..	..	..	..	..	..	4·76	..
		Reported by Banks and Gold Dealers	..	..	..	..	..	122·05	..	..	..	..
		Total	**12·00**	**17·97**	**7,044·87**	**5,626·57**	**2,803·88**	**441·88**	**731·11**	**61,131·01**	**52,664·89**	**15,182·21**

* From Copper Ore.

* Donnybrook Goldfield.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1911.					Total Production.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
Donnybrook ..	..	Voided leases	..	..	..	..	..	23·24	..	1,613·30	816·23	..
Do. ..	..	Sundry claims	..	..	..	..	..	..	..	40·00	2·29	..
		Total	..	..	..	..	..	**23·24**	..	**1,653·30**	**818·52**	..

* Abolished, 4th March, 1908.

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

State generally.

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	TOTAL FOR 1911.					TOTAL PRODUCTION.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Silver.
			Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240lbs.)	Fine ozs.	Fine ozs.
		Sundry parcels treated at :										
		Allsop and Howell's Works—Kalgoorlie	..	..	..	..	..	..	..	..	69·13	..
		Fremantle Trading Co., Ltd.—Fremantle	..	..	..	359·99	838·79	..	..	..	1,207·40	919·86
		Hacke's Works—Boulder	..	..	..	..	..	..	..	..	22·16	..
		Hannan's Proprietary Works—Kalgoorlie	..	..	..	..	..	..	..	10·00	·90	..
		Orotava Works—Kalgoorlie	..	..	..	..	..	..	..	..	164·67	..
		Rasmussen's Works—Boulder	..	..	..	..	..	..	..	..	1,082·21	..
		Seabrook Works—Northam	..	..	..	..	..	..	..	..	348·09	..
		Various Works	..	..	..	..	..	..	..	17·00	2,723·98	481·77
		Sundry specimens	..	..	..	..	..	..	2·87	..	..	..
		Reported by Banks and Gold Dealers	..	..	..	..	..	124·89	153·03	..	..	..
		Total	..	..	..	**359·99**	**838·79**	**124·89**	**155·90**	**27·00**	**5,618·54**	**1,401·63**

TABLE V.

COMPARATIVE RETURN OF GOLD BULLION ENTERED FOR EXPORT AND RECEIVED AT THE PERTH BRANCH OF THE ROYAL MINT, DURING THE YEARS 1909, 1910, AND 1911, SHOWING IN FINE OUNCES THE QUANTITY RECORDED EACH MONTH, AND ITS VALUE.

MONTHS AND QUARTERS.	1909.				1910.				1911.			
	EXPORT.	MINT.	TOTAL.	VALUE.	EXPORT.	MINT.	TOTAL.	VALUE.	EXPORT.	MINT.	TOTAL.	VALUE.
	fine ozs.	fine ozs.	fine ozs.	£ s. d.	fine ozs.	fine ozs.	fine ozs.	£ s. d.	fine ozs.	fine ozs.	fine ozs.	£ s. d.
JANUARY	34,327·33	97,959·53	132,286·86	561,918 17 3¼	24,206·18	103,144·78	127,350·96	540,952 9 10½	17,463·20	102,034·66	119,497·86	507,594 12 10¾
FEBRUARY	35,169·25	87,947·32	123,116·57	522,965 18 11½	25,506·60	85,528·41	111,035·01	471,646 14 10¼	22,047·52	84,990·54	107,038·06	454,668 15 7
MARCH	26,514·54	100,478·57	126,993·11	539,432 8 10¼	16,694·17	100,781·15	117,475·32	499,003 8 10	12,296·29	93,266·30	105,562·59	448,401 7 7¼
1st January to 31st March ...	96,011·12	286,385·42	382,396·54	1,624,317 5 1	66,406·95	289,454·34	355,861·29	1,511,602 13 6½	51,807·01	280,291·50	332,098·51	1,410,664 16 1
APRIL	30,240·42	107,523·57	137,763·99	585,184 4 8	18,825·54	106,422·32	125,247·86	532,019 1 10	20,455·25	91,791·17	112,246·42	476,792 9 8½
MAY	29,243·46	100,165·38	129,408·84	549,693 16 3	22,175·53	105,608·31	127,783·84	542,791 5 0¼	22,076·16	88,952·30	111,028·46	471,618 18 5
JUNE	35,294·44	97,207·00	132,501·44	562,830 6 10	14,297·96	106,390·61	120,688·57	512,652 9 2¼	10,523·62	106,463·67	116,987·29	496,930 8 5
1st January to 30th June ...	190,789·44	591,281·37	782,070·81	3,322,025 12 10	121,705·98	607,875·58	729,581·56	3,099,065 9 7	104,862·04	567,498·64	672,360·68	2,856,006 12 7½
JULY	31,986·34	101,131·82	133,118·16	565,450 0 0½	18,038·08	105,752·04	123,790·12	525,827 0 1½	15,333·44	97,387·22	112,720·66	478,806 18 7
AUGUST	36,027·77	100,590·16	136,617·93	580,316 1 7	17,969·46	98,431·56	116,401·02	494,440 2 1¼	11,520·89	102,476·79	113,997·68	484,231 7 3¾
SEPTEMBER	34,787·10	110,131·24	144,918·34	615,573 19 7¼	13,138·22	111,093·68	124,231·90	527,703 11 4½	5,010·61	114,615·06	119,625·67	508,137 10 11¼
1st January to 30th September	293,590·65	903,134·59	1,196 725·24	5,083,365 14 0¾	170,851·74	923,152·86	1,094,004·60	4,647,036 3 2¼	136,726·98	881,977·71	1,018,704·69	4,327,182 9 5½
OCTOBER	34,776·69	96,522·47	131,299·16	557,723 7 7½	21,910·77	101,183·29	123,094·06	522,870 6 7½	10,664·43	106,732·86	117,397·29	498,671 19 9¾
NOVEMBER	31,877·03	101,287·40	133,164·43	565,646 10 10½	27,279·79	99,341·66	126,621·45	537,853 14 7¾	9,761·68	108,646·16	118,407·84	502,964 10 8¼
DECEMBER	26,126·21	107,954·37	134,080·58	569,538 2 0½	13,928·04	112,983·87	126,911·91	539,087 10 6½	3,269·19	113,088·51	116,357·70	494,256 1 10¼
Total	**386,370·58**	**1,208,898·83**	**1,595,269·41**	**6,776,273 14 7¼**	**233,970·34**	**1,236,661·68**	**1,470,632·02**	**6,246,847 15 0**	**160,422·28**	**1,210.445·24**	**1.370.867·52**	**5.823.075 1 9¾**

TABLE

TOTAL OUTPUT OF GOLD BULLION ENTERED FOR EXPORT, AND RECEIVED AT THE PERTH BRANCH OF THE QUANTITY OBTAINED EACH YEAR FROM THE RESPECTIVE

Year.	KIMBERLEY.			PILBARA.			*a* WEST PILBARA.			ASHBURTON.		
	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 ...	270·17	...	270·17	...	...	...	...	...	...	...	...	...
1887 ...	4,359·37	...	4,359·37	...	...	...	...	...	...	...	...	...
1888 ...	3,124·82	...	3,124·82	...	...	...	...	...	...	...	...	...
1889 ...	2,204·28	...	2,204·28	9,992·63	...	9,992·63	...	...	...	...	...	...
1890 ...	4,002·42	...	4,002·42	14,363·01	...	14,363·01	...	...	...	...	...	...
1891 ...	2,415·07	...	2,415·07	10,623·32	...	10,623·32	...	...	...	750·31	...	750·31
1892 ...	974·08	...	974·08	11,533·84	...	11,533·84	...	...	...	·63	...	·63
1893 ...	1,450·77	...	1,450·77	10,465·43	...	10,465·43	...	...	...	418·43	...	418·43
1894 ...	526·59	...	526·59	14,541·20	...	14,541·20	...	...	...	255·20	...	255·20
1895 ...	784·27	...	784·27	17,464·65	...	17,464·65	...	...	...	483·76	...	483·76
1896 ...	797·85	...	797·85	10,565·27	...	10,565·27	...	...	...	598·64	...	598·64
1897 ...	495·67	...	495·67	10,695·67	...	10,695·67	...	...	...	928·75	...	928·75
1898 ...	257·54	...	257·54	10,433·27	...	10,433·27	1,814·48	...	1,814·48	402·46	...	402·46
1899 ...	728·52	275·94	1,004·46	17,888·69	473·96	18,362·65	1,749·39	...	1,749·39	214·26	252·10	466·36
1900 ...	29·16	576·14	605·30	8,629·83	6,703·99	15,333·82	522·76	122·85	645·61	44·82	424·27	469·09
1901 ...	...	601·26	601·26	36·68	10,223·75	10,260·43	78·38	357·46	435·84	7·70	50·24	57·94
1902 ...	1·48	378·02	379·50	...	9,199·50	9,199·50	...	2,822·20	2,822·20	..	...	...
1903 ...	...	433·71	433·71	2·26	12,049·52	12,051·78	...	5,493·23	5,493·23	...	114·67	114·67
1904 ...	...	31·51	31·51	...	6,931·27	6,931·27	...	4,320·82	4,320·82	...	125·96	125·96
1905 ...	...	545·95	545·95	48·33	13,353·49	13,401·82	...	1,164·92	1,164·92	...	42·05	42·05
1906 ...	...	647·77	647·77	...	4,956·14	4,956·14	...	755·35	755·35	...	138·84	138·84
1907 ...	...	362·06	362·06	...	4,130·48	4,130·48	...	332·30	332·30	...	41·85	41·85
1908 ...	...	338·00	338·00	...	8,172·26	8,172·26	...	1,076·68	1,076·68	...	45·87	45·87
1909 ...	...	168·95	168·95	...	5,529·19	5,529·19	...	1,396·22	1,396·22	...	228·16	228·16
1910 ...	...	487·25	487·25	...	5,894·32	5,894·32	63·66	1,387·66	1,451·32	...	173·06	173·06
1911 ...	...	148·53	148·53	...	4,874·00	4,874·00	58·00	819·35	877·35	...	270·68	270·68
Total ...	22,422·06	4,995·09	27,417·15	147,284·08	92,491·87	239,775·95	4,286·67	20,049·04	24,335·71	4,104·96	1,907·75	6,012·71

Year.	*d* YALGOO.			*c* MT. MARGARET.			*e* NORTH COOLGARDIE.			*f* BROAD ARROW.		
	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 ...	...	...	...	...	...	...	...	...	...	...	...	...
1895 ...	...	...	...	...	...	...	...	...	...	...	...	...
1896 ...	...	...	...	...	...	...	15,351·71	...	15,351·71	...	...	...
1897 ...	1,819·81	...	1,819·81	7,770·22	...	7,770·22	66,697·57	...	66,697·57	3,720·87	...	3,720·87
1898 ...	3,360·44	...	3,360·44	38,706·19	...	38,706·19	63,181·09	...	63,181·09	22,035·17	...	22,035·17
1899 ...	5,089·83	4,643·00	9,732·83	58,064·19	15,128·98	73,193·17	54,489·26	40,059·43	94,548·69	32,224·04	7,607·18	39,831·22
1900 ...	462·55	7,918·53	8,381·08	65,998·38	60,607·45	126,605·83	15,660·11	79,340·01	95,000·12	29,955·07	12,860·80	42,815·87
1901 ...	6·80	8,330·42	8,337·22	65,352·46	114,840·17	180,192·63	6,620·82	122,806·58	129,427·40	9,313·50	17,066·09	26,379·59
1902 ...	483·32	4,396·91	4,880·23	61,846·01	124,306·49	186,152·50	4,064·18	156,856·06	160,920·24	2,128·49	13,665·52	15,794·01
1903 ...	47·08	1,430·59	1,477·67	65,416·09	125,437·19	190,853·28	1,348·74	167,153·90	168,502·64	5,201·12	18,245·41	23,446·53
1904 ...	...	2,796·23	2,796·23	63,180·89	119,889·93	183,070·82	1,614·64	139,518·37	141,133·01	318·83	20,660·78	20,979·61
1905 ...	76·75	4,549·25	4,626·00	34,949·75	153,203·05	188,152·80	1,193·71	145,615·47	146,809·18	603·66	15,300·58	15,904·24
1906 ...	...	4,883·17	4,883·17	21,869·88	137,022·23	158,892·11	1,140·45	107,890·76	109,031·21	1,245·75	16,841·70	18,087·45
1907 ...	...	3,199·60	3,199·60	23,989·43	154,059·92	178,049·35	13,240·87	72,701·05	85,941·92	4,292·34	13,610·81	17,903·15
1908 ...	...	456·43	456·43	19,324·02	147,879·90	167,203·92	6,701·28	76,700·77	83,402·05	3,613·64	7,946·35	11,559·99
1909 ...	...	626·80	626·80	24,123·15	135,914·94	160,038.09	6,389·19	66,631·79	73,020·98	6,711·37	4,863·50	11,574·87
1910 ...	...	725·79	725·79	28,507·31	131,976·01	160,483·32	1,889·24	60,886·71	62,775·95	...	321·40	321·40
1911 ...	...	294·80	294·80	21,302·54	131,280·97	152,583·51	209·17	60,270·42	60,479·59	176·57	280·54	457·11
Total ...	11,346·58	44,251·52	55,598·10	600,400·51	1,551,547·23	2,151,947·74	259,792·03	1,296,431·32	1,556,223·35	121,540·42	149,270·66	270,811·08

Year.	*h* DUNDAS.			*i* PHILLIPS RIVER.			¶ DONNYBROOK.			STATE GENERALLY.		
	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 ...	132·37	...	132·37	...	...	...	...	...	...	...	...	...
1894 ...	204·31	...	204·31	...	...	...	...	...	...	...	...	...
1895 ...	216·40	...	216·40	...	...	...	...	...	...	...	...	...
1896 ...	3,891·77	...	3,891·77	...	...	...	...	...	...	...	...	...
1897 ...	17,275·36	...	17,275·36	...	...	...	...	...	...	...	...	...
1898 ...	28,655·52	...	28,655·52	...	...	...	...	...	...	...	...	...
1899 ...	39,980·65	423·71	40,404·36	...	...	...	277·27	175·49	452·76	...	809·07	809·07
1900 ...	8,144·72	28,254·19	36,398·91	...	...	...	...	237·56	237·56	5,644·83	1,450·08	7,094·91
1901 ...	5,411·46	29,752·16	35,163·62	...	...	...	...	4·20	4·20	215·91	1,511·63	1,727·54
1902 ...	4,401·31	26,714·16	31,115·47	2,946·53	4,422·56	7,369·09	4·94	57·64	62·58	7·77	2,115·52	2,123·29
1903 ...	1,311·53	33,905·88	35,217·41	2,136·09	5,441·68	7,577·77	...	82·64	82·64	53·44	2,839·44	2,892·88
1904 ...	1,834·03	31,347·06	33,181·09	936·76	2,047·59	2,984·35	...	...	...	·86	1,344·25	1,345·11
1905 ...	1,324·48	27,411·31	28,735·79	2,060·46	1,458·44	3,518·90	...	...	...	70·41	1,515·58	1,585·99
1906 ...	1,111·18	20,198·62	21,309·80	945·65	1,439·03	2,384·68	...	...	...	284·38	763·15	1,047·53
1907 ...	...	22,830·71	22,830·71	4,043·86	1,514·90	5,558·76	...	...	...	799·48	285·47	1,084·95
1908 ...	...	41,203·39	41,203·39	969·00	3,631·02	4,600·02	...	...	...	15·91	1,953·56	1,969·47
1909 ...	...	35,894·72	35,894·72	4,025·81	3,605·75	7,631·56	...	..	..	46·78	455·34	502·12
1910 ...	...	43,260·55	43,260·55	3,271·89	5,031·60	8,303·49	..	...	...	48·67	222·89	271·56
1911 ...	...	48,361·14	48,361·14	1,374.96	4,241·05	5,616·01	...	...	...	209·03	129·01	338·04
Total ...	113,895·09	389,557·60	503,452·69	22,711·01	32,833·62	55,544·63	282·21	557·53	839·74	7,397·47	15,394·99	22,792·46

a Prior to 1st May, 1898, included with Pilbara. *d* Prior to 1st April, 1897, included with Murchison. *e* From 1st August, 1897.
e Prior to 1st May, 1896, included with Coolgardie. *f* From 1st September, 1897. *h* Prior to 1893 included with Yilgarn.
i Prior to 1902 included in State generally. ¶ Abolished, 4th March, 1908.

VI.

