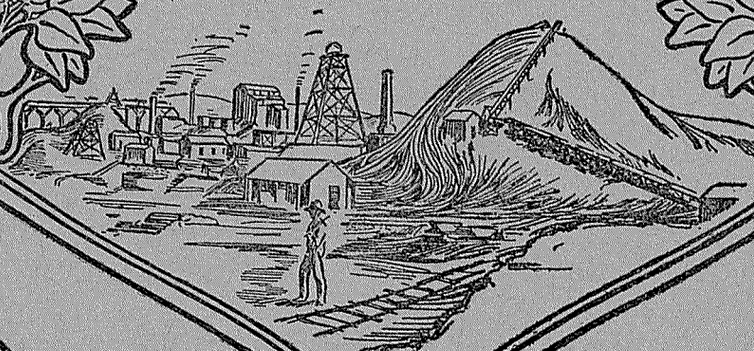
REPORT
OF THE
DEPARTMENT OF MINES
FOR THE YEAR
WESTERN · 1942. · AUSTRALIA



PRESENTED · TO · BOTH · HOUSES · OF · PARLIAMENT BY · HIS · EXCELLENCY'S · COMMAND ·

1944.

WESTERN AUSTRALIA.

REPORT

of the

Department of Mines

FOR THE YEAR

1942

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ANNUAL REPORT OF THE DEPARTMENT OF MINES, WESTERN AUSTRALIA, 1942.

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STATE OF WESTERN AUSTRALIA.

Report of the Department of Mines for the State of Western Australia for the Year 1942.

To the Hon. Minister for Mines.

Sir,—I have the honour to submit the Annual Report of the Department for the year 1942, together with reports from the officers controlling Sub-departments, and comparative tables furnishing statistics relative to the Mining Industry. As, at the request of the Treasury Department, no report was published for the year 1941, I have included herein statistics relative to that year in order to provide continuity of the State's gold and mineral output.

I have, etc.,
A. H. TELFER,
Under Secretary for Mines.

Department of Mines,
Perth, 31st March, 1943.

Division I.

The Hon. Minister for Mines,—

I have the honour to submit, for your information, a report on the Mining Industry for the year 1942, with details of production for 1941 also, as no report was published for such year.

The estimated value of the mineral output of the State for the year was £4,242,520 (calculating gold at £4 4s. 11·45d. per fine ounce); a decrease in value of £1,016,256, compared with the preceding twelve months. The estimated value of the premium paid to gold producers amounted to £A5,262,656, bringing the gross value of all minerals up to £A9,505,176, a decrease of £2,892,965 in Australian currency, compared with the 1941 production.

There were increases in the quantities and values of antimony, asbestos, bentonite, coal, copper, emery, glass-sand, glauconite, graphite, iron, pyrite, scheelite, soapstone, talc, tantalite, tin, vermiculite and wolfram. Decreased quantities of arsenic, beryl, clays, felspar, gypsum, magnesite, mica phosphatic guano, red ochre and silver were reported. Values decreased on all these minerals with the exception of magnesite and mica.

The estimated value of gold received at the Perth branch of the Royal Mint and exported in gold bearing material was £A8,865,495 (and equalled 93·44 per cent. of all minerals). (See footnote to Table 1, Part II.)

Other minerals realised:—Coal, £461,495; Arsenic, £57,267; Antimony, £60,237; Silver, £23,916; Felspar, £9,734; Glauconite, £6,500; Asbestos, £5,788; Tin, £4,634; Gypsum, £3,136; Red Ochre, £1,360; Vermiculite, £1,070; Copper, £738; Soapstone, £975; Pyrites, £607; Tantalite, £471; Clays, £449; Scheelite, £357; Iron, £225; Glass-sand, £141; Emery, £130; Mica, £115; Wolfram, £116; Magnesite, £100; Talc, £57; Bentonite, £33; and Graphite, £30.

Dividends paid by mining companies amounted to £423,712, being a decrease of £406,320, when compared with 1941. (See Table 6 of Part II.)

To the end of 1942, the total amount distributed by gold mining companies in dividends was £39,839,903. To the same date the value of the mineral production amounted to £225,088,281, of which the gold production accounted for £207,019,690, based on normal values; but premiums on sale of gold during 1920-24 and since 1930, and payments under the Gold Bounty Act, 1930, increased the total value of gold and mineral productions by £53,817,226.

GOLD.

The quantity of gold reported as being received at the Perth branch of the Royal Mint (832,503·97 fine ounces), together with that contained in bullion, concentrates and other gold bearing materials exported for treatment (15,676·48 fine ounces) totalled 848,180·45 fine ounces and failed to equal that of 1941 by 261,137·45 fine ounces (*vide* Table 1, Part II.).

On the other hand, the total gold yield for the year, reported directly to the Department by the producers, was 845,772 fine ounces, which was a decrease of 259,755 fine ounces in comparison with the previous year's figures (*vide* Table 3 of Part II.).

The non-collation of the two totals, mentioned above, is principally due to the fact that the gold reported as being received at the Mint and exported for treatment, is not all necessarily produced during the calendar year under review, a certain quantity being in the transitory or near transitory stage from the producer at the end of the year. Then again, unfortunately, a small percentage of the production is not reported to the Department, despite a strict surveillance. For these and other reasons, the former total is accepted as the official production of the State whilst the latter is utilised in tracing the gold back to its source.

The calculated average value per ton of ore treated in the State as a whole declined from 22.30 shillings per ton in 1941 to 22·27 shillings per ton in 1942, calculated at the rate of £4 4s. 11·45d. per fine ounce, but the averaged premium obtained for gold during the twelve months (146·07 per cent.) would more than double this estimate. For the East Coolgardie Goldfield (which produced approximately 50·32 per cent. of the State's reported yield of gold) the calculated average value of ore treated, increased from 24·11 shillings per ton to 25·70 shillings per ton. The estimates for the East Murchison (Wiluna Gold Mines), Mt. Margaret (Sons of Gwalia and Gladiator Mines), Murchison (Big Bell and Triton Mines) and Dundas Goldfields (Norseman Mines and Central Norseman Gold Corporation) were 12·93s. (15·78s.) (14·18s.); 31·45s. (29·83s.) (31·39s.); 15·32s. (15·73s.) (15·13s.); 30·66s. (22·41s.) (28·54s.) respectively; 1940 and 1941 figures are shown in parentheses, in that order.

The tonnage of ore reported to have been treated in 1942, viz., 3,225,704 tons was 1,066,005 tons less than the record tonnage in 1940.

Decreased tonnages were reported from various goldfields as follows:—Kimberley, 210; Pilbara, 9,376; Ashburton, 333; Peak Hill, 3,368; East Murchison, 89,962; Murchison, 130,871; Yalgoo, 5,773; Mount Margaret, 69,852; Broad Arrow, 10,020; North-East Coolgardie, 267; East Coolgardie, 459,670; Coolgardie, 49,932; Yilgarn, 61,010; Dundas, 103,105; Phillips River, 1,357, and Outside Proclaimed Goldfields, 1,297, whilst the North Coolgardie Goldfields showed an increased tonnage.

MINING GENERALLY.

The gold yield for 1942 was remarkably good considering that we had then entered the fourth year of war, and had suffered severe losses of men from the industry to the fighting and munition services. It is, however, bound to fall to a much lower figure in 1943, when the full effect of the 1942 call-ups for the Army will be felt.

The industry is for the moment stable at approximately 4,500 men, and it is hoped that this figure can be maintained as we will then have the nucleus of trained men and operating mines ready for the revival which will take place as soon as war ends.

A matter which has caused the gold mining industry considerable perturbation has been the requisitioning and removal by the Commonwealth Department of Munitions, of machinery from mines forced to close for the duration of the war and even from operating mines. The plant affected has been mainly power units. It is recognised of course, that war's demands are paramount, but at the same time the question of post-war rehabilitation must be considered. Both requirements could be met by an equitable system of replacement, whereby orders sponsored by the Commonwealth are immediately placed abroad for items removed and which are unlikely to be subsequently returned in good order and condition. The early placing of orders would ensure early delivery.

This suggestion has been submitted to the Commonwealth authorities by the State Government with the further suggestion that the mines concerned should be re-imbursed for any monetary loss incurred in such replacements. The matter is receiving consideration and it is anticipated, should be decided at an early date.

One effect of the Japanese war has been to cause great activity in regard to our strategic mineral deposits. With the loss of supplies as a result of enemy conquest and the tremendous industrial development required amongst the Allies, production of minerals of a variety of types has become essential. The Commonwealth Government has provided the necessary funds in many instances and thus with State assistance also, our tantalum, beryl, mica, antimony, arsenic, asbestos, tin, copper, scheelite, coal and other deposits are being vigorously developed. This is most pleasing, as modern plants are being installed and work is being done which should ensure in many cases, the operation of the de posits after the war. Being widely scattered, and in numerous cases isolated, the development of the deposits should also result in the opening up of the districts generally.