ROYAL MINT, FROM 1ST JANUARY, 1886, TO 31ST DECEMBER, 1911, SHOWING, IN FINE OUNCES, THE 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 ...	...	...	...	...	..	...	..	...	...	1,846·83	...	1,846·83
1892 ...	...	...	...	...	...	...	...	...	..	21,789·19	...	21,789·19
1893 ...	..	...	...	...	...	...	...	...	...	18,974·77	..	18,974·77
1894 ...	...	...	...	...	...	...	...	...	...	47,365·54	...	47,365·54
1895 ...	...	...	...	...	...	...	...	...	...	58,575·66	...	58,575·66
1896 ...	...	...	...	...	...	...	...	..	...	63,769·17	...	63,769·17
1897 ..	...	...	...	4,571·38	...	4,571·38	8,457·34	...	8,457·34	74,154·67	...	74,154·67
1898 ...	...	...	...	12,288·93	...	12,288·93	35,393·19	...	35,393·19	83,794·22	...	83,794·22
1899 ...	297·96	76·63	374·59	14,064·24	14,558·64	28,622·88	33,826·08	3,361·95	37,188·03	61,586·09	22,074·71	83,660·80
1900 ..	...	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	43,423·77	97,239·47
1901 ...	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	38,996·10	131,145·66
1902 ...	...	107·29	107·29	85·93	28,044·55	28,130·48	25,450·63	53,583·10	79,033·73	141,731·91	40,926·08	182,657·99
1903 ...	...	30·76	30·76	203·60	29,395·32	29,598·92	21,878·06	65,334·05	87,212·11	154,012·88	54,348·53	208,361·41
1904 ...	...	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
1905 ...	...	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
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
1907 ...	...	8·44	8·44	...	5,918·75	5,918·75	2,891·66	117,735·69	120,627·35	54,811·74	115,497·50	170,309·24
1908 ...	...	31·82	31·82	..	9,864·36	9,864·36	10,701·24	137,028·14	147,729·38	45,483·05	111,540·54	157,023·59
1909 ...	...	7·37	7·37	...	7,322·29	7,322·29	11,599·83	136,637·67	148,237·50	24,682·47	107,167·27	131,849·74
1910 ...	...	26·31	26·31	...	3,057·25	3,057·25	1,557·78	137,190·44	138,748·22	19,568·85	111,414·23	130,983·08
1911 ...	...	7·87	7·87	...	134·23	134·23	11·77	96,442·87	96,454·64	13,919·70	109,444·91	123,364·61
Total ...	304·55	501·35	805·90	41,099·08	166,653·32	207,752·40	227,892·96	1,065,511·71	1,293,404·67	1,408,093·72	1,010,195·65	2,418,289·37

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.	ne ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.
1886 ...	...	...	...	...	...	...	...	...	...	...	...	...
1887 ...	...	...	...	...	...	...	...	...	...	...	...	...
1888 ...	...	...	...	...	...	...	...	...	...	...	...	...
1889 ...	...	...	...	...	...	...	...	...	...	1,662·61	...	1,662·61
1890 ...	...	...	...	...	...	...	...	...	...	2,036·99	...	2,036·99
1891 ...	...	...	...	...	...	...	...	...	...	11,480·61	...	11,480·61
1892 ...	...	...	...	...	...	...	...	...	...	18,973·91	...	18,973·91
1893 ...	...	...	...	...	...	...	...	...	...	67,760·73	...	67,760·73
1894 ...	...	...	...	...	...	...	94,227·58	...	94,227·58	28,178·31	...	28,178·31
1895 ...	...	...	...	...	...	...	111,919·21	...	111,919·21	17,666·25	...	17,666·25
1896 ...	3,679·63	...	3,679·63	76,297·42	...	76,297·42	61,848·03	...	61,848·03	14,819·20	...	14,819·20
1897 ...	29,437·40	...	29,437·40	268,411·95	...	268,411·95	93,312·00	...	93,312·00	16,097·78	...	16,097·78
1898 ...	112,039·58	...	112,039·58	402,847·31	...	402,847·31	113,816·75	...	113,816·75	10,463·35	...	10,463·35
1899 ...	57,674·82	14,940·55	72,615·37	796,696·63	29,567·58	826,264·21	101,589·22	24,700·89	126,290·11	6,919·11	8,114·60	15,033·71
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	688·47	25,628·83	26,317·30
1901 ...	6,798·56	39,024·18	45,822·74	698,042·56	238,840·93	936,883·49	9,584·35	70,720·21	80,304·56	49·15	26,677·85	26,727·00
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	3·31	22,232·80	22,236·11
1903 ..	4,308·99	36,145·75	40,454·74	570,447·27	580,790·97	1,151,238·24	7,318·63	69,681·38	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	29,994·24
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
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
1907 ...	3,132·83	25,399·75	28,532·58	323,550·05	643,139·11	966,689·16	1,050·88	61,670·65	62,721·53	...	23,311·41	23,311·41
1908 ...	925·44	23,902·44	24,827·88	267,748·62	657,936·89	925,685·51	871·76	40,982·65	41,854·41	...	20,866·10	20,866·10
1909 ...	1,774·45	24,566·87	26,341·32	306,462·21	620,612·07	927,074·28	350·91	36,311·70	36,662·61	204·41	20,958·23	21,162·64
1910 ...	...	19,082·01	19,082·01	179,062 94	653,211·05	832,273·99	...	38,264·02	38,264·02	...	24,049·13	24,049·13
1911 ...	...	18,528·97	18.528·97	123,160·54	686,386·80	809,547·34	...	33,840·93	33,840·93	...	14,688·17	14,688·17
Total ...	234,553·85	388,567·20	623,121·05	6,562,434·74	6,592,785·21	13,155,219·95	661,131·91	686,842·16	1,347,974·07	197,033·06	290,115·37	487,148·43

Year.	GRAND TOTAL.				
	Export.	Mint.	Total.	Value.	
	fine ozs.	fine ozs.	fine ozs.	£ s.	d.
1886	270·17	...	270·17	1,147 12	2¼
1887	4,359·37	...	4,359·37	18.517 8	6¼
1888	3,124·82	...	3,124·82	13.273 7	10
1889	13,859·52	...	13,859·52	58.871 9	11¼
1890	20,402·42	...	20,402·42	86.663 19	5¼
1891	27,116·14	...	27,116·14	115,182 0	10
1892	53,271·65	...	53,271·65	226,283 11	8½
1893	99,202·50	...	99,202·50	421.385 8	8½
1894	185,298·73	...	185,298·73	787,098 19	6
1895	207,110·20	...	207,110·20	879,748 4	2¼
1896	251·618·69	...	251,618·69	1.068.808 5	2
1897	603,846·44	...	603,846·44	2.564.976 12	9¼
1898	939,489·49	...	939,489·49	3.990.697 13	10
1899	1,283,360·25	187,244·41	1,470,604·66	6.246.731 10	7¾
1900	894,387·27	519,923·59	1,414,310·86	6.007.610 13	4½
1901	923,686·96	779,729·56	1,703,416·52	7.235.653 9	1
1902	707,039·75	1,163,997·60	1,871,037·35	7,947.661 9	7¾
1903	833,685·78	1,231,115·62	2,064,801·40	8,770.718 17	0¼
1904	810,616·04	1,172,614·03	1,983,230·07	8,424.225 17	3¾
1905	655,089·88	1,300,226·00	1,955,315·88	8,305.653 18	5½
1906	562,250·59	1,232,296·01	1,794,546·60	7,622.749 8	7
1907	431,803·14	1,265,750·45	1.697.553·59	7.210.749 6	2¾
1908	356,353·96	1,291,557·17	1,647,911·13	6,999.881 10	10½
1909	386,370·58	1,208,898·83	1,595,269·41	6,776.273 14	7¼
1910	233,970·34	1,236,661·68	1,470,632·02	6,246.847 15	0
1911	160,422·28	1,210,445·24	1,370,867·52	5,823.075 1	9¼
TOTAL	10,648,006·96	13,800,460·19	24,448,467·15	103,850,487 7	3¾

b. Prior to March, 1899, included with Ashburton. *c*. From 1st August, 1897. *e*. Prior to 1st May, 1896, included with Coolgardie. *g*. Declared 5th April, 1894, to which date included with Yilgarn.

TABLE VII.

MONTHLY RETURN OF GOLD, CONTAINED IN BULLION, FURNACE PRODUCTS, AND ORE, ENTERED FOR EXPORT DURING 1911.

MONTH.	UNITED KINGDOM.			VICTORIA.			U.S. OF AMERICA.			GERMANY.			TOTALS.			Minted Gold Exported.*
	Bullion.	Furnace Products.	Ore.	Bullion.	Furnace Products.	Ore.	Bullion.	Furnace Products.	Ore.	Bullion.	Furnace Products.	Ore.	**Bullion.**	**Furnace Products.**	**Ore.**	
1911.	Fine ozs.	Estimated fine ozs.	Estimated fine ozs.	Fine ozs.	Estimated fine ozs.	Estimated fine ozs.	Fine ozs.	Estimated fine ozs.	Estimated fine ozs.	Fine ozs.	Estimated fine ozs.	Estimated fine ozs,	Fine ozs.	Estimated fine ozs.	Estimated fine ozs.	Fine ozs.
January ...	16,072·16	896·66	...	494·38	...	...	...	...	...	...	...	...	**16,566·54**	**896·66**	...	5,927·71
February ...	20,215·90	735·20	2·76	694·49	...	...	...	399·17	..	...	...	...	**20,910·39**	**1,134·37**	**2·76**	† 102·92 1,185·88
March ..	11,302·51	772·08	3·50	...	...	...	...	218·20	...	...	...	...	**11,302·51**	**990·28**	**3·50**	22,578·19
April ...	18,823 94	455·82	...	941·68	...	...	..	233·81	...	...	...	...	**19,765·62**	**689·63**	...	15,412·73
May ...	19,743·43	1,335·97	24·00	682·72	...	...	...	290·04	...	...	...	...	**20,426·15**	**1,626·01**	**24·00**	15,426·90
June ...	7,946·83	930·53	...	1,412·52	...	...	...	233·74	...	...	...	...	**9,359·35**	**1,164·27**	...	† 202·00 9,490·19
July ...	13,612·45	449·72	...	1,271·27	...	...	...	...	...	...	...	...	**14,883·72**	**449·72**	...	11,837·30
August ...	10,045·37	1,027·62	...	353·13	...	...	...	...	...	11·77	83·00	...	**10,410·27**	**1,110·62**	...	† 111·00 8,394·58
September	2,841·86	349·74	29·82	1,789·19	...	...	...	...	...	...	...	...	**4,631·05**	**349·74**	**29·82**	12,253·88
October ...	8,873·68	669·39	4·06	1,117·30	...	...	...	...	...	...	...	...	**9,990·98**	**669·39**	**4·06**	† 15·80 16,996·79
November...	7,090·59	1,308·43	20·77	1,341·89	...	...	...	...	...	...	...	...	**8,432·48**	**1,308·43**	**20·77**	16,576·95
December...	1,000·72	1,631·46	4·46	588·55	...	...	...	...	...	...	44·00	...	**1,589·27**	**1,675·46**	**4·46**	21,320·01
TOTALS ...	137,569·44	10,562·62	89·37	10,687·12	...	...	...	1,374·96	...	11.77	127·00	...	**148,268·33**	**12,064·58**	**89·37**	157,832·83

* When considering the total production of gold for this State, these amounts must be disregarded, having been already recorded in the total receipts of gold at the Mint.
† To United Kingdom. All the other amounts in this column were fine bars of minted gold exported to India.

TABLE VIII.

RETURN OF GOLD BULLION RECEIVED AT THE PERTH BRANCH OF THE ROYAL MINT FROM MAY, 1899, TO THE 31ST DECEMBER, 1911, 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.
	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.
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	135,493·31	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	20,415·43	37,509·91
1907	431·72	4,924·97	396·22	49·89	10·06	7,057·22	140,382·15	137,713·43	3,815·06	183,693·29	86,685·09	16,228·85	30,285·39
1908	400·19	9,676·11	1,292·97	54·32	37·68	11,679·58	162,243·76	132,066·00	2,625·14	175,092·47	90,815·08	9,408·64	28,300·91
1909	203·59	6,662·82	1,682·49	274·93	8·89	8,823·58	164,652·43	129,139·74	755·31	163,781·55	80,293·29	5,860·66	29,603·84
1910	586·44	7,094·46	1,670·20	208·31	31·67	3,679·72	165,123·37	134,098 94	873·58	158,847·24	73,283·66	386·84	22,967·23
1911	183·78	6,033·33	1,014·60	334·38	9·78	165·36	119,267·86	135,342·96	363·85	162,319·77	74,536·34	346·78	22,917·38
Total	**5,852·50**	**108,973·65**	**23,840·29**	**2,238·18**	**583·72**	**193,828·21**	**1,271,567·23**	**1,204,152·68**	**53,204·70**	**1,841,497·84**	**1,527,127·99**	**174,903·25**	**456,546·91**

Year.	East Coolgardie.	Coolgardie.	Yilgarn.	Dundas.	* Phillips River.	Donnybrook. †	State generally.	TOTAL. Western Australia. Quantity.	Western Australia. Actual Value.	Other Countries. Quantity.	Other Countries. Actual Value.	GRAND TOTAL. Quantity.	Grand Total. Actual Value.
	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	£ s. d.	ozs.	£ s. d.	ozs.	£ s. d.
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	**860,280·69**	**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	**1,403,083·89**	**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
1907	766,846·83	73,532·99	27,795·35	27,222·21	1,806·30	...	340·39	**1,509,217·41**	**5,416,812 0 7**	640·51	1,663 4 3	1,509,857·92	5,418,475 4 10
1908	779,009·10	48,524·18	22,835·58	48,785·54	4,299·19	...	2,080·42	**1,529,226·86**	**5,386,858 15 8**	1,313·84	3,885 2 3	1,530,540·70	5,390,743 17 11
1909	747,856·04	43,756·68	25,255·30	43,254·22	4,345·04	...	548·71	**1,456,759·11**	**5,143,035 17 1**	882·56	1,109 1 3	1,457,641·67	5,144,145 3 8
1910	786,209·41	46,054·82	28,945·68	52,068·70	6,056·08	...	268·26	**1,488,454·61**	**5,163,100 17 11**	2,251·71	1,670 11 7	1,490,706·32	5,164,771 9 6
1911	848,725·06	41,861·54	18,190·20	59,831·49	5,242·16	...	159·90	**1,496,846·52**	**5,143,795 10 5**	452·22	915 19 4	1,497,298·74	5,144,711 9 9
Total ...	**7,865,950·94**	**808,327·00**	**340,161·40**	**462,086·36**	**39,264·09**	**630·96**	**17,758·65**	**16,398,496·55**	**57,838,787 1 5**	7,267·80	13,745 11 6	16,405,764·35	57,852,532 12 11

* Prior to 1902 included in State generally.

† Abolished 4th March, 1908.

PART II.—MINERALS OTHER THAN GOLD.

TABLE IX.

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 1911, AND PREVIOUS YEARS.

Period.	BLACK TIN.											
	Pilbara Goldfield—Marble Bar District.				Greenbushes Mineral Field.				Total.			
	Quantity.			Value.	Quantity.			Value.	Quantity.			Value.
	Lode.	Stream.	Total.		Lode.	Stream.	Total.		Lode.	Stream.	Total.	
	tons.	tons.	tons.	£	tons.	tons.	tons.	£	tons.	tons.	tons.	£
Previous to 1899 ...	...	75·45	75·45	4,419	...	1,590·33	1,590·33	66,108	...	1,665·78	1,665·78	70,527
1899	...	57·50	57·50	3,612	...	277·32	277·32	21,658	...	334·82	334·82	25,270
1900	...	387·87	387·87	27,174	...	435·62	435·62	29,528	...	823·49	823·49	56,702
1901	...	412·98	412·98	21,148	...	321·34	321·34	18,852	...	734·32	734·32	40,000
1902	...	216·35	216·35	15,103	...	403·21	403·21	24,680	...	619·56	619·56	39,783
1903	...	292·11	292·11	21,528	...	524·94	524·94	34,362	...	817·05	817·05	55,890
1904	...	320·86	320·86	24,355	...	533·64	533·64	34,462	...	854·50	854·50	58,817
1905	...	435·74	435·74	33,880	...	643·52	643·52	52,960	...	1,079·26	1,079·26	86,840
1906	36·59	675·06	711·65	78,449	26·18	757·10	783·28	79,195	62·77	1,432·16	1,494·93	157,644
1907	104·13	749·56	853·69	85,603	40·40	729·60	770·00	73,045	144·53	1,479·16	1,623·69	158,648
1908	31·00	372·03	403·03	30,636	13·90	562·43	576·33	41,046	44·90	934·46	979·36	71,682
1909	81·75	212·21	293·96	22,431	44·40	414·35	458·75	34,786	126·15	*628·08	*754·23	†57,335
1910	33·75	119·75	153·50	12,899	25·06	292·65	317·71	27,974	58·81	412·40	471·21	40,873
1911	27·35	121·30	148·65	16,064	27·82	383·30	411·12	44,638	55·17	504·60	559·77	60,702
Total ...	**314·57**	**4,448·77**	**4,763·34**	**397,301**	**177·76**	**7,869·35**	**8,047·11**	**583,294**	**492·33**	**12,319·64**	**12,811·97**	**980,713**

* Includes tons 1·52, the produce of Cue District. † Includes £118, value of tons 1·52, the produce of Cue District.

Period.	TANTALITE.												PYRITIC ORE.	
	Pilbara Goldfield—Marble Bar D.				Greenbushes Mineral Field.				Total.				Mt. Morgans D.	
	Quantity.			Value.	Quantity.			Value.	Quantity.			Value.	Quantity.	†Value.
	Lode.	Stream.	Total.		Lode.	Stream.	Total.		Lode.	Stream.	Total.			
	tons.	tons.	tons.	£	tons.	tons.	tons.	£	tons.	tons.	tons.	£	tons.	£
Previous to 1899	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1899	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1900	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1901	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1902	...	...	...	...	...	...	...	...	..	...	...	...	...	...
1903	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1904	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1905	.	70·95	70·95	8,925	...	2·34	2·34	1,590	...	73·29	73·29	10,515	...	...
1906	1·80	12·85	14·65	2,644	...	...	...	...	1·80	12·85	14·65	2,644	...	...
1907	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1908	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1909	·45	...	·45	113	...	·85	·85	214	·45	·85	1·30	327	...	...
1910	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1911	...	...	...	...	...	...	...	...	...	...	...	...	*9,938·92	*3,529
Total ...	**2·25**	**83·80**	**86·05**	**11,682**	...	**3·19**	**3·19**	**1,804**	**2·25**	**86·99**	**89·24**	**13,486**	**9,938·92**	**3,529**

*Includes tons 3,381·15, valued at £1,184, produced in 1910, but reported in 1911. †Represents the value of the sulphur only, the copper contents not having been treated yet.

Period.	COPPER ORE.															
	Pilbara Gf.				West Pilbara Gf.		Ashburton Gf.		E. Murchison Gf.		Murchison Gf.				Yalgoo Gf.	
	Marble Bar D.		Nullagine D.						Lawlers D.		Nannine D.		Day Dawn D.			
	Quantity.	Value.	Qu'ntity.	Value.	Quantity.	Value	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value	Qu'ntity.	Value.
	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£
Previous to 1899 ...	...	...	...	...	7,018·00	55,270	...	...	...	...	...	...	...	...	...	...
1899 ...	...	...	...	...	2,555·00	29,478	...	...	...	...	...	...	...	...	...	...
1900 ...	...	...	...	...	1,605·00	12,139	...	...	...	...	...	...	5·15	91	...	...
1901 ...	...	...	...	...	1,162·00	15,891	...	...	...	...	...	...	10·50	76	...	...
1902 ...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...
1903 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1904 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1905 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1906 ...	...	...	...	...	...	...	...	...	...	...	133·50	2,816	...	...	13·91	91
1907 ...	7·77	190	...	...	3,365·50	63,548	...	...	...	...	...	...	31·71	274	10·00	130
1908 ...	...	...	...	...	1,486·00	17.691	188·00	2,311	6·77	69	...	...	...	...	9·50	97
1909 ...	...	...	...	...	7,135·50	62,447	10·75	259	...	...	608·00	2,823	...	...	...	...
1910 ...	...	...	...	...	8,479·80	64,861	...	...	...	...	...	...	...	...	...	...
1911 ...	25·10	196	5·00	120	9,082·02	69,140	..	...	...	...	...	...	...	...	...	...
Total ...	**32·87**	**386**	**5·00**	**120**	**41.888·82**	**390,465**	**198·75**	**2.570**	**6·77**	**69**	**741·50**	**5,639**	**47·36**	**441**	**33·41**	**318**

TABLE IX.—*Minerals other than Gold, etc.*—continued.

Period.	COPPER ORE—*continued.*															
	NORTHAMPTON MF.		YANDANOOKA MF.		MT. MARGARET GOLDFIELD.				NORTH COOLGARDIE GOLDFIELD.		EAST COOLGARDIE GOLDFIELD.		PHILLIPS RIVER GOLDFIELD.		STATE GENERALLY.	
					Mt. Morgans District.		Mt. Margaret District.		Menzies District.		E. Coolgardie D.					
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£
Previous to 1899	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...
1899 ...	98·00	1,715	38·00	407	273·00	4,338	...	...	...	...	...	...	...	...	...	...
1900 ...	...	...	...	...	4,539·00	30,718	...	...	...	...	...	...	34·00	725	...	...
1901 ...	38·50	277	...	...	7,660·00	40,738	...	...	...	...	...	...	1,089·14	12,918	...	...
1902 ...	...	...	...	...	1,954·00	6,852	...	...	...	...	...	...	308·25	1,238	...	...
1903 ...	...	...	...	...	18,965·00	45,557	...	...	...	...	...	...	1,561·33	10,984	...	...
1904 ...	...	...	...	...	500·00	900	...	...	...	...	...	...	3,468·89	24,280	...	...
1905 ...	...	...	...	...	60·00	674	...	...	...	...	...	...	2,329·04	15,592	...	...
1906 ...	...	...	...	...	4,361·05	21,934	...	...	4·70	33	...	...	2,885·00	25,270	13·50	193
1907 ...	...	...	...	...	5,141·52	58,888	2·85	26	1·42	18	...	...	10,414·57	57,273	3·08	40
1908 ...	...	...	133·55	1,482	4,404·10	20,221	...	...	...	...	50·67	330	2,015·71	9,233	...	...
1909 ...	...	...	...	...	...	...	...	...	...	...	...	...	7,330·70	29,815	...	...
1910 ...	...	...	...	...	...	...	...	...	...	...	...	...	25,871·65	96,745	...	...
1911 ...	...	...	...	...	...	...	...	...	...	...	...	...	13,563·68	46,862	...	...
Total	**136·50**	**1,992**	**171·55**	**1,889**	**47,857·67**	**230,820**	**2·85**	**26**	**6·12**	**51**	**50·67**	**330**	**70,871·96**	**330,935**	**16·58**	**233**

Period.	COPPER ORE.		IRONSTONE.								LEAD ORE.		SILVER LEAD ORE	
	TOTAL.		W. PILBARA GF.		E. COOLGARDIE GF. E. Coolgardie D.		STATE GENERALLY.		TOTAL.		NORTHAMPTON MF.		ASHBURTON GF.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£
Previous to 1899	7,018·00	55,270	100·00	300	...	...	...	...	100·00	300	...	...	...	...
1899 ...	2,964·00	35,938	...	...	...	...	12,852·00	8,939	12,852·00	8,939	82·75	912	...	...
1900 ...	6,183·15	43,673	...	...	...	...	12,251·00	9,258	12,251·00	9,258	268·00	533	...	...
1901 ...	9,960·14	69,900	...	...	450·00	247	20,119·00	12,999	20,569·00	13,246	...	...	21·05	152
1902 ...	2,262·25	8,090	...	...	...	...	4,800·00	2,040	4,800·00	2,040	...	...	35·85	277
1903 ...	20,526·33	56,541	...	...	...	...	220·00	88	220·00	88	...	...	...	...
1904 ...	3,968·89	25,180	...	...	...	...	1,441·50	577	1,441·50	577	...	...	...	...
1905 ...	2,389·04	16,266	...	...	...	...	3,212·60	1,285	3,212·60	1,285	...	...	...	...
1906 ...	7,411·66	50,337	...	...	...	...	1,279·87	512	1,279·87	512	...	...	...	...
1907 ...	18,978·42	180,387	...	...	...	...	1,093·53	438	1,093·53	438	10·00	128	...	...
1908 ...	8,294·30	51,434	...	...	...	...	...	...	...	...	57·00	461	727·25	6,914
1909 ...	15,084·95	95,344	...	...	...	...	...	...	...	...	...	...	440·00	3,520
1910 ...	34,351·45	161,606	...	...	...	...	† 10·50	† 12	10·50	12	185·10	1,777	...	...
1911 ...	22,675·80	116,318	...	...	...	...	...	...	...	...	8,194·76	17,663	...	...
Total	**162,068·38**	**966,284**	**100·00**	**300**	**450·00**	**247**	**57,280·00**	**36,148**	**57,830·00**	**36,695**	**8,797·61**	**21,474**	**1,224·15**	**10,863**

† Iron ore from Koolan Island, Yampi Sound.

Period.	COAL.		WOLFRAM ORE.		ASBESTOS.		LIMESTONE.								DIAMONDS.	
	COLLIE RIVER COAL MF.		STATE GENERALLY.		PILBARA GF. Marble Bar D.		MURCHISON GF. Cue District.		YILGARN GOLDFIELD.		STATE GENERALLY.		TOTAL.		PILBARA GF. Nullagine District.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value
	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£	carats.	£
Previous to 1899	3,508·00	1,761	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1899 ...	54,336·00	25,951	...	...	...	...	...	...	...	...	17,593·00	2,838	17,593·00	2,838	*	24
1900 ...	118,410·10	54,835	...	...	...	...	...	...	269·85	273	15,657·00	3,321	15,926·85	3,594	...	...
1901 ...	117,835·80	68,561	...	...	...	...	...	...	1,642·00	919	16,568·00	3,429	18,210·00	4,348	...	...
1902 ...	140,883·90	86,188	...	...	...	...	...	...	535·00	340	4,545·35	1,000	5,080·35	1,340	...	...
1903 ...	133,426·62	69,128	...	...	...	...	...	...	102·00	75	1,177·50	103	1,279·50	178	...	...
1904 ...	138,550·04	67,174	...	...	...	...	...	...	...	...	13,397·20	1,699	13,397·20	1,699	...	...
1905 ...	127,364·06	55,312	...	...	...	...	...	...	...	...	9,144·60	1,220	9,144·60	1,220	...	...
1906 ...	149,755·27	57,998	...	...	...	...	...	...	...	...	9,472·28	1,691	9,472·28	1,691	...	...
1907 ...	142,372·54	55,158	...	...	...	...	298·00	772	...	...	3,303·95	610	3,601·95	1,382	...	...
1908 ...	175,247·92	75,694	...	...	40·00	1,600	...	...	...	...	...	...	...	...	...	...
1909 ...	214,301·98	90,965	†5·00	90	2·83	154	...	...	...	...	...	...	...	...	...	...
1910 ...	262,166·06	113,699	§42·00	115	...	...	...	...	...	...	...	...	...	...	...	...
1911 ...	249,899·15	111,154	‡194·00	877	...	...	...	...	...	...	...	...	...	...	...	...
Total	**2,028,057·44**	**933,578**	**241·00**	**1,082**	**42·83**	**1,754**	**298·00**	**772**	**2,548·85**	**1,607**	**90,858·88**	**15,911**	**93,705·73**	**18,290**	...	**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 XXI., pages . * Weight unknown. † Produced within the West Kimberley Magisterial District, 93 miles N.W. of Derby. § Tons 22·00, value £30, the produce of Derby, and tons 20·00, value £85, the produce of Cue. ‡ The produce of Cue District.

TABLE X.

QUANTITY AND VALUE OF BLACK TIN REPORTED TO THE MINES DEPARTMENT DURING 1911, AND TOTALS TO DATE.

LOCALITY.	NUMBER OF LEASE, CLAIM, OR AREA.	REGISTERED NAME OF COMPANY OR LEASE.	1911.				TOTALS TO DATE.			
			Quantity.			Value.	Quantity.			Value.
			Lode.	Stream.	Total.		Lode.	Stream.	Total.	
			tons.	tons.	tons.	£	tons.	tons.	tons.	£
PILBARA GOLDFIELD.										
MARBLE BAR DISTRICT.										
Cooglegong ...	...	Sundry claims	...	63·20	63·20	6,422	...	1,389·49	1,389·49	110,701
Mills Find ...	...	Sundry claims	...	...	...	...	...	·85	·85	69
Moolyella ...	...	Voided leases	...	...	...	...	...	330·53	330·53	21,340
Do. ...	...	Sundry claims	...	56·40	56·40	6,483	...	2,440·46	2,440·46	216,809
Old Shaw ...	...	Voided leases	...	...	...	...	...	6·75	6·75	424
Do. ...	...	Sundry claims	...	...	...	...	...	214·04	214·04	14,525
Wodgina ...	84 ...	(Mount Cassiterite)	...	...	...	...	133·52	13·85	147·37	14,184
Do. ...	84, 93, 148	Mount Cassiterite leases ...	27·35	...	27·35	2,974	150·60	...	150·60	11,659
Do. ...	93 ...	(Mount Cassiterite North) ...	...	...	...	...	9·67	...	9·67	971
Do. ...	178 ...	Sifflet's Reward	..	...	..	..	2·00	...	2·00	180
Do. ...	...	Voided leases	...	...	...	...	18·00	6·10	24·10	2,259
Do. ...	...	Sundry claims	...	1·70	1·70	185	.78	46·70	47·48	4,180
		Totals	**27·35**	**121·30**	**148·65**	**16,064**	**314·57**	**4,448·77**	**4,763·34**	**397,301**
MURCHISON GOLDFIELD.										
CUE DISTRICT.										
Poona ...	...	Sundry claims	...	...	...	...	...	1·52	1·52	118
		Totals	...	...	...	...	...	**1·52**	**1·52**	**118**
GREENBUSHES MINERAL FIELD.										
Greenbushes...	472 ...	Aqua	...	...	...	...	...	1.50	1.50	128
Do. ...	436 ...	Battery Hill	1.00	...	1.00	95	3.64	...	3.64	323
Do. ...	296 ...	(Central)	...	...	...	...	...	100.16	100.16	9,728
Do. ...	511 ...	Champion	...	13.40	13.40	1,512	...	23.90	23.90	2,258
Do. ...	356, 514 ...	Cornwall leases	3.82	...	3.82	390	48.67	13.63	62·30	5,446
Do. ...	(508) ...	Cornwall Extended	..	...	...	...	.05	...	.05	4
Do. ...	527 ...	Dixie	.60	...	.60	65	.60	...	.60	65
Do. ...	369 ...	Enterprise	...	...	...	...	...	3.67	3.67	284
Do. ...	510 ...	Excelsior Extended	...	..	...	...	...	.05	.05	5
Do. ...	497 ...	Excelsior Tin Mining Co., Ltd. ...	...	...	...	...	...	4.05	4.05	281
Do. ...	(337) ...	Gladstone	...	...	...	...	...	60.96	60.96	5,194
Do. ...	375 ...	(Glasgow)	...	...	...	...	.93	.61	1.54	150
Do. ...	35, 169, 218, 272, 287, 295, 296, 331, 375, 395, 421, 425	Greenbushes Development Co., Ltd.	...	93.25	93.25	9,239	.35	678.00	678.35	55,771
Do. ...	35 ...	(Horan's)	...	...	...	...	...	188.35	188.35	11,605
Do. ...	169 ...	(Horan's No. 1 North) ...	...	...	...	...	...	9.50	9.50	684
Do. ...	515 ...	Kapanga	5.12	...	5.12	568	7.97	...	7.97	829
Do. ...	73, 233. 271	King Tin leases	.60	.10	.70	69	4.36	27.23	31.59	2,951
Do. ...	331 ...	(Lady Esther)	...	...	...	...	...	10.00	10.00	744
Do. ...	(454) ...	Legado	...	...	...	...	...	9.90	9.90	828
Do. ...	(454, 501)	Legado and Westralia ...	...	2.75	2.75	282	...	2·75	2·75	282
Do. ...	470 ...	Little Wonder	...	5.40	5.40	665	5.00	43.33	48.33	4,663
Do. ...	(374) ...	Lost and Found	2.15	.45	2.60	282	12.56	1.30	13.86	1,402
Do. ...	507 ...	Lost and Found North ...	1.87	...	1·87	214	4.02	...	4.02	398
Do. ...	460, 461 ...	Mt. Jones leases	...	53.95	53.95	6,786	...	98.95	98.95	11,346
Do. ...	73 ..	(Nelson)	...	...	...	...	...	22.40	22.40	1,675
Do. ...	73, 233 ...	(Nelson leases)	...	...	...	...	...	61.01	61.01	4,164
Do. ...	(513) ...	New Moon	...	...	...	...	...	.31	.31	26
Do ...	17, 24 ...	New Zealand Syndicate, N.L. ...	...	...	...	...	...	.80	.80	50
Do. ..	(425, 470)	(Nickel Kramer Tin Mining Co., N.L.)	...	...	...	...	...	9.17	9.17	726

TABLE X.—*Quantity and Value of BLACK TIN, etc.*—continued.

LOCALITY.	NUMBER OF LEASE, CLAIM, OR AREA.	REGISTERED NAME OF COMPANY OR LEASE.	1911.				TOTALS TO DATE.			
			Quantity.			Value.	Quantity.			Value.
			Lode.	Stream.	Total.		Lode.	Stream.	Total.	
			tons.	tons.	tons.	£	tons.	tons.	tons.	£
GBEENBUSHES MINERAL FIELD—*continued.*										
Greenbushes ..	460, 461,	(Norilup Tin Mining and Dredging Co., Ltd.)	...	...	...	...	...	3.82	3.82	291
Do. ...	504 ...	Old Bunbury: Star of the East G.M. Co., Ltd.	...	13.90	13.90	1,442	...	32.55	32.55	2,876
Do. ...	271 ...	(Pioneer)	...	...	...	...	...	1.84	1.84	117
Do. ...	505 ...	Scotia	...	2.46	2·46	239	...	14.73	14.73	1,116
Do. ...	(300) ...	South Cornwall	8.53	...	8.53	893	9.38	...	9.38	955
Do. ...	450, 458, 485, 486, 487, 488, 489	Stanhope United leases ...	...	27.60	27.60	3,527	...	165.89	165.89	15,563
Do. ...	218 ...	(W.A. Mt. Bischoff) ...	...	...	...	...	...	5.38	5.38	342
Do. ...	(501) ...	Westralia	...	...	..	...	...	.90	.90	64
Do. ...	(391, 454)	Westralia and Legado leases)	...	...	...	...	...	20.89	20.89	1,645
Do. ...	(454, 501)	(Westralia and Legado leases)	...	...	...	...	...	13.99	13.99	944
Do. ...	436, 472	(Westralian Gully Tin Co., Ltd.)	...	...	...	...	6.38	34.38	40.76	3,235
Do. ...	35, 169, 218, 272, 287, 295, 375	(Westralian Stanneries, Ltd.) ...	...	...	...	...	...	109.33	109.33	8,171
Do. ...	...	Voided leases	...	...	...	...	53.22	338.66	391.88	30,459
Do. ...	Loc. 289, 290	Freehold Ground (Clarth and others)	...	...	...	...	...	318.04	318.04	28,959
Do. ...	...	Sundry claims	4.13	170.04	174.17	18,370	20.63	5,437.42	5,458.05	366,547
		Totals	**27.82**	**383.30**	**411.12**	**44,638**	**177.76**	**7,869.35**	**8,047.11**	**583,294**

TABLE XI.

QUANTITY AND VALUE OF TANTALITE REPORTED TO THE MINES DEPARTMENT DURING 1911, AND TOTALS TO DATE.

Locality.	Number of Lease, Claim, or Area	Registered Name of Company or Lease.	1911. Quantity. Lode.	1911. Quantity. Stream.	1911. Quantity. Total.	1911. Value.	Total to Date. Quantity. Lode.	Total to Date. Quantity. Stream.	Total to Date. Quantity. Total.	Total to Date. Value.
			tons.	tons.	tons.	£	tons.	tons.	tons.	£
		PILBARA GOLDFIELD.								
		Marble Bar District.								
Wodgina ...	86, 87	H.M. and Anchorite leases	...	...	...	...	2·25	32·30	34·55	5,558
Do. ...	...	Sundry claims ...	...	...	...	...	...	51·50	51·50	6,124
		Totals	...	...	...	...	**2·25**	**83·80**	**86·05**	**11,682**
		GREENBUSHES MINERAL FIELD.								
Greenbushes	369 ...	Enterprise	...	...	...	...	...	3·19	3·19	1,804
		Totals	...	...	...	...	...	**3·19**	**3·19**	**1,804**

TABLE XII.

QUANTITY AND VALUE OF PYRITIC ORE REPORTED TO THE MINES DEPARTMENT DURING 1911, AND TOTALS TO DATE.

Locality.	Number of Lease, Claim, or Area.	Registered Name of Company or Lease.	1911. Quantity.	1911. †Value.	Total to Date. Quantity.	Total to Date. †Value.
			tons.	£	tons.	£
		MT. MARGARET GOLDFIELD.				
		Mt. Morgans District.				
Eulaminna ..	M.L. 18F.	Nangeroo: Nangeroo Mines Ltd.	718·36	322	718·36	322
Do.	M.L. 4F, 5F, 11F, 12F	West Australian Copper Co., Ltd.	9,220·56	3,207	9,220·56	3,207
		Totals	**9,938·92**	**3,529**	**9,938·92**	**3,529**

† Represents the value of the sulphur only, the copper contents not having been treated yet.

TABLE XIII.

QUANTITY AND VALUE OF COPPER ORE REPORTED TO THE MINES DEPARTMENT DURING 1911, AND TOTALS TO DATE.

LOCALITY.	NUMBER OF LEASE, CLAIM, OR AREA.	REGISTERED NAME OF COMPANY OR LEASE.	1911.			TOTALS TO DATE.		
			Quantity.		Value	Quantity.		Value.
			Ore.	Metallic Copper.		Ore.	Metallic Copper.	
			tons.	tons.	£	tons.	tons.	£
PILBARA GOLDFIELD.								
MARBLE BAR DISTRICT.								
Marble Bar ..	(M.L. 185)	Marble Bar Copper Lode ..	11·00	1·64	90	11·00	1·64	90
Do. ..	P.A. 263	(Cox and MacDonald)	4·75	·48	25	4·75	·48	25
North Pole ..	(M.L. 187)	Peary Reward	9·35	1·39	81	9·35	1·39	81
North Shaw ..	..	Voided leases	..	..	..	7·77	1·90	190
		Totals	**25·10**	**3·51**	**196**	**32·87**	**5·41**	**386**
NULLAGINE DISTRICT.								
McPhee's Creek	Reward M.L. 14L	Tambina	5·00	2·22	120	5·00	2·22	120
		Totals	**5·00**	**2·22**	**120**	**5·00**	**2·22**	**120**
WEST PILBARA GOLDFIELD.								
Croydon ..	M.L. 31 ..	Evelyn: British Exploration of Australasia, Ltd.	..	..	..	549·00	96·00	6,463
Do. ..	..	Voided leases	..	..	..	55·00	12·65	870
Egina	..	Voided leases	..	..	..	542·00	104·15	6,643
Roebourne ..	M.L. 64 ..	Fortune	..	..	..	51·07	11·68	690
Do. ..	(M.L. 77)	Lily Blanche	..	..	..	997·00	186·99	17,541
Do. ..	G.M.L. 150	Q.E...	80·46	9·79	550	215·56	26·39	1,514
Do. ..	M.L. 138	Trouble	23·21	6·22	343	23·21	6·22	343
Do. ..	(M.L. 135)	Wait a-while	16·05	3·96	218	36·05	9·87	601
Do. ..	..	Voided leases	..	..	..	294·50	65·01	4,466
Do. ..	P.A. 100 ..	(Smallpage, F.)	..	..	..	37·00	8·43	482
Do. ..	P.A. 108 ..	(McDonald, J. J.)	7·40	1·26	72	7·40	1·26	72
Whim Creek ..	M.L. 34 ..	(Balla Balla Copper Mines, Ltd.) ..	..	..	..	2,009·00	166·33	12,036
Do. ..	M.L. 34 ..	Balla Balla: Whim Well Copper Mines, Ltd.	21·00	2·80	154	21·00	2·80	154
Do. ..	Loc. 71 ..	Whim Well Copper Mines, Ltd. ..	8,933·90	1,179·14	67,803	37,021·03	5,605·24	338,340
Do. ..	..	Voided leases	..	..	..	30·00	5·50	250
		Totals	**9,082·02**	**1,203·17**	**69,140**	**41,888·82**	**6,308·52**	**390,465**
ASHBURTON GOLDFIELD.								
Red Hill ...	...	Voided leases...	...	...	...	175·50	33·85	2,126
Uaroo	M.L. 81 ...	Walgo Copper Mine	...	...	...	10·75	4·31	259
Do. ...	...	Voided leases...	...	...	...	12·50	2·94	185
		Totals	**...**	**...**	**...**	**198·75**	**41·10**	**2,570**
EAST MURCHISON GOLDFIELD.								
LAWLERS DISTRICT.								
Kathleen Valley	12 ...	Shepherd	...	...	...	6·77	1·32	69
		Totals	**...**	**...**	**...**	**6·77**	**1·32**	**69**
MURCHISON GOLDFIELD.								
NANNINE DISTRICT.								
Gabanintha ..	G.M.Ls. 379N, 504N, 505N	Mountain View leases ..	..	..	..	127·00	38·10	2,681
Do. ..	..	Voided leases	..	..	..	614·50	45·50	2,958
		Totals	**..**	**..**	**..**	**741·50**	**83·60**	**5,639**
DAY DAWN DISTRICT.								
Day Dawn ...	G.M.L. 14D	Croesus: Murchison Associated G.Ms., Ltd.	...	...	...	6·50	1·02	84
Do. ...	P.A. 65D	(Canning, G.C.)	...	...	...	25·21	2·50	190
Do. ...	...	Voided leases...	...	...	...	15·65	3·15	167
		Totals	**...**	**...**	**...**	**47·36**	**6·67**	**441**

TABLE XIII.—*Quantity and Value of COPPER ORE, etc.*—continued.