As executive officer of the Department of Mines in this State, I was appointed early in the year by the Commonwealth Government as Deputy Commonwealth Controller of Minerals in order to ensure the development of any required strategics, and was provided under the National Security Regulations with the authority necessary for the requisitioning of deposits, titles and plant.

The withdrawal of men from the gold mines in large numbers, had the inevitable result of closing a number of them.

This position was fully discussed with the Commonwealtth Government, and it agreed to provide £100,000 for the maintenance of such mines affected which undertook to re-open after the war and which of course warranted re-opening. The maintenance comprises the care of machinery and underground workings, and is controlled by this Department. By this means it is hoped to keep the properties in a condition which will enable operations to commence with as little delay as possible after cessation of hostilities and the early absorption of discharged servicemen.

The institution of the system of priorities, and the various rationing measures have meant much additional work for the Department, as nearly all the mining companies and syndicates have been affected, and have appealed to the Department to submit their cases. This we have done after first examining each case on its merits. I may say that we have received every consideration in this regard from the various Commonwealth authorities concerned.

GOLD TAX.

The total gold tax collections from this State from the inception of the taxing Act in 1939 to the 31st December, 1942, amounts to £2,413,777 17s. 8d., made up as follows:—

	£	s.	d.
Total to 31/12/1940	926,907	15	1
Year ended 31/12/1941	869,990	17	10
Year ended 31/12/1942	616,879	4	9

The amounts refunded to prospectors and low grade producers over the same period totals £286,000.

It is apparent that the industry is still a source of considerable direct revenue to the Commonwealth Government, its net tax contribution during the war period being £2,127,778.

MINING DEVELOPMENT ACT.

The expenditure incurred in rendering assistance to mine owners and the industry generally under the provisions of this Act totalled £10,413 4s. 7d., and in the preceding year £24,940 8s. 7d.

NEW GOVERNMENT LABORATORY.

I am pleased to be able to report the completion of the erection of a fine modern laboratory for our Analytical, Chemical, and Mineralogical staff. This will enable work of a high standard and wide nature being undertaken by the Mines Department for all Government departments.

PART II.—MINERALS.

§ TABLE 1.—*Quantity and Value of Minerals produced and for exported during Years* 1940, 1941, *and* 1942.

Description of Minerals.	1940.		1941.		1942.		Increase or Decrease for 1942 compared with 1941.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Statute Tons.	£A.	Statute Tons.	£A.	Statute Tons.	£A.	Statute Tons.	£A.
Antimony (reported)	264	10,180	309	12,539	†2,383	60,237	...	+ 47,698
Arsenic (reported)	3,332	59,977	3,378	70,938	2,727	57,267	— 651	— 13,671
Asbestos (reported)	364	14,534	61	2,968	119	5,788	+ 58	+ 2,820
Bentonite (reported)	...	...	...	...	16	33	+ 16	+ 33
Beryl (reported)	2	16	1	7	...	...	— 1	— 7
	lbs.		lbs.		lbs.		lbs.	
Bismuth (reported)	2,918	891	...	...	...	...	*Nil*	*Nil*
	Tons.		Tons.		Tons.		Tons	
Clays (reported)	3,071	1,990	1,400	894	798	449	— 602	— 445
Coal (raised)	539,427	364,500	556,574	389,278	581,176	461,495	+ 24,602	+ 72,217
Copper Ore (reported)	36	357	6	154	47	738	+ 41	+ 584
Emery (reported)	...	...	...	...	13	130	+ 13	+ 130
Felspar (reported)	3,505	7,010	4,107	12,190	3,252	9,734	— 856	— 2,456
Glass Sand (reported)	14	15	22	25	111	141	+ 89	+ 116
Glauconite (reported)	200	4,823	156	3,888	260	6,500	+ 104	+ 2,612
	Cwts.		Cwts.		Cwts.		Cwts.	
Graphite (reported)	20	10	2	2	120	30	+ 118	+ 28
	Tons.		Tons.		Tons.		Tons.	
Gypsum (reported)	13,020	14,082	9,513	10,245	2,878	3,136	— 6,635	— 7,109
Iron Ore (reported)	...	...	...	...	150	225	+ 150	+ 225
Magnesite (reported)	257	230	100	88	25	100	— 75	+ 12
	Lbs.				Lbs.		Lbs.	
Mica (reported)	2,408	311	*3	25	389	115	+ 389	+
					Tons.			
Pyrites (reported)	...	...	...	...	368	607	+ 368	+ 607
Red Ochre (reported)	238	2,384	287	2,870	143	1,360	— 144	— 1,510
	Units.		Units.		Units.		Units.	
Scheelite (reported)	784	1,960	34	101	68	357	+ 34	+ 256
	Fine ozs.		Fine ozs.		Fine ozs.		Fine ozs.	
Silver (exported)	274,741	34,934	290,061	37,648	188,421	23,916	— 101,640	— 13,732
	Tons.		Tons.		Tons.		Tons.	
Soapstone (reported)	...	...	...	...	265	975	+ 265	+ 975
Talc (reported)	...	...	...	...	38	57	+ 38	+ 57
Tantalite (reported)	6	7,811	...	...	1	471	+ 1	+ 471
Tin (reported)	37	5,174	11	1,874	23	4,634	+ 12	+ 2,760
Vermiculite (reported)	109	757	160	962	178	1,070	+ 18	+ 108
	Units.		Units.		Units.		Units.	
Wolfram (reported)	70	211	...	...	21	116	+ 21	+ 116
	Fine ozs.		Fine ozs.		Fine ozs.		Fine ozs.	
Gold (exported and minted) ...	1,191,482	12,696,503	1,109,318	11,851,445	848,180	8,865,495	— 261,138	—2,985,950
Total	...	13,228,660	...	12,398,141	...	9,505,176	...	—2,892,965

Included in the Value of Gold shown are the following estimated premiums :—1940, £A7,637,302 ; 1941, £A7,139,365; 1942, £A5,262,656.

§ As export information is not available under war conditions, reported figures are used for minerals other than gold and silver. * Scrap mica. † Concentrates.

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.
INFORMATION NOT AVAILABLE UNDER WAR CONDITIONS.			

TABLE 3.

Showing for every Goldfield the amount of Gold reported to the Mines Department as required by the Regulations; also the percentage for the several Goldfields of the total reported, and the average value of the yield of Gold per ton of ore treated.

Goldfield.	Reported Yield.			Percentage for each Goldfield.			Average Value per ton of Ore Treated. (Gold at £4 4s. 11·45d. per fine oz.)		
	1940.	1941.	1942.	1940.	1941.	1942.	1940.	1941.	1942.
	fine ozs.	fine ozs.	fine ozs.				shillings.	shillings.	shillings.
1. Kimberley	722	887	**968**	·062	·082	·114	78·746	70·193	**95·252**
2. Pilbara	16,800	20,266	**16,901**	1·455	1·833	**1·998**	50·662	58·504	**71·601**
3. Ashburton	593	388	**78**	·051	·035	**·009**	56·927	80·791	**88·649**
4. Gascoyne	25	....	....	....	....	....	....	....	....
5. Peak Hill	1,814	1,819	**352**	·157	·164	**·042**	30·265	37·274	**38·389**
6. East Murchison	158,478	132,334	**106,922**	13·723	11·970	**12·642**	15·782	14·184	**12·927**
7. Murchison	131,300	108,631	**86,447**	11·370	9·827	**10·221**	15·731	15·126	**15·324**
8. Yalgoo	5,103	5,184	**3,598**	·442	·469	**·425**	29·485	39·747	**57·608**
9. Mt. Margaret	90,246	74,789	**49,064**	7·815	6·765	**5·801**	29·828	31·392	**31·448**
10. North Coolgardie	19,259	21,373	**18,970**	1·668	1·933	**2·243**	67·447	38·085	**27·311**
11. Broad Arrow	17,390	16,228	**9,480**	1·506	1·468	**1·121**	34·618	36·047	**28·533**
12. North-East Coolgardie	2,591	1,480	**847**	·224	·134	**·100**	70·140	64·589	**42·826**
13. East Coolgardie	526,835	529,747	**425,614**	45·620	47·920	**50·323**	25·257	24·109	**25·697**
14. Coolgardie	38,682	41,264	**28,508**	3·350	3·733	**3·371**	23·711	22·781	**23·299**
15. Yilgarn	68,444	55,603	**34,522**	5·927	5·030	**4·082**	37·927	27·590	**26·614**
16. Dundas	74,636	92,770	**62,444**	6·463	8·392	**7·383**	22·414	28·543	**30·663**
17. Phillips River	1,363	1,870	**709**	·118	·169	**·084**	25·117	*90·559	***151·626**
18. Outside Proclaimed Goldfield	563	844	**348**	·049	·076	**·041**	....	....	**46·050**
Totals and Averages	1,154,844	1,105,477	**845,772**	100·000	100·000	**100·000**	22·860	22·304	**22·275**

* Principally from Sands.