LOCALITY.	NUMBER OF LEASE, CLAIM, OR AREA.	REGISTERED NAME OF COMPANY OR LEASE.	1911.			TOTALS TO DATE.		
			Quantity.		Value.	Quantity.		Value.
			Ore.	Metallic Copper.		Ore.	Metallic Copper.	
			tons.	tons.	£	tons.	tons.	£
YALGOO GOLDFIELD.								
Twin Peaks ...	P.A. 155...	(Summers, S.D.)	...	...	...	19·50	3·49	227
Wadgingarra ...	...	Voided leases	...	...	...	13·91	·98	91
		Totals	...	...	...	**33·41**	**4·47**	**318**
NORTHAMPTON MINERAL FIELD.								
Geraldine ...	...	Voided leases...	...	...	...	136·50	36·05	1,992
		Totals	...	...	...	**136·50**	**36·05**	**1,992**
YANDANOOKA MINERAL FIELD.								
Arrino	...	Sundry claims	...	...	...	126·05	18·48	1,386
Yandanooka ...	Freehold Gd.	Muggawa Copper Mine	...	...	...	7·50	1·20	96
Do. ...	...	Voided leases...	...	...	...	38·00	7·95	407
		Totals	...	...	...	**171·55**	**27·63**	**1,889**
MOUNT MARGARET GOLDFIELD.								
MOUNT MORGANS DISTRICT.								
Eulaminna ...	[10c, 11c], (12c, 37c.)	(Mount Malcolm Copper Mine) ...	...	...	...	13,516·00	1,001·98	70,754
Do. ...	[10c, 11c,] 4f, 5f	(Mount Malcolm Copper Mine)...	...	...	...	3,839·00	418·00	17,065
Do. ...	[10c, 11c], (12c, 37c)	(Murrin Copper Mines, Ltd.) ...	...	...	...	19,165·00	798·50	45,817
Do. ...	4f, 5f, 11f, 12f	West Australian Copper Co., Ltd....	...	...	...	9,794·05	1,976·08	80,199
Mt. Margaret ...	(G.M.L. 66f)	Mt. Morven	...	...	...	11·53	2·40	163
Murrin Murrin...	18f ...	Nangeroo : Nangeroo Mines Ltd. . .	...	...	...	6·80	3·00	160
Do. ...	...	Voided leases...	...	...	...	1,525·29	248·04	16,662
		Totals	...	...	...	**47,857·67**	**4,448·00**	**230,820**
MOUNT MARGARET DISTRICT.								
Burtville ...	...	Voided leases	...	...	...	2·85	·29	26
		Totals	...	...	...	**2·85**	**·29**	**26**
NORTH COOLGARDIE GOLDFIELD.								
MENZIES DISTRICT.								
Goongarrie ...	...	Voided leases..	...	...	...	4·70	·42	33
Do. ...	...	Sundry claims	...	...	...	1·42	·40	18
		Totals	...	...	...	**6·12**	**·82**	**51**
EAST COOLGARDIE GOLDFIELD.								
EAST COOLGARDIE DISTRICT.								
Boorara... ...	...	Voided leases..	...	...	...	50·67	6·22	330
		Totals	...	...	...	**50·67**	**6·22**	**330**

TABLE XIII.—*Quantity and Value of COPPER ORE, etc.*—continued.

LOCALITY.	NUMBER OF LEASE, CLAIM, OR AREA.	REGISTERED NAME OF COMPANY OR LEASE.	1911.			TOTALS TO DATE.		
			Quantity.		Value.	Quantity.		Value.
			Ore.	Metallic Copper.		Ore.	Metallic Copper.	
			tons.	tons.	£	tons.	tons.	£
PHILLIPS RIVER GOLDFIELD.								
Kundip ..	(G.M.L. 99)	Alice Mary	..	..	..	33·06	4·00	256
Do. ..	M.L. 184	Christmas Gift	..	..	..	189·05	19·84	1,226
Do. ..	G.M.L. 147	Fair Play	..	..	..	34·04	·03	2
Do. ..	G.M.Ls. 136, 137, 138	Flag Gold and Copper Mining Co., Ltd.	..	..	..	2,107·84	144·75	8,494
Do. ..	M.Ls. 52, 94	(Harbour View leases)	..	..	..	604·36	76·80	4,524
Do. ..	M.Ls. 52, 94	Harbour View leases	..	..	..	435·29	51·66	2,667
Do. ..	G.M.L. 98	Hillsborough	..	..	..	667·84	10·04	666
Do. ..	M.L. 338	Little Wonder	16·95	1·54	86	16·95	1·54	86
Do. ..	M.Ls. 52, 94	(Ravensthorpe G.M. Syndicate, N.L.)	..	..	..	132·56	24·36	1,382
Do. ..	..	Voided leases	..	..	..	710·44	78·94	5,182
Do. ..	..	Sundry claims	..	..	..	64·53	9·13	660
Mt. Desmond ..	M.L. 335	Comstock	22·68	5·09	279	40·67	7·08	394
Do. ..	M.L. 208	Desmond: Phillips River Gold and Copper Co., Ltd.	70·62	11·61	656	70·62	11·61	656
Do. ..	M.L. 95	(Elverdton)	..	..	..	130·00	5·70	570
Do. ..	M.L. 95	(Elverdton: Phillips River Options Syndicate, N.L.)	..	..	..	2,946·02	401·43	22,657
Do. ..	M.L. 95	Elverdton: Phillips River Gold and Copper Co., Ltd.	10,756·60	668·04	36,624	27,903·28	1,914·34	107,575
Do. ..	M.L. 168	(Elverdton South)	..	..	..	18·48	2·39	119
Do. ..	M.L. 275	Ironclad	59·40	10·18	563	304·68	53·11	2,951
Do. ..	M.L. 109	(Mt. Desmond)	..	..	..	198·87	30·77	1,640
Do. ..	M.L. 109	Mt. Desmond: Phillips River Gold and Copper Co., Ltd.	58·45	11·06	604	1,703·48	207·28	17,424
Do. ..	M.L. 199	P.L.P.	..	..	..	208·66	33·69	2,277
Do. ..	..	Voided leases	..	..	..	600·61	95·58	5,776
Do. ..	..	Sundry claims	..	..	..	34·10	6·58	433
Ravensthorpe ..	M.L. 116	Last Chance	9·97	1·75	95	1,001·04	158·78	9,458
Do. ..	M.L. 16 ..	(Marion Martin)	..	..	..	865·69	130·61	6,650
Do. ..	M.L. 16	Marion Martin: Phillips River Gold and Copper Co., Ltd.	205·82	30·57	1,678	1,357·57	143·78	9,102
Do. ..	M.L. 175	(Mount Benson)	..	..	..	605·19	73·64	3,702
Do. ..	M.L. 175	Mount Benson: Phillips River Gold and Copper Co., Ltd. ..	..	..	..	1,142·40	80·21	5,692
Do. ..	M.L. 331	Mount Benson Extended ..	41·54	7·37	416	50·45	9·75	548
Do. ..	M.L. 15	(Mount Cattlin)	..	..	..	281·56	31·35	1,716
Do. ..	M.L. 15	(Mt. Cattlin: Mt. Cattlin Copper Mining Co., Ltd.)	..	..	..	6,608·76	333·59	28,841
Do. ..	M.L. 15	(Mt. Cattlin Phillips River Gold and Copper Co., Ltd.)	..	..	..	1,263·76	80·26	7,646
Do. ..	M.L. 15	Mt. Cattlin: Phillips River Gold and Copper Co., Ltd.	2,321·65	106·70	5,861	14,152·95	689·85	38,759
Do. ..	(M.L. 219)	Mount Cattlin West	..	..	..	138·14	20·07	1,259
Do. ..	(M.L. 114)	Surprise	..	..	..	471·62	57·70	3,605
Do. ..	..	Voided leases	..	..	..	2,664·39	327·32	19,410
Do. ..	..	Sundry claims	..	..	..	148·87	12·51	695
West River ..	..	Voided leases	..	..	..	44·04	7·41	414
Do. ..	..	Sundry claims	..	..	..	118·29	22·20	1,698
		From Goldfield generally	..	..	..	801·81	68·75	4,123
		Totals	**13,563·68**	**853·91**	**46,862**	**70,871·96**	**5,438·43**	**330,935**
STATE GENERALLY.								
Jerramungup ...	(59H) ...	(Netty Copper Mine)	...	...	...	3·08	1·26	40
Twin Peaks ...	(P.A. 105H)	(Tibbetts, W.H.)	...	...	...	13·50	2·27	193
		Totals	**...**	**...**	**...**	**16·58**	**3·53**	**233**

TABLE XIV.

QUANTITY AND VALUE OF IRONSTONE REPORTED TO THE MINES DEPARTMENT DURING 1911, AND TOTALS TO DATE.

LOCALITY.	NUMBER OF LEASE, CLAIM, OR AREA.	REGISTERED NAME OF COMPANY OR LEASE.	1911.		TOTALS TO DATE.	
			Quantity.	Value.	Quantity.	Value.
			tons.	£	tons.	£
WEST PILBARA GOLDFIELD.						
Whim Creek ...	...	Voided leases	...	...	100·00	300
		Totals	...	...	**100·00**	**300**
EAST COOLGARDIE GOLDFIELD.						
EAST COOLGARDIE DISTRICT.						
Boulder	...	Voided leases	...	...	450·00	247
		Totals	...	...	**450·00**	**247**
STATE GENERALLY.						
Avon			...	...	22,223·00	16,241
Clackline			...	...	18,253·50	8,789
Coates' Paddock			...	...	4,712·00	3,277
Greenbushes			...	...	7,418·00	4,629
Koolan Island—Yampi Sound			...	...	10·50	12
Werribee			...	..	4,600·00	3,200
		Totals	...	...	**57,280·00**	**36,148**

TABLE XV.

QUANTITY AND VALUE OF LEAD ORE REPORTED TO THE MINES DEPARTMENT DURING 1911, AND TOTALS TO DATE.

LOCALITY.	NUMBER OF LEASE, CLAIM, OR AREA.	REGISTERED NAME OF COMPANY OR LEASE.	1911.			TOTALS TO DATE.		
			Lead Ore.	Metal therefrom.	Value.	Lead Ore.	Metal therefrom.	Value.
			tons.	tons.	£	tons.	tons.	£
NORTHAMPTON MINERAL FIELD.								
Geraldine ..	..	Voided leases ..	..	..	..	57·00	41·61	461
Narra Tarra ..	..	Sundry claims ..	..	..	..	225·00	27·00	185
Northampton ..	Loc. 1472	Baddera Lead Mine ..	8,194·76	1,263·70	17,663	8,379·86	1,400·37	19,440
Do. ..	..	Voided leases ..	..	..	..	116·75	72·58	1,176
Victoria.. ..	..	Voided leases ..	..	..	..	19·00	12·54	212
		Totals ..	**8,194·76**	**1,263·70**	**17,663**	**8,797·61**	**1,554·10**	**21,474**

TABLE XVI.

QUANTITY AND VALUE OF SILVER-LEAD ORE REPORTED TO THE MINES DEPARTMENT DURING 1911 AND TOTALS TO DATE.

LOCALITY.	NUMBER OF LEASE, CLAIM, OR AREA.	REGISTERED NAME OF COMPANY OR LEASE.	1911.		TOTALS TO DATE.	
			Quantity.	Value.	Quantity.	Value.
			tons.	£	tons	£
ASHBURTON GOLDFIELD.						
Ashburton ...	...	Voided leases	...	...	56·90	429
Uaroo	43, 49	Uaroo Silver-Lead Mines	...	...	1,167·25	10,434
		Totals	...	...	**1,224·15**	**10,863**

TABLE XVII.

QUANTITY AND VALUE OF COAL REPORTED TO THE MINES DEPARTMENT DURING 1911, AND TOTALS TO DATE.

LOCALITY.	NUMBER OF LEASE, CLAIM, OR AREA.	REGISTERED NAME OF COMPANY OR LEASE.	1911.		TOTALS TO DATE.	
			Quantity.	Value.	Quantity.	Value.
			tons.	£	tons.	£
		COLLIE RIVER MINERAL FIELD.				
Collie ..	197, etc.	Cardiff Coal Mining Co., Ltd.	66,014·00	25,944	309,921·32	131,098
Do. ..	151, etc.	(Collie-Boulder Coal Co., Ltd.)	..	..	71,512·70	26,139
Do. ..	244, etc.	Collie Co-operative Collieries, Ltd.	89,223·65	44,420	321,939·33	149,281
Do. ..	88 (pt. of)	Collie Proprietary Coalfields of W.A., Ltd. (No. 1 Pit) ..	30,219·00	15,109	468,232·55	238,135
Do. ..	85–100	Collie Proprietary Coalfields of W.A., Ltd. (No. 2 Pit) ..	12,960·00	6,431	562,263·15	280,158
Do. ..	260–266	Premier Coal Mining Co., Ltd.	6,612·30	3,115	6,612·30	3,115
Do. ..	151, etc.	Scottish Collieries Company..	41,957·20	14,742	250,074·45	87,575
Do. ..	250–254, 256	Westralian Coal Mining Co., Ltd.	2,913·00	1,393	11,931·79	5,147
Do. ..	..	Voided leases	..	..	25,569·85	12,930
		Totals	**249,899·15**	**111,154**	**2,028,057·44**	**933,578**

TABLE XVIII.

QUANTITY AND VALUE OF LIMESTONE REPORTED TO THE MINES DEPARTMENT DURING 1911, AND TOTALS TO DATE.

LOCALITY.	NUMBER OF LEASE, CLAIM, OR AREA.	REGISTERED NAME OF COMPANY OR LEASE.	1911.		TOTALS TO DATE.	
			Quantity.	Value.	Quantity.	Value.
			tons.	£	tons.	£
		MURCHISON GOLDFIELD.				
		CUE DISTRICT.				
Cuddingwarra	...	Voided Leases	...	...	298·00	772
		Totals	...	...	**298·00**	**772**
		YILGARN GOLDFIELD.				
Southern Cross	...	Voided	...	...	2,548·85	1,607
		Totals	...	...	**2,548·85**	**1,607**
		STATE GENERALLY.				
Fremantle ...	...	... ...	...	...	90,858·88	15,911
		Totals	...	...	**90,858·88**	**15,911**

TABLE XIX.

QUANTITY AND VALUE OF ASBESTOS REPORTED TO THE MINES DEPARTMENT DURING 1911, AND TOTALS TO DATE.

LOCALITY.	NUMBER OF LEASE, CLAIM, OR AREA.	REGISTERED NAME OF COMPANY OR LEASE.	1911.		TOTALS TO DATE.	
			Quantity.	Value.	QUANTITY.	VALUE.
			tons.	£	tons.	£
PILBARA GOLDFIELD.						
MARBLE BAR DISTRICT.						
Soansville ...	155, etc.	Pilbara Asbestos Co., Ltd.	...	...	42·83	1,754
		Totals	...	...	**42·83**	**1,754**

TABLE XX.

QUANTITY AND VALUE OF WOLFRAM REPORTED TO THE MINES DEPARTMENT DURING 1911, AND TOTALS TO DATE.

LOCALITY.	NUMBER OF LEASE, CLAIM OR AREA.	REGISTERED NAME OF COMPANY OR LEASE.	1911.			TOTALS TO DATE.		
			Ore.	Metallic contents.	Value.	Ore.	Metallic contents.	Value.
			tons.	tons.	£	tons.	tons.	£
STATE GENERALLY.								
Derby ...	146H	Taylor's Wolfram Reward	...	...	...	27·00	2·00	120
		Totals	...	...	...	**27·00**	**2·00**	**120**
MURCHISON GOLDFIELD.								
CUE DISTRICT.								
Cuddingwarra	M.L. 11	Socialist	194·00	6·11	877	194·00	6·11	877
Do.	...	Sundry claims	...	...	...	20·00	·85	85
		Totals	**194·00**	**6·11**	**877**	**214·00**	**6·96**	**962**

TABLE XXI.

QUANTITY AND VALUE OF DIAMONDS REPORTED TO THE MINES DEPARTMENT DURING 1911, AND TOTALS TO DATE.

LOCALITY.	NUMBER OF LEASE, CLAIM, OR AREA.	REGISTERED NAME OF COMPANY OR LEASE.	1911.		TOTALS TO DATE.	
			Quantity.	Value.	Quantity.	Value.
			carats.	£	carats.	£
		PILBARA GOLDFIELD.				
		NULLAGINE DISTRICT.				
Nullagine ...	M.R.C.6L	(Morgans, A. E.)	...	...	...	24
		Totals	...	...	...	**24**

TABLE

RETURN OF ORE AND MINERALS OTHER THAN GOLD

YEAR.	COPPER.												
	COPPER ORE.										COPPER INGOT, MATTE, ETC.		Total Value of Copper Exported
	West Pilbara Gf.		Northampton Mf.		Phillips River Gf.		State generally.		Total.		State generally.		
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£	£
1850	...	...	...	...	...	...	...	...	...	...	...	...	...
1	...	...	...	...	...	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...	...	...	...	...	..
3	...	...	[2]†	7	...	...	...	...	...	7	...	...	7
4	...	...	...	...	...	...	...	...	...	...	...	...	...
5	...	...	2	26	...	...	...	...	2	26	...	...	26
6	...	...	57	1,018	...	...	...	...	57	1,018	...	...	1,018
7	...	...	80	1,920	...	...	...	...	80	1,920	...	...	1,920
8	...	...	433	9,531	...	...	...	...	433	9,531	...	...	9,531
9	...	...	941	14,122	...	...	...	...	941	14,122	...	...	14,122
1860	...	...	517	8,021	...	...	...	...	517	8,021	...	...	8,021
1	...	...	409	6,339	...	...	...	...	409	6,339	...	...	6,339
2	...	...	783	12,536	...	...	...	...	783	12,536	...	...	12,536
3	...	...	763	12,208	...	...	...	...	763	12,208	...	...	12,208
4	...	...	1,076	17,216	...	...	...	...	1,076	17,216	...	...	17,216
5	...	...	886	13,290	...	...	...	...	886	13,290	...	...	13,290
6	...	...	557	8,362	...	...	...	...	557	8,362	...	...	8,362
7	...	...	337	5,055	...	...	...	...	337	5,055	...	...	5,055
8	...	...	83	1,245	...	...	...	...	83	1,245	...	...	1,245
9	...	...	155	2,325	...	...	...	...	155	2,325	...	...	2,325
1870	...	...	6	90	...	...	...	...	6	90	..	...	90
1	...	...	...	...	...	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...	...	...	...	...	...
3	...	...	56	848	...	...	...	...	56	848	...	...	848
4	...	...	67	998	...	...	...	...	67	998	...	...	998
5	...	...	205	3,071	...	...	...	...	205	3,071	...	...	3,071
6	...	...	279	4,185	...	...	...	...	279	4,185	...	...	4,185
7	...	...	54	803	...	...	...	...	54	803	...	...	803
8	...	...	9	135	...	...	...	...	9	135	...	...	135
9	...	...	...	...	...	...	...	...	...	...	...	...	...
1880	...	...	8	120	...	...	...	...	8	120	...	...	120
1	...	...	...	...	...	...	...	...	...	...	...	...	...
2	...	...	2	23	...	...	...	...	2	23	...	...	23
3	...	...	5	75	...	...	...	...	5	75	...	...	75
4	...	...	118	1,770	...	...	...	...	118	1,770	...	...	1,770
5	...	...	120	1,793	...	...	...	...	120	1,793	...	...	1,793
6	...	...	249	3,735	...	...	...	...	249	3,735	...	...	3,735
7	...	...	23	345	...	...	...	...	23	345	...	...	345
8	...	...	88	1,488	...	...	...	...	88	1,488	...	...	1,488
9	...	...	112	1,904	...	...	...	...	112	1,904	...	...	1,904
1890	...	...	8	136	...	...	...	...	8	136	...	...	136
1	263	4,462	...	...	...	...	...	...	263	4,462	...	...	4,462
2	[1]† 412	6,319	155	2,377	...	...	...	...	567	8,696	...	...	8,696
3	50	606	...	...	...	...	...	...	50	606	...	...	606
4	...	...	...	...	...	...	...	...	...	...	...	...	...
5	802	12,832	24	120	...	...	...	...	826	12,952	...	...	12,952
6	6	100	...	...	...	...	...	...	6	100	...	...	100
7	65	731	21	302	...	...	...	...	86	1,033	...	...	1,033
8	281	3,334	75	932	...	...	...	...	356	4,266	...	...	4,266
9	1,404	31,979	587	9,473	...	...	...	...	1,991	41,452	...	...	41,452
1900	544	10,696	...	...	105	2,411	197	3,355	846	16,462	249	17,475	33,937
1	1,058	26,464	1	10	1,205	22,107	397	6,322	2,661	54,903	880	55,866	110,769
2	68	1,698	20	330	162	2,469	33	489	283	4,986	175	7,918	12,904
3	4	180	25	460	302	3,538	15	349	346	4,527	1,075	33,288	37,815
4	50	500	...	...	11	154	310	3,378	371	4,032	102	3,827	7,859
5	...	...	...	...	80	2,808	713	8,576	793	11,384	794	53,867	65,251
6	112	3,232	...	...	...	...	224	2,930	336	6,162	343	30,367	36,529
7	...	...	...	...	...	...	3,727	61,493	3,727	61,493	1,602	141,883	203,376
8	...	...	...	...	...	...	2,503	29,272	2,503	29,272	479	27,819	57,091
9	...	...	...	...	...	...	6,959	59,541	6,959	59,541	833	45,100	104,641
1910	...	...	...	...	...	...	6,309	27,271	6,309	27,271	1,281	68,657	95,928
1911	...	...	...	...	...	...	9,825	33,709	9,825	33,709	828	44,409	78,118
Total	...	...	...	...	...	...	...	...	47,592	522,049	8,641	530,476	1,052,525

[1] † *See* Woodward's Mining Handbook, Perth: By Authority, 1895; page 123. [2] † Weight not stated.

XXII.

ENTERED FOR EXPORT FROM 1850 TO 1911, INCLUSIVE.

TIN.											
BLACK TIN (Dressed Tin).								TIN INGOT. (White tin.)		Total Value of Tin Exported.	Year.
Pilbarra Gf.		Greenbushes Mf.		[3]†State generally.		Total.		Greenbushes Mf.			
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
...	...	5	300	...	...	5	300	...	...	300	9
...	...	68	5,400	...	...	68	5,400	...	...	5,400	1890
...	...	204	10,200	...	...	204	10,200	...	...	10,200	1
...	...	265	13,843	...	...	265	13,843	...	...	13,843	2
57	3,470	171	7,664	...	...	228	11,134	...	...	11,134	3
19	949	371	14,325	...	...	390	15,274	...	...	15,274	4
...	...	277	9,703	...	...	277	9,703	...	...	9,703	5
...	...	137	4,338	...	...	137	4,338	...	...	4,338	6
...	...	96	3,275	...	...	96	3,275	...	...	3,275	7
...	...	68	2,760	...	...	68	2,760	...	...	2,760	8
30	2,025	278	21,138	...	...	308	23,163	...	...	23,163	9
368	30,146	102	8,032	...	...	470	38,178	142	18,872	57,050	1900
439	34,600	68	4,895	...	...	507	39,495	97	12,607	52,102	1
248	19,698	31	2,870	...	...	279	22,568	141	16,830	39,398	2
267	20,988	25	1,868	...	...	292	22,856	235	29,277	52,133	3
64	4,932	24	1,389	379	20,797	467	27,118	129	16,155	43,273	4
188	16,853	119	8,177	666	51,748	973	76,778	...	1	76,779	5
329	28,375	444	46,254	624	64,005	1,397	138,634	45	8,746	147,380	6
...	...	...	...	1,424	151,414	1,424	151,414	78	14,725	166,139	7
...	...	...	...	1,093	83,294	1,093	83,594	[2]†	1	83,595	8
...	...	...	...	698	62,989	698	62,989	...	...	62,989	9
...	...	...	...	500	45,129	500	45,129	...	...	45,129	1910
...	...	...	...	495	55,220	495	55,220	...	...	55,220	1911
...	...	...	...	...	...	11,508	863,363	867	117,214	980,577	Total

[3]† Probably the produce of Pilbara Goldfield and Greenbushes Mineral Field.

TABLE XXII.—*Return of Ore and Minerals other than Gold*

YEAR.	SILVER.		LEAD ORE.		SILVER-LEAD ORE.		PIG LEAD.		ZINC INGOTS AND CONCENTRATES.	
	State generally.		Northampton Mf.		State generally.		State generally.		State generally.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	ozs.	£	tons.	£	tons.	£	tons.	£	tons.	£
1850 ...	...	...	5	55	...	...	...	...	...	...
1 ...	...	...	...	...	...	...	...	...	...	...
2 ...	...	...	...	...	...	...	...	...	...	...
3 ...	...	...	[2]†	4	...	...	55	1,200	...	...
4 ...	...	...	...	...	...	...	122	2,440	...	..
5 ...	...	...	25	250	...	...	134	2,675	...	...
6 ...	...	...	...	...	...	...	60	1,200	...	...
7 ...	...	...	...	...	...	...	120	2,410	...	...
8 ...	...	...	...	...	...	...	61	1,220	...	...
9 ...	...	...	13	135	...	...	25	495	...	...
1860 ...	...	...	98	985	...	...	...	...	...	...
1 ...	...	...	79	790	...	...	...	...	...	...
2 ...	...	...	9	90	...	...	...	...	...	...
3 ...	...	...	230	2,300	...	...	...	...	...	...
4 ...	...	...	80	800	...	...	...	...	...	...
5 ...	...	...	703	8,436	...	...	...	...	...	...
6 ...	...	...	273	3,282	...	...	...	...	...	...
7 ...	...	...	902	10,824	...	...	[4]†3	50	...	...
8 ...	...	...	1,100	13,206	...	...	...	...	...	...
9 ...	...	...	699	8,394	...	...	...	...	...	...
1870 ...	...	...	1,209	14,514	...	...	...	...	...	...
1 ...	...	...	420	5,040	...	...	...	...	...	...
2 ...	...	...	364	4,368	...	...	...	...	...	...
3 ...	...	...	965	11,586	...	...	...	...	...	...
4 ...	...	...	2,144	25,725	...	...	...	...	...	...
5 ...	...	...	2,289	27,468	...	...	4	89	...	...
6 ...	...	...	2,192	26,298	...	...	[4]†7	155	...	...
7 ...	...	...	3,956	47,466	...	...	[4]†1	15	...	...
8 ...	...	...	3,618	43,410	...	...	...	...	...	...
9 ...	...	...	2,775	33,300	...	...	...	...	...	...
1880 ...	...	...	1,921	15,368	...	...	[4]†5	89	...	...
1 ...	...	...	1,401	11,204	...	...	[4]†1	20	...	...
2 ...	...	...	1,794	14,348	...	...	...	...	...	...
3 ...	...	...	1,038	7,266	...	...	...	...	...	...
4 ...	...	...	696	4,872	...	...	...	...	...	...
5 ...	...	...	465	3,255	...	...	...	...	...	...
6 ...	...	...	611	4,277	...	...	...	...	...	...
7 ...	...	...	471	4,710	...	...	[4]†6	120	...	...
8 ...	...	...	532	5,320	...	...	[4]†2	40	...	...
9 ...	...	...	250	2,500	...	...	...	...	...	...
1890 ...	...	...	214	2,135	...	...	...	...	...	...
1 ...	...	...	25	250	...	...	...	...	...	...
2 ...	...	...	30	150	...	...	...	...	...	...
3 ...	...	...	...	...	...	...	...	...	...	...
4 ...	...	...	...	...	...	...	...	...	...	...
5 ...	...	...	...	...	...	...	...	...	...	...
6 ...	...	...	...	...	...	...	...	...	...	...
7 ...	...	...	[2]†	4	...	...	[4]†1	11	...	...
8 ...	...	...	5	33	...	...	...	...	...	...
9 ...	...	...	16	96	...	...	77	1,077	...	...
1900 ...	28,749	3,594	27	242	...	...	...	...	...	...
1 ...	60,869	7,609	...	...	...	...	...	...	...	...
2 ...	83,293	9,190	...	...	...	...	...	...	...	...
3 ...	168,113	19,153	...	...	...	...	...	...	...	...
4 ...	399,190	45,912	...	...	...	...	...	...	...	...
5 ...	359,744	44,278	...	...	...	...	...	...	...	...
6 ...	282,145	37,612	...	...	...	...	...	...	...	...
7 ...	189,265	25,382	...	..	211	1,866	...	...	...	...
8 ...	168,455	18,877	...	...	518	5,006	...	...	...	...
9 ...	176,843	18,778	...	...	211	1,199	...	...	...	...
1910 ...	176,139	18,777	248	1,433	...	...	...	...	19	244
1911 ...	169,043	18,333	‡679 870	6,682 8,320	...	...	...	...	12 12	147 189
Total ...	**2,261,848**	**267,495**	**35,441**	**381,191**	**940**	**8,071**	**684**	**13,306**	**43**	**580**

[2]† Weight not stated. [4]† Estimated. [5]† 4 cwts. [6]† Includes Cobalt ore, 2 tons, valued at £41: Plumbago ore, 1 ton, valued at £6. ‡ Concentrates.

entered for EXPORT from 1850 to 1911, inclusive—continued.

WOLFRAM.		NON-METALLIC MINERALS.						MINERALS NOT ELSEWHERE INCLUDED.		Total Value of Minerals other than Gold, Exported to Date.	Year.
		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.	£	£	
...	...	...	...	...	...	...	...	...	...	55	1850
...	...	...	...	...	...	...	...	...	...	...	1
...	...	...	...	...	...	...	...	...	...	...	2
...	...	...	...	...	...	...	...	...	...	1,211	3
...	...	...	...	...	...	...	...	...	...	2,440	4
...	...	...	...	...	...	...	...	...	...	2,951	5
...	...	...	...	...	...	...	...	...	...	2,218	6
...	...	...	...	...	...	...	...	...	...	4,330	7
...	...	...	...	...	...	...	...	...	...	10,751	8
...	...	...	...	...	...	...	...	...	...	14,752	9
...	...	...	...	...	...	...	...	...	...	9,006	1860
...	...	...	...	...	...	...	...	...	...	7,129	1
...	...	...	...	...	...	...	...	...	...	12,626	2
...	...	...	...	...	...	...	...	...	...	14,508	3
...	...	...	...	...	...	...	...	...	...	18,016	4
...	...	...	...	...	...	...	...	...	...	21,726	5
...	...	...	...	...	...	...	...	...	...	11,644	6
...	...	...	...	...	...	...	...	...	...	15,929	7
...	...	...	...	...	...	...	...	...	...	14,451	8
...	...	...	...	...	...	...	...	...	...	10,719	9
...	...	...	...	...	...	...	...	...	...	14,604	1870
...	...	...	...	...	...	...	...	...	...	5,040	1
...	...	...	...	...	...	...	...	...	...	4,368	2
...	...	...	...	...	...	...	...	...	...	12,434	3
...	...	...	...	...	...	...	...	...	...	26,723	4
...	...	...	...	...	...	...	...	...	...	30,628	5
...	...	...	...	...	...	...	...	...	...	30,638	6
...	...	...	...	...	...	...	...	..	...	48,284	7
...	...	..	...	...	...	...	...	...	...	43,545	8
...	...	...	...	...	...	...	...	...	...	33,300	9
...	...	...	...	...	...	...	...	...	...	15,577	1880
...	...	...	...	...	...	...	...	...	...	11,224	1
...	...	...	...	...	...	...	...	...	...	14,371	2
...	...	...	...	...	...	...	...	...	...	7,341	3
...	...	...	...	...	...	...	...	...	...	6,642	4
...	...	...	...	...	...	...	...	...	...	5,048	5
...	...	...	...	...	...	...	...	...	...	8,012	6
...	...	...	...	...	...	...	...	...	...	5,175	7
...	...	...	...	...	...	...	...	...	...	6,848	8
...	...	...	...	...	...	...	...	...	...	4,704	9
...	...	...	...	...	...	...	...	...	...	7,671	1890
...	...	...	...	...	...	...	...	...	...	14,912	1
...	...	...	...	...	...	[2]†	25	...	...	22,714	2
...	...	...	...	...	...	[2]†	4	...	...	11,744	3
...	...	...	...	...	...	...	...	...	...	15,274	4
...	...	...	...	...	...	[2]†	3	...	...	22,658	5
...	...	...	...	...	...	...	...	...	...	4,438	6
...	...	...	...	...	...	[2]†	209	...	...	4,532	7
...	...	...	...	1	1	...	...	...	...	7,060	8
...	...	[2]†	1	798	772	[2]†	50	...	...	66,611	9
...	...	...	...	355	350	[2]†	3	5	85	95,261	1900
...	...	...	...	971	969	...	...	...	4	171,453	1
...	...	...	...	12	12	...	...	[6]† 3	47	61,551	2
...	...	[5]†	10	110	127	...	...	[7]† 22	230	109,468	3
...	...	...	...	11	7	...	...	7	81	97,132	4
...	...	...	...	108	87	...	...	[8]† 80	5,856	192,251	5
...	...	...	...	86	65	...	...	10	1,035	222,621	6
...	...	...	...	26 *1,447	28 1,138	...	...	[9]† 173	4,977	402,906	7
...	...	[2]†	1,242	13 *9,612	11 7,747	[2]†	10	[10]†53	3,248	176,827	8
1	100	...	...	353 *85,647	183 93,781	...	...	[11]†263	735	282,650	9
2	190	...	...	3 *48,876	2 38,400	...	...	[12]†	100	200,106	1910
9	826	...	...	*40,063	29,344	...	...	[13]†14	407	197,439	1911
12	**1,116**	...	**1,253**	**188,492**	**173,024**	...	**304**	...	**16,805**	**2,896,247**	**Total.**

* Bunker Coal. 7† Antimony ore. 8† Includes Tantalite, 18 tons, valued at £5,729.

9† Includes Antimony ore, 25 tons ... ... = £630
Scheelite, 4 tons ... ... = 140
Spelter, 73 tons ... ... = 3,390
N.E.I., 71 tons ... ... = 817
Total ... £4,977

10† Includes Spelter, 11 tons ... ... = £98
Tantalite ... ... = £400
N.E.I., 42 tons ... ... = £2,750
Total ... £3,248

11†Includes Other Concentrates, 29 tons ... = £108
N.E.I., 234 tons ... = £627
Total ... £735

12† Includes N.E.I., ½ ton ... ... = £100

13† Includes: Iron ore, 9 tons ... ... = 7
Ores, N.E.I., 5 tons ... ... = 400
Total ... £407

PART III.—ALL MINES.

TABLE XXIII.

MILLING AND CYANIDING PLANTS ERECTED IN THE RESPECTIVE GOLDFIELDS, DISTRICTS, AND MINERAL FIELDS ON THE 31ST DECEMBER, 1911, AND THE TOTAL VALUE OF MINING MACHINERY.