The total yield of the State is as shown in Table 1, being the amount of the gold received at the Royal Mint, the gold exported in bullion and concentrates, and alluvial and other gold not reported to the Mines Department.

When comparisons are made as to the yield from any particular Field with the preceding year, the figures reported to the Department are used.

TABLE 4.

Average Quantities of Gold Ore raised and treated, and Gold produced therefrom, per man employed on the several Goldfields of the State, during 1940, 1941, *and* 1942.

Goldfield.	1940.				1941.				1942.			
	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.		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.	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.	tons.	tons.	fine ozs.	fine ozs.
1. Kimberley	26·85	19·47	24·89	18·04	37·03	28·26	30·59	23·34	**107·94**	**61·68**	**121·02**	**69·16**
2. Pilbara	216·71	98·85	129·23	58·95	363·32	139·47	250·19	96·05	**339·81**	**117·27**	**286·46**	**98·84**
3. Ashburton	44·23	16·38	29·64	10·98	21·42	10·43	20·42	9·95	**9·31**	**4·38**	**9·72**	**4·57**
4. Gascoyne	....	....	....	....	....	....	....	....	....	....	....	....
5. Peak Hill	299·50	92·57	106·70	32·98	319·00	94·25	139·92	41·34	**77·88**	**31·15**	**35·19**	**14·08**
6. East Murchison	913·39	555·04	169·68	103·11	1,088·77	614·44	181·77	102·58	**1,439·87**	**793·97**	**219·10**	**120·82**
7. Murchison	735·57	423·59	136·20	78·44	732·43	413·36	130·41	73·59	**1,017·51**	**547·09**	**183·54**	**98·68**
8. Yalgoo	122·53	53·66	42·53	18·62	106·53	48·59	49·85	22·74	**102·05**	**46·96**	**69·20**	**31·84**
9. Mt. Margaret	361·52	195·02	126·93	68·47	312·34	173·14	115·41	63·97	**365·13**	**199·31**	**135·16**	**73·78**
10. North Coolgardie	88·21	39·38	70·03	31·27	219·71	96·70	98·49	43·35	**404·18**	**184·41**	**129·93**	**59·28**
11. Broad Arrow	175·62	84·17	71·57	34·30	199·19	92·38	84·52	39·19	**243·31**	**119·60**	**81·72**	**40·17**
12. North-East Coolgardie	61·53	28·27	50·80	23·34	45·27	20·28	34·41	15·41	**104·98**	**41·99**	**52·92**	**21·17**
13. East Coolgardie	655·83	399·11	194·98	118·66	687·06	416·49	194·97	118·19	**887·18**	**485·03**	**268·36**	**146·71**
14. Coolgardie	199·41	105·80	55·66	29·53	262·15	135·58	70·29	36·36	**340·82**	**177·69**	**93·47**	**48·73**
15. Yilgarn	331·84	175·21	148·15	78·22	377·11	208·02	12·24	67·56	**329·93**	**178·89**	**103·36**	**56·04**
16. Dundas	389·66	259·30	102·80	68·41	521·95	315·56	175·36	106·02	**570·98**	**324·59**	**206·09**	**117·16**
17. Phillips River	109·75	63·14	32·45	18·67	73·08	21·65	77·91	23·08	**44·11**	**18·90**	**78·73**	**33·74**
18. Outside Proclaimed Goldfields	53·41	30·35	22·53	12·80	107·72	55·40	46·88	24·11	**123·40**	**42·80**	**69·60**	**23·20**
Total Averages	525·04	290·70	141·28	80·38	581·92	325·68	152·77	85·50	**753·85**	**401·56**	**197·66**	**105·29**

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 1942.

FIG. 1.

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

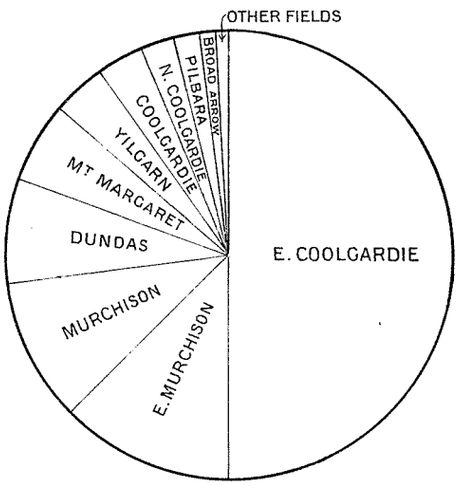


FIG. 2.

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

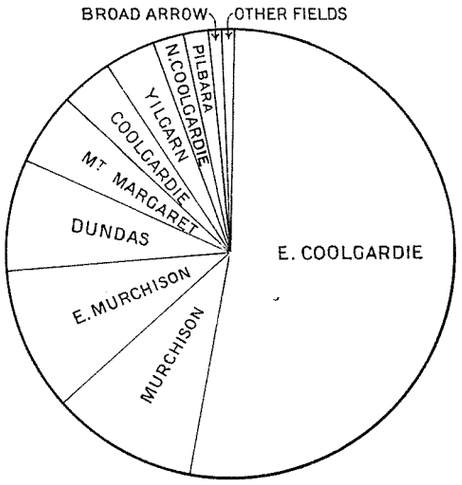


FIG. 3.

Value of Gold and other Minerals.

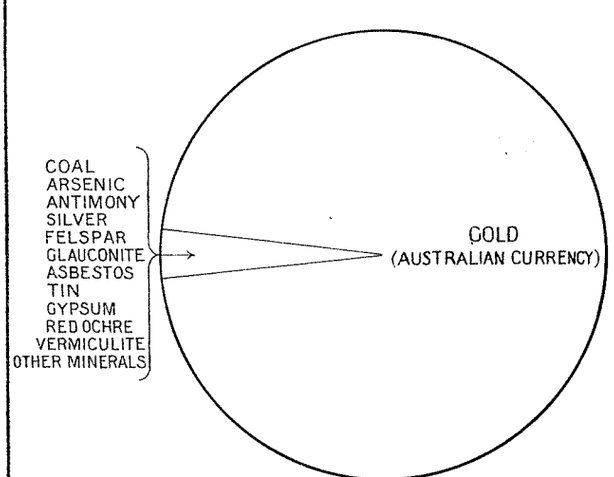


FIG. 4.

Value of Minerals other than Gold.

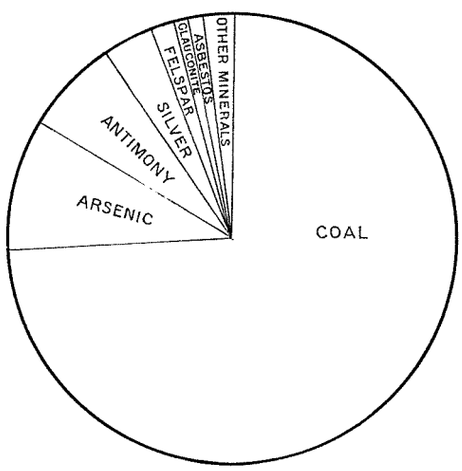


FIG. 5.

Areas of land leased for Goldmining on various Goldfields.

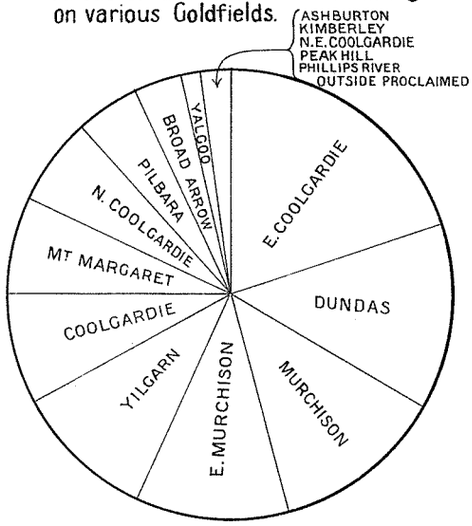


FIG. 6.

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

DIAGRAM OF GOLD OUTPUT

Showing Tonnage Treated (as reported to Mines Dept.), the Total Output of Gold Bullion, Concentrates etc., entered for export and received at the Perth Mint, and the Estimated Value thereof, in Australian Currency.

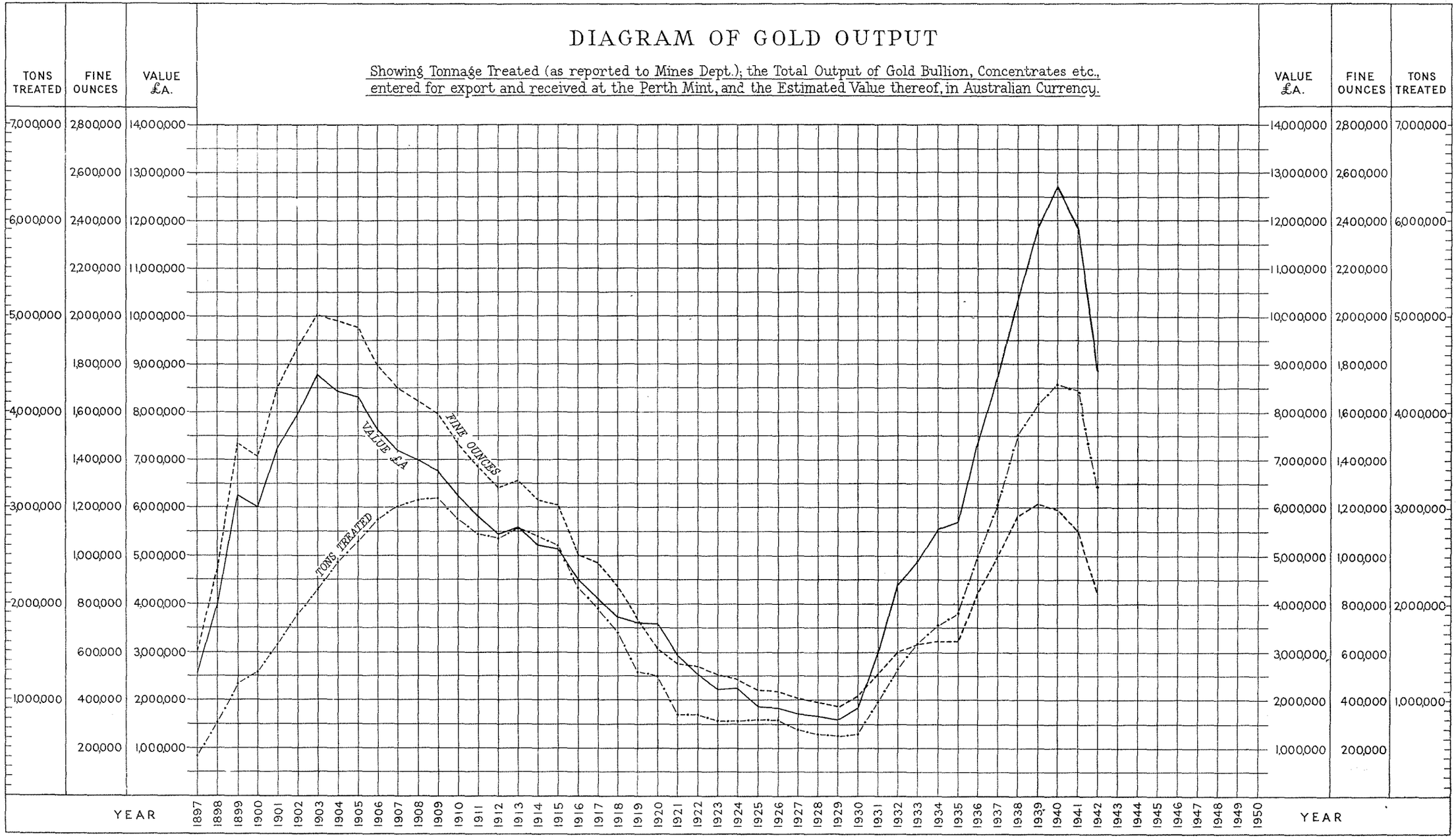
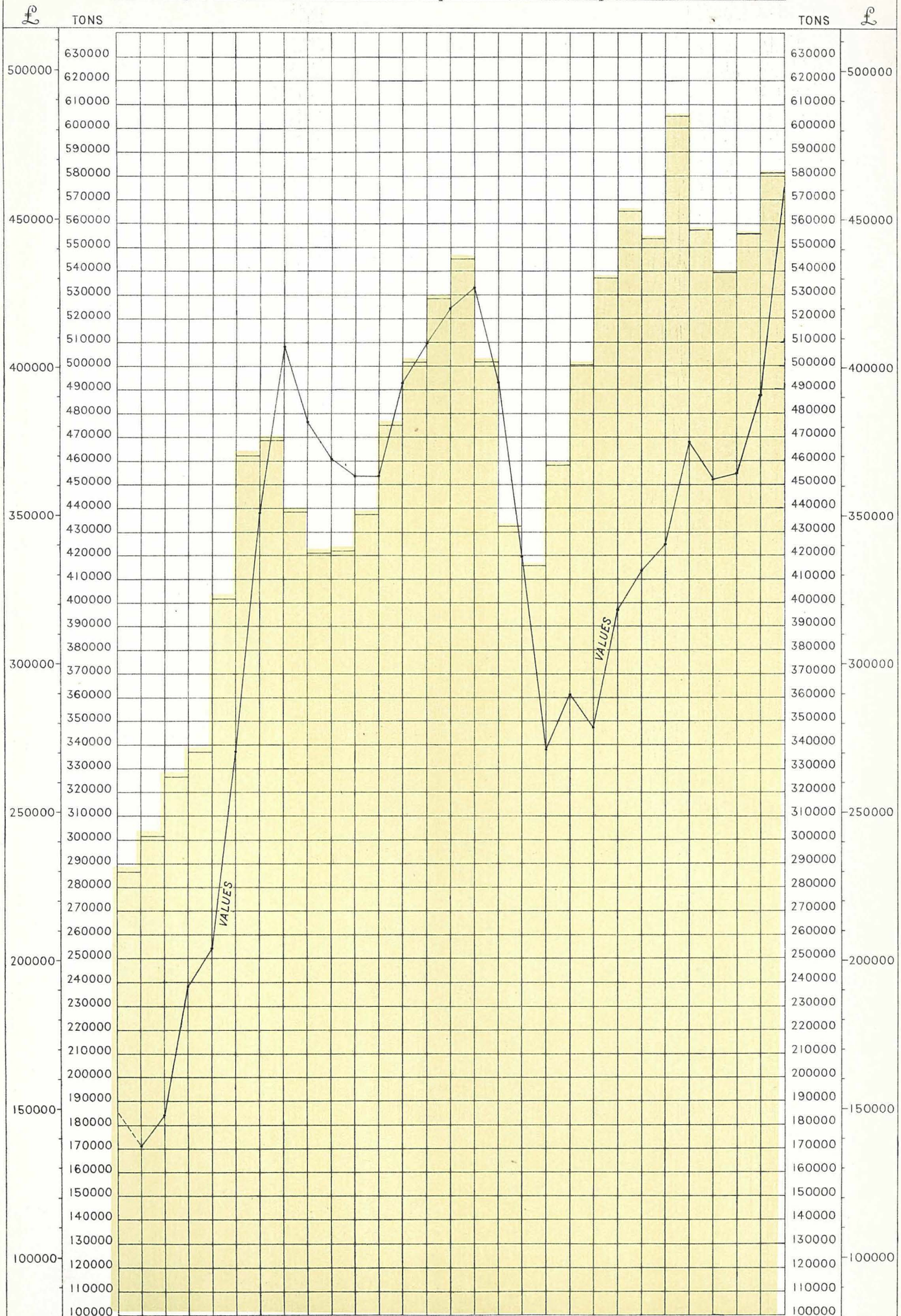


DIAGRAM OF COAL OUTPUT

Showing Quantities and Values, as reported to Mines Dept., from 1915 onwards



YEAR		1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	YEAR
VALUE	£	137589	147823	191822	204319	270355	350346	407117	381555	368949	363255	363203	394400	407967	420145	426706	394758	336178	270630	289806	278704	318013	331565	340444	375083	362811	364500	389278	461495	£ VALUE
QUANTITY	Tons	286666	301526	326550	337039	401713	462021	468817	438443	420714	421864	437461	474819	501505	528420	544719	501425	432400	415719	458399	500343	537188	566075	553510	604793	557535	539427	556574	581176	Tons QUANTITY

TABLE 5.

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

——	Output of Gold.	Value.	Percentage of Total.	
			Output of Commonwealth.	Output of Australasia.
INFORMATION NOT AVAILABLE UNDER WAR CONDITIONS.				

TABLE 6.

Dividends, etc., paid by Western Australian Mining Companies during 1941, 1942, *and the Total to date.*

(Mainly compiled from information supplied to the Government Statistician's Office by the Chamber of Mines, Western Australia.)