Mining Centre and Lease or Area.	Name of Mine, Company, or Works.	Milling.										Cyaniding.			Total Value of all Mining Machinery.
		Batteries.	Other Mills.												
		Number of Heads of Stampers.	Prospecting Mills.	Ball Mills.	Krupp Mills.	Griffin Mills.	Huntington Mills.	Tremain Mills.	Flint Mills.	Other Crushers.	Puddlers.	Leaching Vats.	Agitating Vats.	Vacuum and Filter Presses	
	KIMBERLEY GOLDFIELD.														
The Brockman.															
141 A.C., M.A. 8	Mt. Bradley Tunnelling Claim ..	25	..	..	..	..	1	..	..	..	..	..	..	..	..
Ruby Creek.															
(61) M.A. 9	Ruby Queen	20	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total	**45**	..	..	..	..	**1**	..	..	..	..	..	..	..	**£5,000**
	PILBARA GOLDFIELD.														
	MARBLE BAR DISTRICT.														
Bamboo Creek.															
695	Bulletin	10	..	..	..	..	..	..	..	..	..	3	..	..	..
Lalla Rookh.															
R.C. 112	British Exploration of Australasia, Ltd.	..	..	..	..	..	..	..	..	..	..	10	..	..	..
Marble Bar.															
615	British Exploration of Australasia, Ltd.	5	..	..	..	..	..	..	..	..	..	..	..	..	..
⩚	State Battery, Marble Bar	5	..	..	..	..	..	..	..	..	..	..	..	..	..
Warrawoona.															
505	British Exploration of Australasia, Ltd.	10	..	..	..	..	..	..	..	..	..	..	..	..	..
604	Klondyke Boulder G.M. Co., Ltd. ..	5	..	..	..	..	..	..	..	..	..	..	..	..	..
M.A. 27	Salgash Public Crushing Works ..	15	..	..	..	..	..	..	..	..	..	..	..	..	..
Yandicoogina.															
M.A. 26	Lady Adelaide Battery	10	..	..	..	..	..	..	..	..	..	4	..	..	..
M.A. 26	Sanderson's Works	..	..	..	..	..	..	..	..	..	..	3	..	..	..
	Total	**60**	..	..	..	..	..	..	..	..	..	**20**	..	..	**£16,245**
	NULLAGINE DISTRICT.														
Eastern Creek.															
M.A. 11L	Doherty and Garland's Works ..	10	..	..	..	..	..	..	..	..	..	4	..	..	..
9-Mile Creek.															
106L	Barton	10	..	..	..	..	..	..	..	..	..	2	..	..	..
20-Mile Sandy Creek.															
⩚9718	State Battery, 20-Mile Sandy Creek ..	10	..	..	..	..	..	..	..	..	..	3	..	..	..
	Total	**30**	..	..	..	..	..	..	..	..	..	**9**	..	..	**£4,600**
	WEST PILBARA GOLDFIELD.														
Station Peak.															
149	Prince Regent	10	..	..	..	..	..	..	..	..	..	5	..	..	..
Weerianna	Porteminna Battery	10	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total	**20**	..	..	..	..	..	..	..	..	..	**5**	..	..	**£2,400**
	PEAK HILL GOLDFIELD.														
1P, etc.	Peak Hill Goldfield, Ltd.	40	1	..	..	..	..	..	..	2	2	8	3	9	..
⩚10258	State Battery, Ravelstone	10	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total	**50**	**1**	..	..	..	..	..	..	**2**	**2**	**8**	**3**	**9**	**£74,150**

TABLE XXIII.—*Milling and Cyaniding Plants erected in the respective Goldfields, Districts, etc.*—continued.

Mining Centre and Lease or Area.	Name of Mine, Company, or Works.	Milling.										Cyaniding.			Total Value of all Mining Machinery.
		Batteries.	Other Mills.												
		Number of Heads of Stampers.	Prospecting Mills.	Ball Mills.	Krupp Mills.	Griffin Mills.	Huntington Mills.	Tremain Mills.	Flint Mills.	Other Crushers.	Puddlers.	Leaching Vats.	Agitating Vats.	Vacuum and Filter Presses.	
	EAST MURCHISON GOLDFIELD.														
	LAWLERS DISTRICT.														
Bronzewing.															
1017	Bronzewing	3	..	..	..	..	..	..	..	..	..	2	..	..	..
Kathleen Valley.															
113	Nil Desperandum	10	..	..	..	..	..	..	..	..	..	..	..	..	..
382	Yellow Aster G.M. Co., N.L.	10	..	..	..	..	..	..	..	..	..	4	..	..	..
Lake Darlot.															
⩚11723	State Battery, Lake Darlot	10	..	..	..	..	..	..	..	..	..	..	..	..	..
626, etc.	Zangbar	10	..	..	..	..	..	..	..	..	..	6	2	..	..
Lawlers.															
M.A. 24	Cinderella Battery	5	..	..	..	..	..	..	..	..	..	6	..	..	..
M.A. 11	Lawlers Public Battery	10	..	..	..	..	..	..	..	1	..	4	..	..	..
58, etc.	Northern Mines, Ltd.	40	..	..	..	..	..	..	..	..	2	6	5	3	..
908	Vivien Gem	5	..	..	..	..	..	..	..	..	..	..	..	..	..
Sir Samuel.															
24, etc.	Bellevue, Ltd.	40	..	..	..	..	..	..	..	..	..	..	..	..	..
⩚	State Battery, Sir Samuel	5	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total	**148**	..	..	..	..	..	..	..	**1**	**2**	**28**	**7**	**3**	**£49,097**
	WILUNA DISTRICT.														
New England.															
(69J)	Empire	5	..	..	..	..	..	..	..	..	..	..	..	..	..
Wiluna.															
2J, etc.	Golden Age : Wiluna G.Ms., Ltd.	20	..	..	..	..	..	..	..	..	..	5	..	..	..
6J, etc.	Gwalia Consolidated, Ltd.	30	..	..	..	..	..	..	..	1	..	13	15	6	..
23J, etc.	Wiluna G.Ms., Ltd.	5	..	..	..	..	..	..	..	..	..	4	3	1	..
M.A. 57J	Christensen's Battery	..	3	..	..	..	..	..	..	..	..	..	..	..	..
⩚9909	State Battery, Wiluna	10	..	..	..	..	..	..	..	..	..	4	..	..	..
	Total	**70**	**3**	..	..	..	..	..	..	**1**	..	**26**	**18**	**7**	**£76,875**
	BLACK RANGE DISTRICT.														
Birrigrin.															
128B	Pelerin	5	..	..	..	..	..	..	..	..	..	4	..	..	..
M.A. 8B	Reply Public Battery	5	..	..	..	..	..	..	..	..	..	4	..	..	..
Maninga Marley.															
203B, etc.	Havilah G.M. Co., N.L.	10	..	..	..	..	..	..	..	..	..	6	..	..	..
53B, etc.	Maninga Marley leases	10	..	..	..	..	..	..	..	..	..	5	..	..	..
Montagu.															
135B	Montagu Boulder	10	..	..	..	..	..	..	..	..	..	4	..	..	..
Sandstone.															
5B, etc.	Black Range Kohinoor Mining Co., N.L.	10	..	..	..	..	..	..	..	..	..	..	..	..	..
4B, etc.	Black Range Mining Co., N.L.	20	..	..	..	..	..	..	..	..	..	11	5	32	..
6B, etc.	Oroya Black Range, Ltd.	20	..	..	..	..	..	..	..	1	..	8	4	2	..
196B, etc.	Sandstone G.M. Co., N.L.	10	..	..	..	..	..	..	..	1	..	8	..	..	..
⩚5254	State Battery, Black Range	10	..	..	..	..	..	..	..	..	..	8	..	..	..
Youanme.															
⩚12187	State Battery, Youanme	5	..	..	..	..	..	..	..	..	..	2	..	..	..
	Total	**115**	..	..	..	..	..	..	..	**2**	..	**60**	**9**	**34**	**£113,259**
	MURCHISON GOLDFIELD.														
	CUE DISTRICT.														
Barrambie.															
1458, etc.	Barrambie Ranges G.M. Co., N.L.	10	..	..	..	..	..	..	..	..	..	2	..	..	..
Cuddingwarra.															
1804	Emily	3	..	..	..	..	..	..	..	..	..	..	..	..	..
(595)	Victory United	10	..	..	..	..	..	..	..	..	..	6	..	..	..
Cue.															
203, etc.	Cue No. 1	20	..	..	..	..	..	..	..	..	..	8	..	..	..
1020	Gem of Cue	15	..	..	..	..	..	..	..	..	..	5	..	..	..
1696	Jasper Queen	5	..	..	..	..	..	..	..	..	..	4	..	..	..
Errolls.															
1743	Great Saddle	10	..	..	..	..	..	..	..	..	..	4	2	..	..
Mindoolah.															
1609	Mindoolah Main Reef	10	..	..	..	..	..	..	..	..	..	3	..	..	..
Tuckanarra.															
1771	Risk	5	..	..	..	..	..	..	..	..	..	..	..	..	..
⩚10256	State Battery, Tuckanarra	10	..	..	..	..	..	..	..	..	..	4	..	..	..
	Total	**98**	..	..	..	..	..	..	..	..	..	**36**	**2**	..	**£32,708**

TABLE XXIII.—*Milling and Cyaniding Plants erected in the respective Goldfields, Districts, etc.*—continued.

Mining Centre and Lease or Area.	NAME OF MINE, COMPANY, OR WORKS.	MILLING.										CYANIDING.			Total Value of all Mining Machinery.
		Batteries.	Other Mills.												
		Number of Heads of Stampers.	Prospecting Mills.	Ball Mills.	Krupp Mills.	Griffin Mills.	Huntington Mills.	Tremain Mills.	Flint Mills.	Other Crushers.	Puddlers.	Leaching Vats.	Agitating Vats.	Vacuum and Filter Presses.	
	MURCHISON GOLDFIELD—*continued.*														
	NANNINE DISTRICT.														
Abbotts.															
(171N)	Mt. Vranizan	10	..	..	..	..	..	..	..	..	..	..	..	..	..
(172N)	Abbott's Cyanide Works (Purcell's)	..	..	..	..	..	..	..	..	..	..	5	..	..	..
(172N)	New Murchison King G.Ms., Ltd.	10	..	..	..	..	..	..	..	..	..	..	..	..	..
Burnakura.															
509N, etc.	Federal City leases	10	..	..	..	..	..	..	..	..	..	5	..	..	..
408N, etc.	New Alliance leases	25	..	..	..	..	..	..	..	..	..	2	..	..	..
Chesterfield.															
(361N)	Margueritta	10	..	..	..	..	..	..	..	..	..	4	..	..	..
Gabanintha.															
379N, etc.	Mountain View leases	5	..	..	..	..	..	..	..	..	..	2	1	..	..
P.A. 600N	Prospecting Area 600	10	..	..	..	..	..	..	..	..	..	..	..	..	..
Gum Creek.															
953N	Connecticut	5	..	..	..	..	..	..	..	..	..	4	..	..	..
Meekatharra.															
477N, etc.	Fenian leases	10	..	..	..	..	..	..	..	..	..	..	4	1	..
475N, etc.	Ingliston Consols Extended leases	10	..	..	..	..	..	..	..	1	..	5	..	..	..
398N, etc.	Ingliston Extended G.Ms., Ltd.	10	..	..	..	..	..	..	..	..	..	5	3	1	..
533N, etc.	Marmont leases	10	..	..	..	..	..	..	..	..	..	4	..	..	..
⋀10910	Scott and party's Cyanide Works	..	..	..	..	..	..	..	..	..	..	14	1	2	..
⋀9142	State Battery, Meekatharra	10	..	..	..	..	..	..	..	2	..	6	..	..	..
Nannine.															
1039N, etc.	Irymple and Champion South	4	..	..	..	..	..	..	..	..	..	..	..	..	..
16N, etc.	Nannine leases	13	..	..	..	..	..	..	..	..	..	4	..	..	..
984N	Welcome Stranger	10	..	..	..	..	..	..	..	..	..	..	..	..	..
⋀10910	State Battery, Nannine	5	..	..	..	..	..	..	..	..	..	..	..	..	..
Quinn's.															
622N	Phœnix	5	..	..	..	..	..	..	..	..	..	2	..	..	..
⋀	State Battery, Quinn's	5	..	..	..	..	..	..	..	..	..	..	..	..	..
Stake Well.															
593N, etc.	Kohinoor South G.M. Co., Ltd.	10	..	..	..	..	..	..	..	..	..	8	..	..	..
Yaloginda.															
937N	Hornsby	5	..	..	..	..	..	..	..	..	..	..	..	..	..
709N, etc.	Rocklee leases	10	..	..	..	..	..	..	..	..	..	..	..	..	..
(174N)	Star of the East, Ltd.	20	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total	**222**	..	..	..	..	..	..	..	**3**	..	**70**	**9**	**4**	**£101,706**
	DAY DAWN DISTRICT.														
Day Dawn.															
389D, etc.	Cremed'Or leases	5	..	..	..	..	..	..	..	..	..	5	..	..	..
1D, etc.	Great Fingall Consolidated, Ltd.	40	..	..	..	..	..	..	..	..	..	18	11	5	..
(320D)	Mt. Fingall	5	..	..	..	..	..	..	..	..	..	..	..	..	..
138D, etc.	Murchison Associated, Ltd.	10	..	..	..	..	..	..	..	..	..	4	2	..	..
Webb's Patch.															
472D, etc.	Hill End	5	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total	**65**	..	..	..	..	..	..	..	..	..	**27**	**13**	**5**	**£208,000**
	MOUNT MAGNET DISTRICT.														
Boogardie.															
1021M	Boomer	5	..	..	..	..	..	..	..	..	..	..	..	..	..
Lennonville.															
964M	Empress	5	..	..	..	..	..	..	..	..	..	..	..	..	..
(30M)	Long Reef	10	..	..	..	..	..	..	..	..	..	..	..	..	..
(693M)	Piedmont	10	..	..	..	..	..	..	..	..	..	..	..	..	..
(57M)	Welcome	..	..	..	..	..	..	1	..	..	..	..	..	..	..
971M	Wheel of Fortune	..	3	..	..	..	..	..	..	..	..	..	..	..	..
⋀7499	State Battery, Lennonville	10	..	..	..	..	..	..	..	..	..	3	..	..	..
Mt. Magnet.															
953M	Brittannia	..	..	..	..	..	..	1	..	..	..	..	..	..	..
752M, etc.	Great Boulder No. 1, Ltd.	10	..	..	..	..	..	..	..	..	..	5	..	2	..
314M, etc.	Morning Star	10	..	..	..	..	..	..	..	..	..	6	..	1	..
(784M)	New Chum	10	..	..	..	..	..	..	..	..	..	..	..	..	..
(M.A. 2M)	New Chum Cyanide Works	..	..	..	..	..	..	..	..	..	..	12	..	..	..
(856M)	Paris	..	..	..	..	..	1	..	..	..	..	..	..	..	..
⋀9769	State Battery, Mt. Magnet	10	..	..	..	..	..	..	..	..	..	9	..	..	..
Moyagee.															
(766M)	Ophir	5	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total	**85**	**3**	..	..	..	**1**	**2**	..	..	..	**35**	..	**3**	**£37,565**

TABLE XXIII.—*Milling and Cyaniding Plants erected in the respective Goldfields, Districts, etc.*—continued.

Mining Centre and Lease or Area.	Name of Mine, Company, or Works.	Milling.										Cyaniding.			Total Value of all Mining Machinery.
		Batteries.	Other Mills.												
		Number of Heads of Stampers.	Prospecting Mills.	Ball Mills.	Krupp Mills.	Griffin Mills.	Huntington Mills.	Tremain Mills.	Flint Mills.	Other Crushers.	Puddlers.	Leaching Vats.	Agitating Vats.	Vacuum and Filter Presses.	
	YALGOO GOLDFIELD.														
Field's Find.															
414, etc.	Reward G.Ms., Ltd.	20	..	..	..	..	..	..	..	..	..	..	..	..	..
Gullewa.															
170, etc.	Victory United G.M. Co., N.L.	20	..	..	..	..	..	..	..	..	..	..	..	..	..
Pinyalling.															
501, etc.	Baron Rothschild G.Ms., Ltd.	10	..	..	..	..	..	..	..	..	..	5	..	..	..
(P.A. 119)	(Gloster, A.B.)..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Rothesay.															
(192, etc.)	Woodley G.M., Ltd.	20	..	..	..	..	..	..	..	..	..	..	..	..	..
Yalgoo.															
495, etc.	Ivanhoe G.M. Co., N.L.	5	..	..	..	..	..	..	..	..	..	3	..	..	..
549	Royal Mint	5	..	..	..	..	..	..	..	..	..	..	..	..	..
Yuin.															
409, etc.	Royal Standard leases	20	1	..	..	..	..	2	..	..	..	6	..	..	..
(556)	Standard Grade	5	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total	**105**	2	..	..	..	..	2	..	..	..	**14**	..	..	**£30,145**
	MT. MARGARET GOLDFIELD.														
	MT. MORGANS DISTRICT.														
Australia United.															
298F	Australian United Cyanide Works ..	..	..	..	..	..	..	..	..	..	..	7	..	..	..
Korong.															
254F	Alicia	10	..	..	..	..	..	..	..	..	..	..	..	..	..
Morgans.															
8F	Millionaire, Ltd.	5	..	..	..	..	..	..	..	..	..	..	..	..	..
29F, etc.	Transvaal leases	10	..	..	..	..	..	..	..	..	..	..	..	..	..
Mt. Margaret.															
174F	Mt. Margaret Lake View	2	..	..	..	..	..	..	..	..	..	..	..	..	..
66F	Mt. Morven	5	..	..	..	..	..	..	..	..	..	2	..	..	..
Murrin Murrin.															
208F	Alix Junior	5	..	..	..	..	..	..	..	..	..	..	..	..	..
201F, etc.	Hill's Proprietary, Ltd.	20	..	..	..	..	..	..	..	..	..	11	6	1	..
	Total	**57**	..	..	..	..	..	..	..	..	..	**20**	**6**	**1**	**£21,278**
	MT. MALCOLM DISTRICT.														
Diorite King.															
1172C	Leeta Gold Mining Co., Ltd.	5	..	..	..	..	..	..	..	..	..	8	..	..	..
Leonora.															
218C, etc.	Gwalia Proprietary, Ltd.	40	..	..	..	..	..	..	..	..	..	12	..	..	..
195C, etc.	Leonora Gold Blocks..	10	..	..	..	..	..	..	..	..	..	5	..	..	..
210C, etc.	Leonora Main Reefs, Ltd.	10	..	..	..	..	..	..	..	..	..	5	..	..	..
1217C	Ping Pong	10	..	..	..	..	..	..	..	..	..	..	..	..	..
190C, etc.	Sons of Gwalia, Ltd.	50	..	..	..	..	..	..	..	5	1	16	21	4	..
198C, etc.	Sons of Gwalia South G.Ms., Ltd. ..	10	..	..	..	..	..	..	..	4	..	..	4	2	..
⩚7121	State Battery, Leonora	10	..	..	..	..	..	..	..	..	..	2	4	1	..
Malcolm.															
1179C	Bullfinch West G.M. Co., N.L. ..	5	..	..	..	..	..	..	..	1	..	6	..	..	..
W.R. 84C	(Hill and party)	..	..	..	..	..	..	1	..	..	..	..	..	..	..
1175C	Malcolm Prospecting Co., N.L.	10	..	..	..	..	..	..	..	..	..	2	..	..	..
991C	Richmond Gem	10	..	..	..	..	..	..	..	..	..	4	..	..	..
Mertondale.															
638C, etc.	Merton's Reward G.M. Co., Ltd. ..	15	..	..	..	..	..	..	..	1	..	8	3	..	..
Mt. Clifford.															
1261C	Bannockburn G.M. Co., Ltd.	5	..	..	..	..	..	..	..	..	..	5	..	..	..
(M.A. 9C)	Mt. Clifford Battery	10	..	..	..	..	..	..	..	..	..	2	..	..	..
Pig Well.															
⩚9681	State Battery, Pig Well	10	..	..	..	..	..	..	..	..	..	4	..	..	..
Randwick.															
987C	Anglo-Saxon	5	..	..	..	..	..	..	..	..	..	..	..	..	..
978C	Randwick	10	..	..	..	..	..	..	..	..	..	2	..	..	..
Webster's Find.															
(1224C)	Webster's	5	..	..	..	..	..	..	..	..	..	..	..	..	..
Wilson's Patch.															
1120C	Great Western	10	..	..	..	..	..	..	..	..	..	6	..	..	..
	Total	**240**	..	..	..	..	..	1	..	11	1	**87**	**32**	**7**	**£107,527**

TABLE XXIII.—*Milling and Cyaniding Plants erected in the respective Goldfields, Districts, etc.*—continued.