Goldfield.	Name of Company.	Dividends Paid.			
		1941.	Grand Total to end of 1941.	1942.	Grand Total to end of 1942.
		£	£	£	£
Pilbara	Comet Gold Mines, Limited	26,513	26,513	...	26,513
Peak Hill	Various Companies	...	199,305	...	199,305
East Murchison ...	Coolgardie Brilliant, N.L.	5,000	5,000	...	5,000
	Moonlight Wiluna Gold Mines, Limited ...	...	...	15,000	210,000
	Various Companies	...	1,894,053	...	1,699,053
Murchison	Big Bell Mines, Limited	10,000	290,000	30,000	320,000
	Hill 50 Gold Mine, N.L.	32,813	76,563	42,188	118,751
	Triton Gold Mines, N.L.	24,000	264,000	...	264,000
	Western Gold Mines, N.L.	5,000	36,250	...	36,250
	Various Companies	...	2,054,695	...	2,054,695
Mt. Margaret ...	Central Gold Mines, Limited	...	...	10,000	51,305
	Sons of Gwalia, Limited	65,000	1,867,863	...	1,867,863
	Various Companies	...	818,352	...	777,047
North Coolgardie ...	First Hit (1934) Gold Mines, N.L. ...	18,644	74,575	9,322	83,897
	Various Companies	...	614,671	...	614,671
Broad Arrow ...	Ora Banda Amalgamated Mines, N.L. ...	5,000	85,000	...	85,000
	Various Companies	...	7,500	...	7,500
North-East Coolgardie	do. do.	...	(*a*) 129,493	...	(*a*) 129,493
East Coolgardie ...	Boulder Perseverance, Limited	89,928	(*e*) 2,282,891	56,205	(*e*) 2,339,096
	Golden Horseshoe (New), Limited ...	27,500	(*d*) 3,964,167	18,333	(*d*) 3,982,500
	Gold Mines of Kalgoorlie, Limited ...	45,750	198,250	38,125	236,375
	Kalgoorlie Enterprise Mines, Limited ...	44,000	(*b*) 122,375	44,000	(*b*) 166,375
	Lake View and Star, Limited	210,000	(*e*) 2,709,500	70,000	(*e*) 2,779,500
	North Kalgurli (1912), Limited	82,500	693,750	41,250	735,000
	Paringa Mining and Exploration Co., Limited	28,976	(*c*) 106,783	28,976	135,759
	South Kalgurli Consolidated, Limited ...	30,209	(*e*) 1,035,837	20,313	1,056,150
	Various Companies	...	17,478,317	...	17,478,317
Coolgardie	Spargo's Reward Gold Mine (1935), N.L. ...	9,636	9,636	...	9,636
	Various Companies	...	379,134	...	379,134
Yilgarn	Yellowdine Gold Areas, N.L.	9,525	28,575	...	28,575
	Yellowdine Gold Development, Limited ...	35,700	567,819	...	567,819
	Burbidge Gold Mines, N.L.	5,000	5,000	...	5,000
	Edna May (W.A.) Amalgamated Gold Mines, N.L.	19,338	19,338	...	19,338
	Various Companies	...	584,824	...	584,824
Dundas	do. do.	...	786,162	...	786,162
	Totals	830,032	39,416,191	423,712	39,839,903

(*a*) Also £45,091 in bonuses and profit-sharing notes in years 1935–36. (*b*) Also £42,000 in bonuses and profit-sharing notes in year 1934. (*c*) Also £75,000 in bonuses and profit-sharing notes and £93,750 Capital returned in years 1932–35. (*d*) Also £55,000 Capital returned in year 1932 by Golden Horseshoe (New), Ltd. (*e*) Totals of previous years revised.

TABLE 7.

Quantity and Value of Minerals, other than Gold, reported to the Mines Department during 1941 *and* 1942.

Goldfield, District, or Mineral Field.	1941.		Increase or Decrease as compared with 1940.		1942.		Increase or Decrease as compared with 1941.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£A.	Tons.	£A.	Tons.	£A.	Tons.	£A.
ANTIMONY.								
East Murchison (Wiluna) ...	308	12,484	+ 44	+ 2,304	‡2,370	60,068	...	+47,584
Pilbara (Nullagine)	1	55	+ 1	+ 55	‡13	169	...	+ 114
ARSENIC.								
East Murchison (Wiluna) ...	3,378	70,938	+ 46	+10,961	2,727	57,267	— 651	—13,671
ASBESTOS.								
Pilbara	5	175	— 350	—14,025	*Nil*	*Nil*	— 5	— 175
Outside Proclaimed Goldfield ...	56	2,793	+ 47	+ 2,459	119	5,788	+ 63	+ 2,995
BENTONITE.								
Outside Proclaimed Goldfield ...	*Nil*	*Nil*	*Nil*	*Nil*	16	33	+ 16	+ 33
BERYL.								
Outside Proclaimed Goldfield ...	1	7	— 1	— 9	*Nil*	*Nil*	— 1	— 7
BISMUTH.								
Outside Proclaimed Goldfield ...	*Nil*	*Nil*	— 2	— 891	*Nil*	*Nil*	...	...
CLAYS.								
Outside Proclaimed Goldfield ...	1,400	894	— 1,670	— 1,096	798	449	— 602	— 445
COAL.								
Collie	556,574	389,278	+17,147	+24,778	581,176	461,495	+24,602	+72,217
COPPER ORE.								
East Coolgardie	*1	49	+ 1	+ 49	*Nil*	*Nil*	— 1	— 49
East Murchison	*Nil*	*Nil*	...	...	10	152	+ 10	+ 152
Northampton	*Nil*	*Nil*	— 7	— 46	*Nil*	*Nil*	...	...
Peak Hill	*Nil*	*Nil*	— 15	— 152	12	268	+ 12	+ 268
Phillips River	6	105	— 8	— 54	9	241	+ 3	+ 136
Yilgarn	*Nil*	*Nil*	...	...	16	77	+ 16	+ 77
EMERY.								
Outside Proclaimed Goldfield ...	*Nil*	*Nil*	...	...	13	130	+ 13	+ 130
FELSPAR.								
Coolgardie	3,990	11,970	+ 533	+ 5,056	3,241	9,712	— 749	— 2,258
Outside Proclaimed Goldfield ...	117	220	+ 69	+ 124	11	22	— 106	— 198
GLASS SAND.								
Outside Proclaimed Goldfield ...	22	25	+ 8	+ 10	111	141	+ 89	+ 116
GLAUCONITE.								
Outside Proclaimed Goldfield ...	156	3,888	— 44	— 935	260	6,500	+ 104	+ 2,612
GRAPHITE.								
	cwts.		cwts.		cwts.		cwts.	
Outside Proclaimed Goldfield ...	2	2	— 18	— 8	120	30	+ 118	+ 28
GYPSUM.								
	tons.		tons.		tons.		tons.	
Yilgarn	132	159	— 1,227	— 691	*Nil*	*Nil*	— 132	— 159
Outside Proclaimed Goldfield ...	9,381	10,086	— 2,280	— 3,146	2,878	3,136	— 6,503	— 6,950
IRON ORE.								
Outside Proclaimed Goldfield ...	*Nil*	*Nil*	...	...	150	225	+ 150	+ 225
MAGNESITE.								
Coolgardie	*Nil*	*Nil*	— 257	— 230	25	100	+ 25	+ 100
East Coolgardie	100	88	+ 100	+ 88	*Nil*	*Nil*	— 100	— 88
MICA.								
	lbs.		lbs.		lbs.		lbs.	
Outside Proclaimed Goldfield ...	†6,160	25	+ 3,752	— 286	389	115	— 5,771	+ 90

* Metallic content. † Crude. ‡ Concentrates.

TABLE 7—*continued.*

Quantity and Value of Minerals, other than Gold, reported to the Mines Department during 1941 *and* 1942—*continued.*

Goldfield, District, or Mineral Field.	1941.		Increase or Decrease as compared with 1940.		1942.		Increase or Decrease as compared with 1941.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
PYRITES.								
	tons.	£A	tons.	£A	tons.	£A	tons.	£A
Dundas	...	...	...	...	368	607	+ 368	+ 607
RED OXIDE (FeO2).								
Pilbara (Nullagine)	287	2,870	+ 49	+ 486	*Nil*	*Nil*	— 287	— 2,870
Outside Proclaimed Goldfield ...	*Nil*	*Nil*	...	...	143	1,360	+ 143	+ 1,360
SCHEELITE (WO3).								
	units.		units.		units.		units.	
Coolgardie	34	101	— 750	— 1,859	58	321	+ 24	+ 220
North Coolgardie-Menzies ...	*Nil*	*Nil*	...	...	10	36	+ 10	+ 36
SOAPSTONE.								
	tons.		tons.		tons.		tons.	
Greenbushes	*Nil*	*Nil*	...	...	255	950	+ 255	+ 950
Outside Proclaimed Goldfield ...	*Nil*	*Nil*	...	...	10	25	+ 10	+ 25
TALC.								
East Coolgardie	...	...	...	...	38	57	+ 38	+ 57
TANTALITE.								
Coolgardie	*Nil*	*Nil*	— 2	— 2,340	...	...	...	...
Greenbushes	*Nil*	*Nil*	...	...	1	157	+ 1	+ 157
Pilbara (Marble Bar)	*Nil*	*Nil*	— 4	— 5,471	1	314	+ 1	+ 314
TIN.								
Greenbushes	5	769	— 29	— 3,858	13	2,369	+ 8	+ 1,600
Pilbara (Marble Bar)	6	1,105	+ 3	+ 558	11	2,265	+ 5	+ 1,610
VERMICULITE.								
East Coolgardie (Bulong) ...	*Nil*	*Nil*	— 65	— 427	...	...	...	...
Outside Proclaimed Goldfield ...	160	962	+ 116	+ 632	178	1,070	+ 18	+ 108
WOLFRAM.								
					units.		units.	
Broad Arrow	...	...	...	...	16	88	+ 16	+ 88
Yalgoo	...	...	...	...	5	28	+ 5	+ 28
Outside Proclaimed Goldfield ...	*Nil*	*Nil*	— 1	— 211	*Nil*	*Nil*	...	...

TABLE 8.

Quantity of Coal raised during 1940, 1941 *and* 1942 *estimated Value thereof, 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	1940	539,427	364,500	139	574	940	756
	1941	556,574	389,278	143	638	872	713
	1942	581,176	461,495	175	647	898	707

Increases were shown each year in the quantity of coal raised (17,147 tons, 24,602 tons), estimated value thereof (£24,778, £72,217), and the average number of men employed (68, 41), whilst the average number of tons raised per man employed, decreased by 43 tons and six tons respectively.

Figures for 1941 and 1942 are shown in parentheses, in that order.

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

TABLE 9.

Total Number and Acreage of Leases, Mineral Claims, and Prospecting Areas held for Mining on 31st December, 1941 and 1942.

Description.	1941.		1942.	
	No.	Acreage.	No.	Acreage.
Gold Mining Leases on Crown Land	1,422	23,656	**1,327**	**22,041**
Gold Mining Leases on Private Property	4	95	**3**	**72**
Mineral Leases on Crown Land	170	38,498	**172**	**38,573**
Mineral Claims	103	5,608	**116**	**6,495**
Prospecting Areas	*1,067	16,693	†453	**7,128**
Totals	2,766	84,550	**2,071**	**74,309**

* Includes 17 Prospecting Areas for Minerals of a total of 504 acres.

† Includes 44 Prospecting Areas for Minerals of a total of 1,277 acres.

PART IV.—MEN EMPLOYED.

TABLE 10.

Average number of Men reported as engaged in Mining during 1940, 1941 *and* 1942.

Goldfield.	District.	Reef or Lode.			Alluvial.			Total.		
		1940.	1941.	1942.	1940.	1941.	1942.	1940.	1941.	1942.
1. Kimberley	... ...	40	38	14	6	6	...	46	44	14
2. Pilbara	Marble Bar ...	204	157	133	4	1	1	208	158	134
	Nullagine ...	81	54	38	3	1	1	84	55	39
3. Ashburton	... ...	54	39	17	3	2	...	57	41	17
4. Gascoyne	... ...	...	...	...	4	...	...	4	...	...
5. Peak Hill	... ...	55	44	25	5	5	1	60	49	26
6. East Murchison	Lawlers	204	132	125	...	...	...	204	132	125
	Wiluna	989	855	689	...	...	...	989	855	689
	Black Range ...	344	303	70	...	...	...	344	303	70
7. Murchison ...	Cue	908	861	509	10	7	2	918	868	511
	Meekatharra ...	189	153	124	5	5	1	194	158	125
	Day Dawn ...	53	47	38	8	5	1	61	52	39
	Mt. Magnet ...	524	416	205	...	...	3	524	416	208
8. Yalgoo	... ...	274	228	113	...	...	...	274	228	113
9. Mt. Margaret ...	Mt. Margaret ...	597	483	214	...	...	...	597	483	214
	Mt. Malcolm ...	496	469	327	...	...	...	496	469	327
	Mt. Morgans ...	225	217	125	...	...	...	225	217	125
10. North Coolgardie	Menzies	256	214	143	11	8	5	267	222	148
	Ularring	182	103	56	7	6	2	189	109	58
	Niagara	72	49	27	...	...	...	72	49	27
	Yerilla	106	127	95	4	3	2	110	130	97
11. Broad Arrow	... ...	507	414	235	15	14	11	522	428	246
12. North-East Coolgardie	Kanowna ...	79	68	30	6	6	4	85	74	34
	Kurnalpi ...	32	28	11	3	3	3	35	31	14
13. East Coolgardie	East Coolgardie ...	4,440	4,429	2,877	27	28	25	4,467	4,457	2,902
	Bulong	64	53	23	4	3	1	68	56	24
14. Coolgardie ...	Coolgardie ...	1,081	980	537	70	53	20	1,151	1,033	557
	Kunanalling ...	229	155	48	30	20	6	259	175	54
15. Yilgarn	... ...	875	823	616	...	...	1	875	823	617
16. Dundas	... ...	1,091	875	533	...	...	...	1,091	875	533
17. Phillips River	... ...	73	81	21	...	...	...	73	81	21
18. State Generally ...	... ...	44	35	15	...	...	...	44	35	15
Total, Gold Mining		14,368	12,930	8,033	225	176	90	14,593	13,106	8,123
MINERALS OTHER THAN GOLD.										
Alunite		1	1	46	...	...	...	1	1	46
Arsenic		22	22	23	...	...	...	22	22	23
Asbestos		18	22	15	...	...	...	18	22	15
Bentonite		...	...	1	...	...	...	...	...	1
Beryl		1	1	1	...	...	...	1	1	1
Bismuth		4	2	...	...	...	...	4	2	...
Coal		713	781	822	...	...	...	713	781	822
Copper		2	2	5	...	...	...	2	2	5
Felspar		14	14	6	...	...	...	14	14	6
Fireclay		5	5	5	...	...	...	5	5	5
Glass Sand		2	1	1	...	...	...	2	1	1
Glauconite		3	3	3	...	...	...	3	3	3
Graphite		1	1	...	...	...	...	1	1	...
Gypsum		21	19	11	...	...	...	21	19	11
Iron		26	3	1	...	...	...	26	3	1
Magnesite		4	3	4	...	...	...	4	3	4
Mica		3	2	1	...	...	...	3	2	1
Red Ochre		2	2	3	...	...	...	2	2	3
Phosphatic Guano		1	1	...	...	...	...	1	1	...
Pyrites		...	...	1	...	...	...	...	...	1
Scheelite		7	3	6	...	...	...	7	3	6
Soapstone		...	...	1	...	...	...	...	...	1
Talc		...	...	1	...	...	...	...	...	1
Tantalite		12	3	1	...	...	...	12	3	1
Tin		39	18	15	...	...	...	39	18	15
Wolfram		...	1	1	...	...	...	...	1	1
Vermiculite		5	5	3	...	...	...	5	5	3
Total, Other Minerals		906	915	977	...	...	...	906	915	977
GRAND TOTAL		15,274	13,845	9,010	225	176	90	15,499	14,021	9,100

PART V.—ACCIDENTS.

TABLE 11.

MEN EMPLOYED IN MINES KILLED AND INJURED IN MINING ACCIDENTS DURING 1941 AND 1942.

A.—According to Locality of Accident.

Goldfield.	Killed.		Injured.		Total Killed and Injured.	
	1941.	1942.	1941.	1942.	1941.	1942.
1. Kimberley	...	...	...	...	...	...
2. West Kimberley	...	...	...	...	...	...
3. Pilbara	...	...	5	10	5	10
4. West Pilbara	...	...	...	...	...	...
5. Ashburton	...	...	...	...	...	...
6. Gascoyne	...	...	...	...	...	...
7. Peak Hill	...	...	...	...	...	...
8. East Murchison	2	5	99	87	101	92
9. Murchison	8	1	86	34	94	35
10. Yalgoo	...	...	1	...	1	...
11. Mount Margaret	1	2	112	58	113	60
12. North Coolgardie	...	...	2	6	2	6
13. North-East Coolgardie	...	...	...	...	...	...
14. Broad Arrow	...	...	2	...	2	...
15. East Coolgardie	8	8	667	502	675	510
16. Coolgardie	...	...	32	25	32	25
17. Yilgarn	1	1	32	18	33	19
18. Dundas	5	1	93	71	98	72
19. Phillips River	...	...	1	...	1	...
MINING DISTRICTS—						
Northampton	...	...	...	...	...	...
Greenbushes	...	...	...	...	...	...
Collie	2	2	234	252	236	254
South-West	...	...	10	10	10	10
Totals	27	20	1,376	1,073	1,403	1,093

From the above table it will be seen that the number of fatal accidents for the year 1942 was 20, as against 27 in 1941. The number injured showed a decrease of 303. In the report of the State Mining Engineer, published in Division II. of this report, these accidents are classified according to their causes.

B.—According to Causes of Accidents.