Mining Centre and Lease or Area.	Name of Mine, Company, or Works.	Milling.										Cyaniding.			Total Value of all Mining Machinery.
		Batteries.	Other Mills.												
		Number of Heads of Stampers.	Prospecting Mills.	Ball Mills.	Krupp Mills.	Griffin Mills.	Huntington Mills.	Tremain Mills.	Flint Mills.	Other Crushers.	Puddlers.	Leaching Vats.	Agitating Vats.	Vacuum and Filter Presses.	
	MT. MARGARET GOLDFIELD—*continued.*														
	MT. MARGARET DISTRICT.														
Burtville.															
1644T, etc.	Birthday Gift G.M. Co., N.L.	5	..	..	..	..	..	..	..	..	..	..	..	..	..
943T, etc.	Mikado	5	..	..	..	..	..	..	..	..	..	2	..	..	..
781T, etc.	Sailor Prince	5	..	..	..	..	..	..	..	..	..	..	..	..	..
M.A. 17T	Sunrise	8	..	..	..	..	..	..	..	..	..	..	..	..	..
⩚8914	State Battery, Burtville	10	..	..	..	..	..	..	..	..	..	3	..	..	..
Erlistoun.															
(1838T)	Golden Spinifex	5	..	..	..	..	..	..	..	..	..	..	..	..	..
(771T)	Little Doris	5	..	..	..	..	..	..	..	..	..	..	..	..	..
1874T	Mistake	..	..	..	..	..	..	..	..	..	..	5	..	..	..
1875T	Mulga Queen	10	..	..	..	..	..	..	..	..	..	4	..	..	..
(1665T)	Westralia Tasmania	5	..	..	..	..	..	..	..	1	..	4	..	..	..
Laverton.															
371T	Augusta G.M. Co., N.L.	10	..	..	..	..	..	..	..	..	..	..	..	..	..
1797T	Craiggiemore	10	..	..	..	..	..	..	..	..	..	6	4	..	..
829T, etc.	Ida H. G.M. Co., Ltd.	10	..	..	..	..	..	..	..	..	..	6	..	..	..
1783T	Just in Time	5	..	..	..	..	..	..	..	..	..	..	..	..	..
806, etc.	Lancefield G.M. Co., Ltd.	50	..	5	..	..	..	..	..	..	..	..	7	6	..
1840T, etc.	Mary Mac Gold Mining Co., N.L.	10	..	..	..	..	..	..	..	..	..	..	..	..	..
⩚8386	State Battery, Laverton	10	..	..	..	..	..	..	..	..	..	3	..	..	..
⩚	State Battery, Margaret	2	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total	**165**	..	**5**	..	..	..	..	..	**1**	..	**33**	**11**	**6**	**£128,327**
	NORTH COOLGARDIE GOLDFIELD.														
	MENZIES DISTRICT.														
Comet Vale.															
5217Z	Gladsome	10	..	..	..	..	..	..	..	..	..	..	..	..	..
5300Z	Happy Jack	..	..	..	..	..	1	..	..	..	..	..	..	..	..
5211Z, etc.	Sand Queen G.Ms., Ltd.	10	..	..	..	..	..	..	..	..	..	9	..	..	..
Menzies.															
5354Z	Balkis	5	..	..	..	..	..	..	..	..	..	3	..	..	..
T.A. 46Z	(Edmunds & Gidney)	..	..	..	..	..	..	..	..	..	..	3	..	..	..
5372Z	Florence G.Ms., Ltd.	10	..	..	..	..	..	..	..	..	..	3	..	..	..
5302Z	Lady Harriett	5	..	..	..	..	..	..	..	..	..	3	..	..	..
2835Z	Lady Sherry	5	..	..	..	..	..	..	..	..	..	..	..	..	..
4855Z	Lusitania	5	..	..	..	..	..	..	..	..	..	..	..	..	..
4895Z	Maranoa	10	..	..	..	..	..	..	..	1	..	8	..	..	..
4913Z, etc.	Menzies Consolidated G.Ms., Ltd.	20	..	..	..	..	..	..	..	..	..	16	3	1	..
2820Z	Menzies Gold Mine	10	..	..	..	..	..	..	..	1	..	4	..	..	..
T.A 37Z	Menzies Milling Co., Ltd.	15	..	..	..	..	..	..	..	2	..	3	3	1	..
3100Z, etc.	Menzies Mining and Exploration Corporation, Ltd.	10	..	..	..	..	..	..	..	..	..	7	3	1	..
⩚10153	State Battery, Menzies	10	..	..	..	..	..	..	..	..	..	3	3	1	..
Mt. Ida.															
5307Z	Copperfield G.M. Syndicate	..	..	..	..	..	..	..	..	..	..	..	6	..	..
T.A. 41Z	(Cully & Salkilld)	..	..	..	..	..	..	..	..	..	..	5	..	..	..
5243Z	Mt. Ida Meteor leases	5	..	..	..	..	..	..	..	..	..	5	..	..	..
⩚10173	(E. B. McCahon & Co.)	..	..	..	..	..	..	..	..	..	..	12	..	..	..
⩚10173	State Battery, Mt. Ida	10	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total	**140**	..	..	..	..	**1**	..	..	**4**	..	**84**	**18**	**4**	**£69,292**
	ULARRING DISTRICT.														
Davyhurst.															
854U, etc.	Callion G.M. Co. (W.A.), N.L.	10	..	..	..	..	..	..	..	..	..	4	..	..	..
459U, etc.	Golden Pole G.Ms., Ltd.	20	..	..	..	..	..	..	..	..	..	2	3	1	..
613U, etc.	Great Ophir Gold Corporation, N.L.	..	..	..	..	..	1	..	..	2	..	12	..	..	..
898U	Lights of Israel	..	..	..	..	..	1	..	..	..	..	..	..	..	..
438U	Westralia Waihi G.Ms., N.L.	10	..	..	..	..	..	..	..	..	..	4	2	..	..
Mulline.															
123U	Riverina	10	..	..	..	..	..	..	..	..	..	3	..	..	..
600U	Riverina South	5	..	..	..	..	..	..	..	..	..	4	..	..	..
⩚7250	State Battery, Mulline	20	..	..	..	..	..	..	..	..	..	5	2	1	..
Mulwarrie.															
⩚8045	State Battery, Mulwarrie	10	..	..	..	..	..	..	..	..	..	4	..	..	..
	Total	**85**	..	..	..	..	**2**	..	..	**2**	..	**38**	**7**	**2**	**£32,750**

TABLE XXIII.—*Milling and Cyaniding Plants erected in the respective Goldfields, Districts, etc.*—continued.

Mining Centre and Lease or Area.	Name of Mine, Company, or Works.	Milling.										Cyaniding.			Total Value of all Mining Machinery.
		Batteries.	Other Mills.												
		Number of Heads of Stampers.	Prospecting Mills.	Ball Mills.	Krupp Mills.	Griffin Mills.	Huntington Mills.	Tremain Mills.	Flint Mills.	Other Crushers.	Puddlers.	Leaching Vats.	Agitating Vats.	Vacuum and Filter Presses.	
	NORTH COOLGARDIE GOLDFIELD—*continued.*														
	NIAGARA DISTRICT.														
Armidale.															
M.A. 48G	Westralian Machinery Corporation, Ltd.	5	..	..	..	..	..	..	..	..	..	5	..	..	..
Desdemona.															
⩚	State Battery, Desdemona	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Kookynie.															
320G	Champion	10	..	..	..	..	..	..	..	..	..	..	..	..	..
26G, etc.	Cosmopolitan Proprietary, Ltd. ..	50	..	..	..	..	..	..	..	..	..	14	4	3	..
577G, etc.	Heather leases..	10	..	..	..	..	..	..	..	..	..	4	..	..	..
419G, etc.	Orion Mines, Ltd.	10	..	..	..	..	..	..	..	..	..	6	..	..	..
755G, etc.	W. E. G. leases	10	..	..	..	..	..	..	..	..	..	..	..	..	..
⩚4797	State Battery, Kookynie	10	..	..	..	..	..	..	..	..	..	6	..	..	..
Tampa.															
349G	Grafter	5	..	..	..	..	..	..	..	..	..	3	..	..	..
	Total	**112**	..	..	..	..	..	..	..	..	..	**38**	**4**	**3**	**£28,512**
	YERILLA DISTRICT.														
Edjudina.															
401R, etc.	Edjudina Goldfields, Ltd.	10	..	..	..	..	..	..	..	..	..	3	..	..	..
539R, etc.	Senate	5	..	..	..	..	..	..	..	..	..	5	..	..	..
Linden.															
928R	Great Carbine	6	1	..	..	..	..	..	..	..	..	3	..	..	..
903R	Westralia United Goldfields, Ltd. ..	5	..	..	..	..	..	..	..	..	..	3	..	..	..
⩚	State Battery, Linden	10	..	..	..	..	..	..	..	..	..	..	..	..	..
Pingin.															
⩚10190	State Battery, Pingin	5	..	..	..	..	..	..	..	..	..	3	..	..	..
Yarri.															
788R	Dostmund	5	..	..	..	..	..	..	..	..	..	..	..	..	..
⩚10255	State Battery, Yarri	10	..	..	..	..	..	..	..	..	..	4	..	..	..
Yerilla.															
W.R. 28R	State Battery, Yerilla	5	..	..	..	..	..	..	..	..	..	3	..	..	..
Yunda-mindera.															
931R	Battles Ville	5	..	..	..	..	..	..	..	..	..	..	..	..	..
541R	Golden Treasure G.M. Co., N.L... ..	10	..	..	..	..	1	..	..	..	..	4	2	..	..
450R, etc.	Potosi leases	10	..	..	..	..	..	..	..	..	..	4	..	..	..
	Total	**86**	**1**	..	..	..	**1**	..	..	..	..	**32**	**2**	..	**£28,400**
	BROAD ARROW GOLDFIELD.														
Bardoc.															
T.A. 28W	Vettersburg Cyanide Works ..	..	..	..	..	..	..	..	..	..	..	7	..	..	..
Black Flag.															
1384W	Lady Bountiful	3	..	..	..	..	..	..	..	..	..	..	..	..	..
1384W	Lady Bountiful: Westralian Machinery Corporation, Ltd.	10	..	..	..	..	..	..	..	..	..	..	..	..	..
Broad Arrow.															
(75W, etc.)	(Broad Arrow Consols G.M. Co., Ltd.) ..	10	..	..	..	..	..	..	..	..	..	..	..	..	..
3W, etc.	Claremont Gold Mine, Ltd.	20	..	..	..	..	..	..	..	1	..	4	..	..	..
(1209W)	Dixie	5	..	..	..	..	..	..	..	..	..	..	..	..	..
1391W	Duke Battery	10	..	..	..	..	..	..	..	..	..	..	..	..	..
Carnage.															
M.A. 22W	Regan's Carnage Battery	10	..	..	..	..	..	..	..	..	..	4	..	..	..
Paddington.															
(53W)	Gwalia Proprietary, Ltd.	10	..	..	..	..	..	..	..	..	..	12	..	..	..
1639W	Mount Corlic	10	..	..	..	..	..	..	..	..	..	..	..	..	..
W.R. 68W	Northey's Venture Mill	10	..	..	..	..	..	..	..	..	..	5	..	..	..
Siberia.															
1399W	Gimblet South Extended	..	..	..	..	..	1	..	..	..	..	..	..	..	..
1286W	Golden	..	1	..	..	..	..	..	..	..	..	..	..	..	..
1289W	Lady Evelyn	5	..	..	..	..	..	..	..	..	..	..	..	..	..
M.A. 23W	Ora Banda Battery	10	..	..	..	..	..	..	..	..	..	6	3	2	..
M.A. 29W	Pole Battery	5	..	..	..	..	..	..	..	..	..	3	..	..	..
⩚10254	State Battery, Siberia	5	..	..	..	..	..	..	..	..	..	3	..	..	..
	Total	**123**	**1**	..	..	..	**1**	..	..	**1**	..	**44**	**3**	**2**	**£32,020**

TABLE XXIII.—*Milling and Cyaniding Plants erected in the respective Goldfields, Districts, etc.*—continued.

Mining Centre and Lease or Area.	Name of Mine, Company, or Works.	Milling.										Cyaniding.			Total Value of all Mining Machinery.
		Batteries.	Other Mills.												
		Number of Heads of Stampers.	Prospecting Mills.	Ball Mills.	Krupp Mills.	Griffin Mills.	Huntington Mills.	Tremain Mills.	Flint Mills.	Other Crushers.	Puddlers.	Leaching Vats.	Agitating Vats.	Vacuum and Filter Presses.	
	NORTH-EAST COOLGARDIE GOLDFIELD.														
	KANOWNA DISTRICT.														
Gindalbie.															
1047x	Eclipse	5	..	..	..	..	..	..	..	..	..	..	..	..	..
(1123x)	Gindalbie	10	..	..	..	..	..	..	..	..	..	..	..	..	..
384x, etc.	Kalgoorlie Foundry, Ltd.	15	..	..	..	..	..	..	..	..	..	12	..	..	..
1174x	United	5	..	..	..	..	..	..	..	..	..	..	..	..	..
Gordon.															
1222x, etc.	Sirdar G.M. Co., Ltd.	10	..	..	..	..	..	..	..	..	..	4	..	..	..
Kanowna.															
M.A. 45x	Donnan's Works	..	3	..	..	..	..	..	..	..	..	..	..	..	..
1289x	Golden Valley Cyanide Plant	..	..	..	..	..	..	..	..	..	..	3	..	..	..
(918x)	Government Well	3	..	..	..	..	..	..	..	..	1	..	..	..	..
1228x	Lady Pratt	10	..	..	..	..	..	..	..	..	..	..	..	..	..
M.A. 19x	Martin's Public Battery	15	..	..	..	..	..	..	..	..	..	8	..	..	..
M.A. 43x	Monmouth Works	..	..	..	..	..	..	..	..	..	..	4	..	..	..
M.A. 49x	Mudlark Works	..	..	..	..	..	..	..	..	..	1	..	..	..	..
1263x, etc.	North White Feather G.Ms., Ltd.	20	..	..	..	..	..	..	..	..	..	8	..	..	..
Q.C. 57x	Riedel & Norton's Works	10	..	..	..	..	..	..	..	..	..	6	..	..	..
M.A. 54x	W.A. Slimes Co., Ltd.	..	..	..	..	..	..	..	..	..	..	..	..	1	..
12x, etc.	White Feather Main Reefs (1906), Ltd.	40	..	..	..	..	..	..	..	..	..	18	..	..	..
	Total	**143**	**3**	..	..	..	..	..	..	..	**2**	**63**	..	**1**	**£46,397**
	KURNALPI DISTRICT.														
Kurnalpi.															
M.A. 2K	Billy Billy	5	..	..	..	..	..	..	..	..	..	..	..	..	..
(314K)	Lady of the Lake	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Mulgabbie.															
M.A. 1K	Glover's Works	..	1	..	..	..	..	..	..	..	..	..	..	..	..
	Total	**5**	**1**	..	..	..	..	..	..	..	**1**	..	..	..	**£180**
	EAST COOLGARDIE GOLDFIELD.														
	EAST COOLGARDIE DISTRICT.														
Boorara.															
3908E	Golden Ridge G.M. Co., Ltd.	20	..	..	..	..	..	..	..	..	..	6	4	1	..
Boulder.															
38E, etc.	Associated G.Ms., of W.A., Ltd.	10	1	..	12	..	..	..	..	..	..	..	6	9	..
49E, etc.	Associated Northern Blocks (W.A.), Ltd.	..	..	3	..	..	..	..	..	..	..	..	6	3	..
352E, etc.	Chaffers Gold Mining Co., Ltd.	..	..	..	3	..	..	..	..	8	..	..	4	4	..
13E, etc.	Croesus South G.Ms., Ltd.	20	..	..	..	..	..	..	..	2	..	6	..	..	..
351E, etc.	Golden Horseshoe Estates Co., Ltd.	170	..	1	..	..	..	..	15	6	1	20	22	20	..
50E, etc.	Great Boulder No. 1, Ltd.	10	..	..	..	..	..	..	..	..	1	6	..	..	..
66E, etc.	Great Boulder Perseverance G.M. Co., Ltd.	..	..	8	..	..	..	..	2	4	..	..	24	13	..
16E, etc.	Great Boulder Proprietary G.Ms., Ltd.	..	1	..	4	13	..	..	..	9	1	..	22	24	..
3643E	Hainault Gold Mine, Ltd.	40	..	..	..	..	..	..	..	3	..	36	7	2	..
M.A. 4E	Hannans Central Battery	20	..	..	..	..	..	..	..	1	..	13	3	2	..
4317E, etc.	Idaho leases	5	..	..	..	..	..	..	..	..	..	4	..	..	..
946E	Ironsides North	10	..	..	..	..	..	..	..	..	..	7	..	..	..
31E, etc.	Ivanhoe Gold Corporation, Ltd.	100	..	..	..	..	..	..	2	3	..	32	11	9	..
22E, etc.	Kalgoorlie G.Ms., Ltd.	..	..	..	9	..	..	..	..	5	..	..	..	7	..
W.R. 84E, etc.	Lakeside Slimes Treatment Plant	..	..	..	..	..	..	..	..	..	..	6	..	1	..
16E, etc.	Lake View and Star, Ltd.	75	..	..	2	..	..	..	8	7	..	..	27	18	..
75E	Lake View South, Ltd.	..	..	..	..	..	1	..	..	..	..	9	..	..	..
T.A. 21E	Leviathan Cyanide Works	..	..	..	..	..	..	..	..	..	..	6	..	..	..
444E, etc.	North Kalgurli Co., Ltd.	20	..	..	..	..	..	..	..	..	..	9	3	1	..
410E, etc.	Oroya Links, Ltd.	55	..	2	..	..	..	..	6	..	..	..	..	8	..
1208E, etc.	South Kalgurli G.Ms., Ltd.	..	..	..	4	..	..	..	..	..	..	..	5	7	..
4423E	White Hart Battery	10	..	..	..	..	..	..	..	..	..	5	..	..	..
Feysville.															
Block 50	Hampton Properties, Ltd.	5	..	..	..	..	..	..	..	..	..	..	..	..	..
Kalgoorlie.															
796E, etc.	Bonnie Lass leases (Raven Battery)	5	..	..	..	..	..	..	..	..	..	6	..	..	..
M.A. 5E	Brownhill Consols, Ltd.	20	..	..	..	..	..	..	..	1	..	18	3	2	..
4293E	Golden Dream G.M. Co., N.L.	..	..	..	..	..	1	..	..	..	..	5	..	..	..
1694E, etc.	Golden Zone leases	15	..	..	..	..	..	..	..	2	..	8	..	..	..
1163E, etc.	Hannan's Consols leases	..	..	..	..	..	2	..	..	..	..	8	..	..	..
943E, etc.	Hannan's Proprietary, Ltd.	..	..	..	..	..	3	..	..	..	..	12	..	..	..
97E, etc.	Hannan's Reward, Ltd.	10	..	..	..	..	..	..	..	..	..	..	..	..	..
97E, etc.	Hannan's Reward North	5	..	..	..	..	..	..	..	..	..	6	..	..	..
4001E, etc.	Hidden Secret	5	..	..	1	..	..	..	..	..	..	8	..	..	..
M.A. 2E	Kalgoorlie Gold Recovery Co., Ltd.	..	..	1	..	..	..	..	..	1	..	..	5	2	..
4347E	Mystery	..	..	..	..	..	1	..	..	..	..	3	..	..	..
	Total	**640**	**2**	**15**	**35**	**13**	**8**	..	**33**	**52**	**3**	**200**	**152**	**133**	**£1,696,631**

TABLE XXIII.—*Milling and Cyaniding Plants erected in the respective Goldfields, Districts, etc.*—continued.