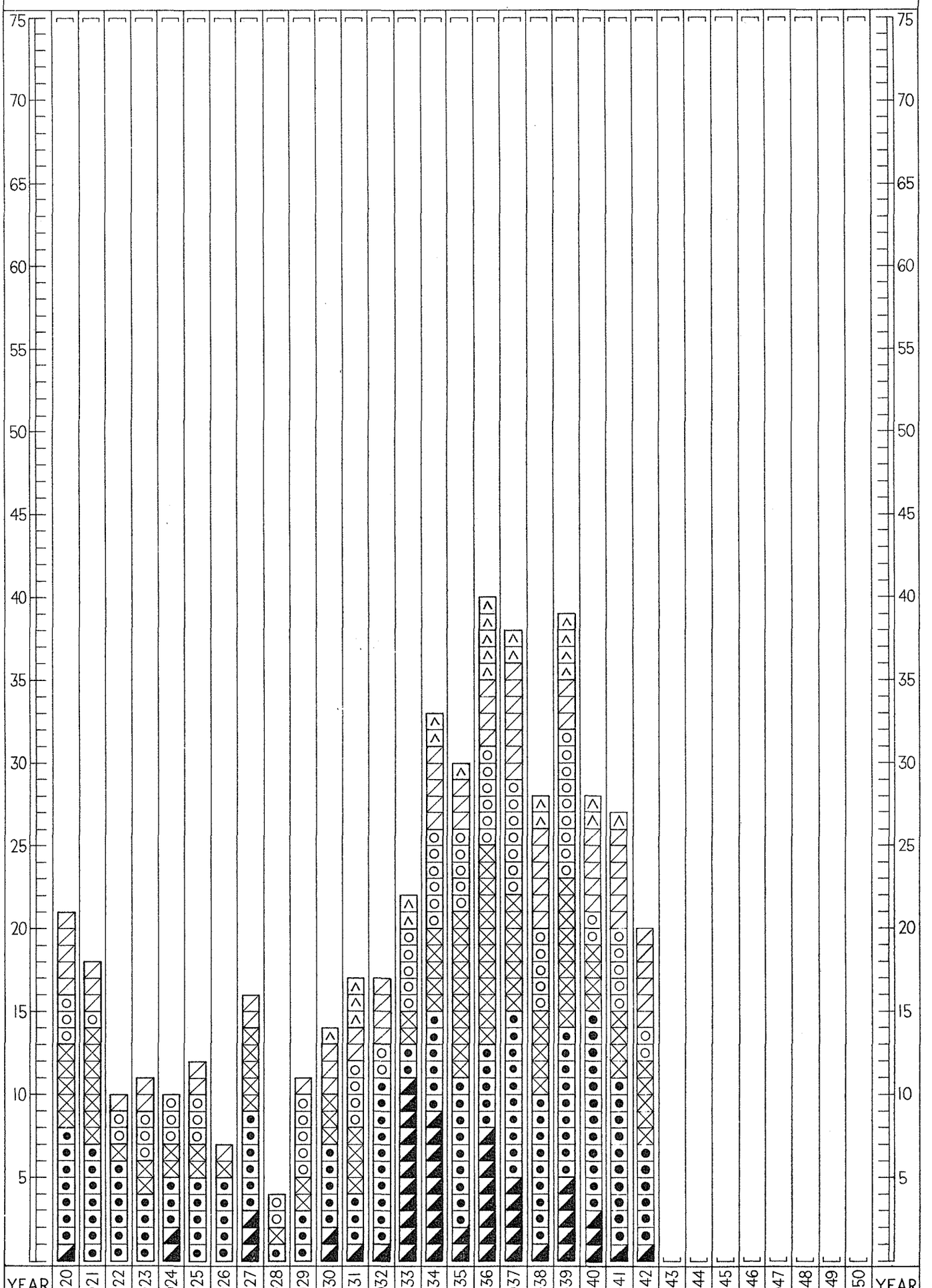
Cause.	1941.		1942.		Comparison with 1941.	
	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.
1. Explosives	1	14	1	‡7	...	— 7
2. Falls of Ground	10	*113	6	§89	— 4	— 24
3. In Shafts	4	26	5	12	+ 1	— 14
4. Miscellaneous Underground	5	981	2	723	— 3	— 258
5. Surface	6	†239	6	‖240	...	+ 1
6. Fumes	1	3	...	2	— 1	— 1
Totals	27	1,376	20	1,073	— 7	— 303

* Includes 2 serious in Quarries. † Includes 8 serious in Quarries. ‡ Includes 1 serious in Quarries.
§ Includes 2 serious in Quarries. ‖ Includes 7 serious in Quarries.

Eighteen fatal accidents occurred on gold mines and two in coal mines.
The death rate per 1,000 men employed at gold mines was 2·45, as against 1·91 in 1941.

DIAGRAM OF ACCIDENTS

Showing the number of Deaths, arranged in Six Classes, in the Mines of Western Australia, from 1920 onwards



Explosions Falls of Ground In Shafts Misc. Underground On Surface Fumes

PART VI.—STATE AID TO MINING.

1. The number of State Batteries existing at the end of the year was 23, with three leased. From inception to the end of 1942, gold and tin to the value of £12,025,372·83, including gold premium estimated at £2,862,377·31 have been received from State plants; 2,593,357·19 tons of auriferous ore have been treated and have produced £9,068,589·36 plus estimated premium of £2,862,377·31, and 81,786 tons of tin ore produced tin to the value of £93,833·96 and residues to the value of £572·2.

2. During the year, 40,396 tons of ore were crushed for 24,968 ounces of bullion estimated to contain 21,160 ounces of fine gold equal to 10 dwts. 11·4 grains per ton. The average value of tailings produced was 4 dwts. 10 grains making the average head value of 14 dwts. 21·4 grains.

The estimated value of gold produced was 21,160·65 ounces by amalgamation and 6,148·65 ounces from tailing treatment, a total of 27,309·30 ounces valued at £265,611A.

3. The working expenditure for all plants for the year was £61,464 18s. 4d., and the revenue £51,030 14s. 9d., which shows a loss of £10,434 3s. 7d. on the year's operations.

4. The capital expenditure since inception of the scheme has been £541,594 17s. 6d., £405,460 11s. 8d. from General Loan Fund; £93,726 4s. 5d. from Consolidated Revenue; £28,621 13s. 5d. from Assistance to Gold Mining Industry, and £13,786 8s. from Commonwealth Assistance to Metalliferous Mining.

5. Head Office expenditure including insurance under the Workers' Compensation Act was £6,780 4s., as against £7,145 18s. 7d. for 1941.

The working expenditure from inception to the end of the year exceeds revenue by £74,128 12s.

GEOLOGICAL SURVEY.

During 1941 all work, which had been commenced prior to the war, was rounded off and temporarily abandoned. It is intended that this will be completed and published when conditions are more favourable. The principal work left uncompleted deals with the northern portions of the Yilgarn Goldfield and portion of the Mt. Magnet Goldfield. Subsequently the attention of all officers of this branch was restricted to investigation of areas and minerals likely to be of value to the Australian war effort.

The Annual Reports of the Geological Survey for 1941 and 1942 contain summaries of the results of these investigations. In order to conserve paper only summaries have been published, but the full reports are available for public information at the Geological Survey. The titles of these reports are listed below:—

1941.

Investigation of bituminous samples from the country between Albany and the Fitzgerald River.

Supposed Nitrate Deposit east of Mt. Ridley, Eucla Division.

Investigation of water supply at Callion, Ularring District.

Notes on a dam site on the Ord River, Kimberley Division.

Proposed drilling in the vicinity of the Clackline (Baker's Hill) ironstone deposits.

Progress report on the geology of portion of the Mt. Margaret Goldfield.

The phosphate deposits in the Dandarragan District, South-West Division.

Whim Creek investigations.

Report on a petrological investigation of metasomatism near the Corinthian Ore Body.

The geology of Tindals, Coolgardie Goldfield.

Two reputed iron ore deposits in the vicinity of Albany.

The Hill 60 lode, Mt. Magnet Gold Mines, Ltd., Mt. Magnet.

A supposed manganese and hematite deposit near Wallangie, Coolgardie Goldfield.

Geological notes on boring in the Mt. Palmer district, Yilgarn Goldfield.

1942.

Soapstone at Glen Lynn, South-West Division.

Alleged scheelite deposits near Kununoppin.

Nevill's scheelite prospect—Melville, Yalgoo Goldfield.

Copper prospects at Galena—Northampton mining District.

Emery deposits—Richenda River area—Kimberley Division.

Investigations in the Greenbushes tinfield.

Sampling of some lakes near Baladjie and Mt. Palmer for alunite.

Boring on M.C. 6—Greenbushes.

Investigations in the Greenbushes tinfield.

Bauxite investigations.

Investigations on the mica deposits in the Yinnietharra, Ajana, Northampton and Mullalyup districts.

Investigation of the Meaney's Bridge soapstone deposit.

Inspection of Norrish & Selkirk's beryl show, Mundaring, S.W. Division.

Inspection of molybdenite show, Swan View, S.W. Division.

Inspection of an alleged quartz crystal deposit, Katanning, S.W. Division.

Report on antimony in the Moonlight Leases, Wiluna, East Murchison Goldfield.

Boring at Whim Creek—logs of bores.

Notes on an inspection of the principal tantalite-bearing district of the Pilbara Goldfield.

During the two years under review, the following publications were issued:—

Annual Progress Report of the Geological Survey for the year 1940.