Mining Centre and Lease or Area.	Name of Mine, Company, or Works.	Milling. Batteries. Number of Heads of Stampers.	Milling. Other Mills. Prospecting Mills.	Ball Mills.	Krupp Mills.	Griffin Mills.	Huntington Mills.	Tremain Mills.	Flint Mills.	Other Crushers.	Puddlers.	Cyaniding. Leaching Vats.	Agitating Vats.	Vacuum and Filter Presses.	Total Value of all Mining Machinery.
	EAST COOLGARDIE GOLDFIELD—*continued.*														
	BULONG CENTRE.														
Bulong.															
1067Y, etc.	Southern Cross Syndicate	10	..	..	..	..	..	..	..	..	..	5	..	..	..
Randalls.															
⋀9539	State Battery, Bulong	10	..	..	..	..	..	..	..	..	..	4	..	..	..
	Total	**20**	..	..	..	..	..	..	..	..	..	**9**	..	..	**£5,187**
	COOLGARDIE GOLDFIELD.														
	COOLGARDIE DISTRICT.														
Bonnievale.															
(595)	Gem lease	15	..	..	..	..	..	..	..	..	..	2	..	..	..
4313	Vale of Coolgardie	10	..	..	..	..	..	..	..	..	..	5	..	..	..
144, etc.	Westralia and East Extension Mines, Ltd.	40	..	..	..	..	..	..	..	2	..	30	4	..	..
Burbanks.															
134, etc.	Burbanks Birthday G.Ms., Ltd... ..	60	..	..	..	..	..	..	..	..	..	6	..	..	..
3444	Burbanks Main Lode (1904), Ltd. ..	20	..	..	..	..	..	..	..	..	..	12	..	..	..
2160	Lady Robinson	10	..	..	..	..	..	..	..	..	..	..	..	..	..
Coolgardie.															
⋀9435	Coolgardie Slimes Plant	..	..	..	..	..	..	..	..	..	..	10	..	..	..
(4393)	Garden Gully	10	..	..	..	..	..	..	..	..	..	1	..	..	..
73, etc.	Griffith's leases	10	..	..	..	..	..	..	..	..	..	8	..	..	..
4297	King Solomon	10	..	..	..	..	..	..	..	1	..	3	..	..	..
133, etc.	New Bayley's Mines, Ltd.	10	..	..	..	..	..	..	..	..	..	6	..	..	..
3918	Redemption	10	..	..	..	..	..	..	..	..	..	..	..	..	..
4152, etc.	Queen's Cross leases	11	..	..	..	..	..	..	..	..	..	..	..	..	..
33, etc.	Tindall's Coolgardie G.Ms., N.L. ..	20	..	..	..	..	..	..	..	..	..	20	..	..	..
⋀	State Battery, Coolgardie	10	..	..	..	..	..	..	..	..	..	3	..	..	..
Eundynie.															
4253	Hidden Secret North	10	..	..	..	..	..	..	..	..	..	6	..	..	..
Gibraltar.															
4418	Reform	5	..	..	..	..	..	..	..	..	..	3	..	..	..
Gnarlbine.															
4401	Baroota Wonder	10	..	..	..	..	..	..	..	..	..	..	..	..	..
Londonderry.															
4310	Grosmont	10	..	..	..	..	..	..	..	..	..	..	..	..	..
4184, etc.	Sons of Erin leases	10	..	..	..	..	..	..	..	1	..	8	..	..	..
Red Hill.															
4331	Edquist	..	8	..	..	..	..	..	..	..	..	..	..	..	..
Widgiemooltha.															
M.A. 63	Highgate Works	3	..	..	..	..	..	..	..	..	..	2	..	..	..
⋀7497	State Battery, Widgiemooltha	10	..	..	..	..	..	..	..	..	..	3	..	..	..
	Total	**304**	**8**	..	..	..	..	..	..	**4**	..	**128**	**4**	..	**£108,110**
	KUNANALLING DISTRICT.														
Balgarrie.															
M.A. 13s	Stanley Battery	5	..	..	..	..	..	..	..	..	..	6	..	..	..
Carbine.															
33s	Carbine	10	..	..	..	..	..	..	..	..	..	..	..	..	..
758s	Homeward G.M. Co., Ltd.	..	..	2	..	..	..	..	..	..	1	..	..	..	..
Dunnsville.															
(17s)	North Coolgardie	20	..	..	..	..	..	..	..	..	..	4	..	..	..
Jourdie Hills.															
773s, etc.	Jourdie Enterprise G.M. Syndicate ..	5	..	..	..	..	..	..	..	1	..	6	..	..	..
369s	Jourdie United G.Ms., Ltd.	10	..	..	..	..	..	..	..	..	..	4	..	..	..
514s	Pride of Jourdie North	5	..	..	..	..	..	..	..	..	..	5	..	..	..
Kintore.															
M.A. 14E	Hands Across the Sea	5	..	..	..	..	..	..	..	..	..	5	..	..	..
25-Mile.															
696s	Blue Bell	5	..	..	..	..	..	..	..	..	..	7	..	..	..
602s	Shamrock	5	..	..	..	..	..	..	..	..	..	6	..	..	..
645s	Star of Fremantle	10	..	..	..	..	..	..	..	..	..	4	..	..	..
	Total	**80**	..	**2**	..	..	..	..	..	**1**	**1**	**47**	..	..	**£17,697**

TABLE XXIII.—*Milling and Cyaniding Plants erected in the respective Goldfields, Districts, etc.*—continued.

Mining Centre and Lease or Area.	NAME OF MINE, COMPANY, OR WORKS.	MILLING.										CYANIDING.			Total Value of all Mining Machinery.
		Batteries.	Other Mills.												
		Number of Heads of Stampers.	Prospecting Mills.	Ball Mills.	Krupp Mills.	Griffin Mills.	Huntington Mills.	Tremain Mills.	Flint Mills.	Other Crushers.	Puddlers.	Leaching Vats.	Agitating Vats.	Vacuum and Filter Presses.	
	YILGARN GOLDFIELD.														
Golden Valley.															
M.A. 11	Violet Syndicate Battery	5	..	..	..	..	..	..	..	..	..	3	..	..	..
Greenmount.															
503	Greenmount Mines, N.L.	10	..	..	..	..	..	..	..	..	..	9	..	..	..
550	Sunbeam	5	..	..	..	..	..	..	..	..	..	7	..	..	..
Hope's Hill.															
M.A. 14	Lake Side Battery	10	..	..	..	..	..	..	..	..	..	3	..	..	..
Jacoletti.															
719, etc.	Great Victoria leases	10	..	..	..	..	..	..	..	..	..	..	..	..	..
490, etc.	Jacoletti Gold Mines, Ltd.	10	..	..	..	..	..	..	..	..	..	8	..	..	..
714, etc.	Marvel Loch Mining Co., N.L.	10	..	..	..	..	..	..	..	..	..	6	..	..	..
665, etc.	Never Never	20	..	..	..	..	..	..	..	2	..	5	..	..	..
Koolyanobbing.															
M.A. 12	(Hewitt & Moor)	5	..	..	..	..	..	..	..	..	..	..	..	..	..
Parker's Range.															
508	Australia	5	..	..	..	..	..	..	..	..	..	5	..	..	..
888, etc.	Fraser's South G.M. Co., N.L.	30	..	..	..	..	..	..	..	3	..	6	..	..	..
724	Spring Hill	5	..	..	..	..	..	..	..	..	..	3	..	..	..
	Total	**125**	..	..	..	..	..	..	..	**5**	..	**55**	..	..	**£47,375**
	DUNDAS GOLDFIELD.														
Buldania.															
M.A. 28	Pathway Battery	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Norseman.															
M.A. 30	Break o' Day Cyanide Works ..	10	..	..	..	..	..	..	..	..	..	4	..	..	..
42, etc.	Cumberland G.M. Co., N.L.	10	..	..	..	..	..	..	..	..	..	6	..	..	..
579	Hill's Cyanide Syndicate	..	..	..	..	..	..	..	..	..	..	5	..	..	..
938, etc.	Hampton Uruguay, Ltd.	10	..	..	..	..	..	..	..	..	..	6	..	..	..
M.A. 33	Lady Mary Battery	10	..	..	..	..	..	..	..	2	..	..	..	..	..
852, etc.	Mararoa G.M. Co., N.L.	20	..	..	..	..	..	..	..	..	..	17	4	1	..
914	Oversight	5	..	..	..	..	..	..	..	..	..	..	..	..	..
106, etc.	Princess Royal G.M. Co., N.L.	20	..	..	..	..	..	..	..	..	..	5	3	..	..
1021	Princess Royal North	10	..	..	..	..	..	..	..	..	..	2	2	..	..
M.A. 18	Rawling's, Bullen & Rumble's Wks.	10	..	..	..	..	..	..	..	..	..	4	..	..	..
A10257	State Battery, Norseman	10	..	..	..	..	..	..	..	..	..	5	2	1	..
990	Viking No. 1	10	..	..	..	..	..	..	..	..	..	..	..	..	..
821, etc.	Westralia Waihi G.Ms., N.L.	10	..	..	..	..	..	..	..	1	..	..	..	..	..
	Total	**135**	**1**	..	..	..	..	..	..	**3**	..	**54**	**11**	**2**	**£186,239**
	PHILLIPS RIVER GOLDFIELD.														
Kundip.															
136, etc.	Flag leases	5	..	..	..	..	..	..	..	..	..	..	..	..	..
79	Gem Battery	5	..	..	..	..	..	..	..	..	..	4	..	..	..
151, etc.	Gem Consolidated leases	5	..	..	..	..	..	..	..	..	..	..	..	..	..
M.L. 52, etc.	Harbour View leases	10	..	..	..	..	..	..	..	..	..	..	..	..	..
74	Two Boys	10	..	..	..	..	..	..	..	..	..	4	..	..	..
Mount Purchas.															
W.R. 19	Mount Purchas Prospecting Plant ..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
M.A. 3, etc.	Gilbert Gold Mines, Ltd.	10	..	..	..	..	..	..	..	..	..	..	..	..	..
153	Maori Queen	6	..	..	..	..	..	..	..	..	..	4	..	..	..
W.R. 1	Ravensthorpe Battery Co., Ltd. ..	10	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total	**61**	**1**	..	..	..	..	..	..	..	..	**12**	..	..	**£20,723**
	State generally	..	..	..	1	..	..	..	..	1	..	..	..	..	**£58,000**
	Total	..	..	..	**1**	..	..	..	..	**1**	..	..	..	..	**£58,000**

TABLE XXIII.—*Milling and Cyaniding Plants erected in the respective Goldfields, Districts, etc.*—continued.

GOLDFIELD.	DISTRICT.	MILLING. Batteries. Number of Heads of Stampers.	MILLING. Other Mills. Prospecting Mills.	Ball Mills.	Krupp Mills.	Griffin Mills.	Huntington Mills.	Tremain Mills.	Flint Mills.	Other Crushers.	Puddlers.	CYANIDING. Leaching Vats.	Agitating Vats.	Vacuum and Filter Presses.	Total Value of all Mining Machinery.
	GOLD MINING.														
KIMBERLEY		45	..	..	..	..	1	..	..	..	..	..	..	..	5,000
PILBARA	Marble Bar	60	..	..	..	..	..	..	..	..	..	20	..	..	16,245
	Nullagine	30	..	..	..	..	..	..	..	..	..	9	..	..	4,600
WEST PILBARA		20	..	..	..	..	..	..	..	..	..	5	..	..	2,600
ASHBURTON		..	..	..	..	..	..	..	..	..	..	..	..	..	..
GASCOYNE		..	..	..	..	..	..	..	..	..	..	..	..	..	..
PEAK HILL		50	1	..	..	..	..	..	..	2	2	8	3	9	74,150
EAST MURCHISON	Lawlers	148	..	..	..	..	..	..	..	1	2	28	7	3	49,097
	Wiluna	70	3	..	..	..	..	..	..	1	..	26	18	7	76,875
	Black Range	115	..	..	..	..	...	..	..	2	..	60	9	34	113,259
MURCHISON	Cue	98	..	..	..	..	..	..	..	..	..	36	2	..	32,708
	Nannine	222	..	..	..	..	..	..	..	3	..	70	9	4	101,706
	Day Dawn	65	..	..	..	..	..	..	..	..	..	27	13	5	20,800
	Mt. Magnet	85	3	..	..	..	1	2	..	..	..	35	..	3	37,565
YALGOO		105	2	..	..	..	..	2	..	..	..	14	..	..	30,145
MT. MARGARET	Mt. Morgans	57	..	..	..	..	..	..	..	..	..	20	6	1	21,278
	Mt. Malcolm	240	..	..	..	..	..	1	..	11	1	87	32	7	107,527
	Mt. Margaret	163	..	5	..	..	..	..	..	1	..	33	11	6	128,327
NORTH COOLGARDIE	Menzies	140	..	..	..	..	1	..	..	4	..	84	18	4	69,292
	Ularring	85	..	..	..	..	2	..	..	2	..	38	7	2	32,750
	Niagara	112	..	..	..	..	..	..	..	..	..	38	4	3	28,512
	Yerilla	86	1	..	..	..	1	..	..	..	..	32	2	..	28,400
BROAD ARROW		123	1	..	..	..	1	..	..	1	..	44	3	2	32,020
N.E. COOLGARDIE	Kanowna	143	3	..	..	..	..	..	..	..	2	63	..	1	46,.97
	Kurnalpi	5	1	..	..	..	..	..	..	..	1	..	..	..	180
EAST COOLGARDIE	East Coolgardie	640	2	15	35	13	8	..	33	52	3	200	152	133	1,696,631
	Bulong	20	..	..	..	..	..	..	..	..	..	9	..	..	5,187
COOLGARDIE	Coolgardie	304	8	..	..	..	..	..	..	4	..	128	4	..	108,110
	Kunanalling	80	..	2	..	..	..	..	..	1	1	47	..	..	17,697
YILGARN		125	..	..	..	..	..	..	..	5	..	55	..	..	47,375
DUNDAS		135	1	..	..	..	..	..	..	3	..	54	11	2	186,239
PHILLIPS RIVER		61	1	..	..	..	..	..	..	..	..	12	..	..	20,723
STATE GENERALLY		..	..	..	1	..	..	..	..	1	..	..	..	..	58,000
	Total Gold Mining Machinery	**3,632**	**27**	**22**	**36**	**13**	**15**	**5**	**33**	**94**	**12**	**1,282**	**311**	**226**	**£3,199,395**
	LEAD MINING.														
NORTHAMPTON M.F.		..	..	..	..	..	..	..	..	..	..	..	..	..	6,000
	Total Lead Mining Machinery	..	..	..	..	..	..	..	..	..	..	..	..	..	**£6,000**
	TIN MINING.														
PILBARA	Marble Bar	..	..	..	..	..	1	..	..	..	..	..	..	..	25,000
GREENBUSHES TINFIELD		5	..	3	..	..	3	..	..	6	3	..	..	..	26,996
	Total Tin Mining Machinery	**5**	..	**3**	..	..	**4**	..	..	**6**	**3**	..	..	..	**£51,996**
	COPPER MINING.														
PHILLIPS RIVER		..	..	..	..	..	..	..	..	10	..	..	..	..	87,769
WEST PILBARA		..	..	..	..	..	..	..	..	1	..	..	..	..	24,600
MT. MARGARET	Mt. Morgans	..	..	..	..	..	..	..	..	..	..	..	..	..	2,260
	Total Copper Mining Machinery	..	..	..	..	..	..	..	..	**11**	..	..	..	..	**£114,629**
	COAL MINING.														
COLLIE RIVER COALFIELD		..	..	..	..	..	..	..	..	..	..	..	..	..	£61,386
	Total Coal Mining Machinery	..	..	..	..	..	..	..	..	..	..	..	..	..	**£61,386**
Total Machinery other than for Gold Mining		**5**	..	**3**	..	...	**4**	..	..	**17**	**3**	..	..	..	**£234,011**
Total all Mining Machinery		**3,637**	**27**	**25**	**36**	**13**	**19**	***5**	**33**	**111**	**15**	**1,282**	**311**	**226**	**£3,433,406**

APPENDIX.

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 necesssary 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 may be 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.—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.

GOLD ESCORT SERVICE.

TABLE OF ESCORT RATES.

Fixed by the Commissioner of Police.

From	To	Period.	Rate per Ounce.	Remarks.
			d.	
Burtville	Malcolm	Monthly ...	0⅞	
Do.	Laverton	Every two months	...	Actual cost: 19s. 3d.
Field's Find	Yalgoo	Monthly ...	2	
Lawlers	Leonora	Do. ...	0½	For a minimum of 5,500ozs.
Laverton	Malcolm	Do. ...	0¾	Not less than 2,900ozs.
Meekatharra	Nannine	Do. ...	...	If special escort, actual cost. By regular Peak Hill to Nannine escort, regulation charge per hour.
Mt. Sir Samuel	Lawlers	Do. ...	0½	Not less than 1,600ozs.
Morgans	Malcolm	Do. ...	0½	Not less than 4,300ozs.
Norseman	Coolgardie	Do. ...	2	
Peak Hill	Nannine	Do. ...	2½	2,000ozs. to 2,500ozs.
Do.	Do.	Do. ...	2	2,500ozs. to 3,000ozs.
Do.	Do.	Do. ...	1¾	Over 3,000ozs.
Ravensthorpe	Hopetoun	Do. ...	1¼	Not less than 500ozs.
Do.	Do.	Do. ...	0⅝	Not less than 1,000ozs.
Do.	Do.	Do. ...	...	Under 500ozs.: Actual cost.
Sandstone	Magnet	Do. ...	...	Actual cost.
Wiluna	Nannine	Do. ...	...	Actual cost.

Police Gold Escort Services not provided for in the Table may be arranged on application to the District Police Officer or the Commissioner of Police.

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 dust or bullion consigned to the Perth Mint.

To find the value per ounce of gold sent from a mine to the Mint.—Divide the standard gold by the weight before melting, and multiply the result by £3 17s. 10½d. For instance, supposing the Mint return to show:—

	Ozs.
Weight before melting	47·41
Standard gold	38·19

The calculation would be as follows:—

```
4741)3819·0(·805
     3792·8
     ------
      26200
      23705
      -----
       2495
       ----
```

·805 × £3 17s. 10½d. =
·805 × £3·894

```
      ·805
      ----
     19470
    311520
    ------
£3·134(670)
        20
    ------
s. 2·680
        12
    ------
d. 8·160 = £3 2s. 8d., value per ounce of gold as
           produced from the mine.
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J. F. CAMPBELL,
Deputy Master.

20th June, 1912.

By Authority: FRED. WM. SIMPSON, Government Printer, Perth.