Bulletin No. 99—*The mining Groups of the Yilgarn Goldfield, south of the Great Eastern Railway,* Part II, *South of Marvel Loch,* by R. A. Hobson, B.Sc. (Hons.) and R. S. Matheson, B.Sc.

Bulletin No. 100—Part I.—*The blue asbestos bearing banded iron formations of the Hamersley Ranges, Western Australia,* by Keith R. Miles, B.Sc. (Hons.), and Part II.—*The blue asbestos deposits of the Hamersley Range and their economic importance,* by J. S. Foxall, B.E. (Syd.), M.I.E., Aust.

In addition to the work outlined above, numerous brief inspections have been made of various mineral deposits, principally by the Government Geologist and much information has been supplied from Head Office regarding the mineral resources of the State. Practical assistance has been given to prospectors and mine owners by field officers during the course of their investigations.

The Geological Survey rock and mineral collection and its accompanying card index system has been reorganised and brought up to date. Enquiries regarding various minerals made frequent references to this collection necessary.

ASSISTANCE UNDER MINING DEVELOPMENT ACT, 1902.

The following statements show the sums advanced during the years 1941 and 1942, under this Act:—

1941.

	£	s.	d.
1. Advanced in aid of mining work and equipment of mines with machinery	7,318	6	8
2. Subsidies on stone crushed for the public, being amounts paid to owners of plants crushing at fixed rates	651	15	7
3. Providing means of transport, equipment and sustenance for prospectors	16,182	6	9
4. Other assistance granted from the Vote during the year on various matters totalled	787	19	7
	£24,940	8	7

1942.

	£	s.	d.
1. Advanced in aid of mining work and equipment of mines with machinery	3,210	6	2
2. Subsidies on stone crushed for the public, being amounts paid to owners of plants crushing at fixed rates	406	10	3
3. Providing means of transport, equipment and sustenance for prospectors	6,347	12	10
4. Other assistance granted from the Vote during the year on various matters totalled	448	15	4
	£10,413	4	7

The receipts under the Mining Development Act, exclusive of interest payments, amounted to:—

1941.

	£	s.	d.
Refund of Advances	1,038	6	7
Sale of Securities			
Prospecting Refunds	4,937	9	8
Miscellaneous Refunds	205	14	10
	£6,181	11	1

1942.

	£	s.	d.
Refund of Advances	2,144	4	3
Prospecting Refunds	1,535	3	5
Miscellaneous Refunds	192	0	2
	£3,871	7	10

PART VII.—INSPECTION OF MACHINERY.

The Chief Inspector of Machinery reports that the number of useful boilers registered at the end of the year totalled 4,851 against 4,750 total for the preceding year, showing an increase after all adjustments of 101 boilers.

Of the total 4,851 useful boilers, 2,928 were out of use at the end of the year; 1,872 thorough and 233 working inspections were made, and 1,863 certificates were issued.

Permanent condemnations totalled 24 and temporary condemnations 20. There were no conversions. Seven boilers were transferred beyond the jurisdiction of the Act.

The total number of machinery groups registered was 16,505 against 17,125 for the previous year, showing a decrease of 620.

Inspections made total 12,189 and 3,964 certificates were granted.

The total miles travelled for the year were 60,016 as against 59,746 miles for the previous year, showing an increase of 270 miles. The average miles travelled per inspection were 4·19 as against 3·87 miles per inspection for the previous year.

One hundred and ninety-one applications for engine-drivers and boiler attendants' certificates, were received and dealt with, and 172 certificates, all classes, were granted as follows:—

Winding Competency (including certificates issued under regulation 40 and section 60)	5
First Class Competency (including certificates issued under regulations 40 and 45, and sections 60 and 63)	5
Second Class Competency (including certificates issued under regulation 40 and section 60)	13
Third Class Competency (including certificates issued under regulations 40 and 45 and sections 60 and 63 of Act)	26
Locomotive Competency (including certificates issued under regulation 40 and section 60)	3
Traction Competency (including certificates issued under regulation 40 and section 60)	—
Internal Combustion Competency (including certificates issued under regulation 40 and section 60)	49
Crane and Hoist Competency (including certificates issued under regulation 40 and section 60)	6
Boiler Attendant's Competency (including certificates issued under regulation 40 and section 60)	60
Interim	1
Copies	4
Transfers	—
	172

The total revenue from all sources during the year was £8,368 12s. 2d. as against £9,142 4s. 10d. for the previous year, showing a decrease of £773 12s. 8d.

The total expenditure for the year was £8,550 17s. 10d. as against £8,220 19s. 3d. for the previous year, showing increase of £329 18s. 7d.

PART VIII.—SCHOOL OF MINES.

(a) *Kalgoorlie.*—The individual enrolment for 1942, exclusive of Correspondence Course students, reached a maximum of 295, a decrease of 120 compared with 1941. The Correspondence Course enrolments totalled 15.

In the Public Assay Branch of the School, 168 gold and 111 mineral determinations were carried out for prospectors.

The Metallurgical Laboratory completed nine investigations into the treatment of ores, minerals and metallurgical products.

(b) *Wiluna,* (c) *Norseman.*—The maximum enrolment was 57 and 53 respectively—which is very satisfactory under the circumstances.

PART IX.—MINERS' PHTHISIS AND MINE WORKERS' RELIEF ACT.

In 1942, all Goldfields with the exception of Ashburton, Gascoyne, Kimberley, Phillips River, West Kimberley, Pilbara and West Pilbara were visited.

The number of examinations conducted were 5,824 compared with 7,141 for 1941.

STAFF.

Staff has been further affected as a result of the requirements of the fighting services. At the time of writing 80 officers are in the Australian Navy, Army, and Air Force, while six others have been seconded to the Munitions Department for the duration of the War.

Five fine young officers, Messrs. Kirkby, Bamkin, Gregson, Guppy and Rowe have made the supreme sacrifice.

All these changes and losses have thrown a heavy burden on the remainder of the Staff, who have very loyally responded.

Temporary staff, comprising mainly girls, has been engaged for replacements, and has done well.

In dealing with the various activities, I have commented only on the principal items. Detailed information is given in the reports of the responsible officers, published in Divisions II. to IX. of the report.

I have, etc.,
A. H. TELFER,
Under Secretary for Mines.

Department of Mines,
Perth, 31st March, 1943.

Division II.

Report of the State Mining Engineer for the Year 1942.

The Under Secretary for Mines.

Sir,—I have the honour to submit for the information of the Hon. the Minister for Mines my report on this branch of the Mines Department for the year 1942.

STAFF.

District Inspectors L. C. Olive (3rd March), E. E. Brisbane (1st June), and J. Boyland (31st December), enlisted during the year in the Armed Forces, being posted to the Engineers, Ordinance, and Air Force, respectively.

Mr. J. E. Lloyd, Assistant Ventilation Inspector, was appointed Acting Inspector of Mines in Inspector Brisbane's place.

Workmen's Inspectors T. A. Birch (Leonora) (27th February) and R. McKerlie (Kalgoorlie) (27th May), both joined the Air Force during the year.

At the biennial elections for Workmen's Inspectors of Mines, Messrs. R. J. Wallis (Kalgoorlie), R. McMennemin (Wiluna) and W. E. Boyce (Cue) were re-elected, while Messrs. D. Culley (Leonora) and T. G. Brown (Kalgoorlie) replaced Messrs. Birch and McKerlie, respectively. At Collie, Mr. G. Snell retired owing to effluxion of time and Mr. Gordon Vernon was elected in his place.

It will thus be seen that the branch has been particularly short staffed for the year, more especially in the Kalgoorlie office, and a considerable amount of extra work was thrown on to the remaining inspectors.

ACCIDENTS.

Fatal and serious accidents on mines and quarries reported to this Department for the year were as hereunder. Corresponding figures for 1941 are shown in brackets.

There were 20 (27) fatal and 1,073 (1,376) serious accidents, including 2 (2) fatal and 262 (244) serious on coal mines and quarries.

Of the fatal accidents 18 (25) occurred on gold mines and 2 (2) on coal mines.

There were no fatalities reported in quarries.

The total number of serious accidents reported on gold mines was 811 (1,142). The average number of men employed on such mines was 8,123 (13,105). The average accident rate per 1,000 men employed on gold mines was thus 2·22 (1·91) for fatal accidents and 99·84 (87·14) for serious accidents.

On the coal mines the number of serious accidents was 252 (234), while the average number of men employed was 825 (781). The average accident rate was, therefore, 2·42 (2·56) fatal and 305·45 (299·61) serious per 1,000 men employed.

Table A (p. 16) classifies the serious accidents into major and minor injuries and according to the nature of the injury. Of the 1,073 accidents reported, 146, or 13.59% resulted in major injuries, as compared with 11·77% during 1941. Corresponding figures for the Goldfields and Collie were 11·63% and 24·75% respectively, as against 11·12% and 14·95% during the previous year.

Injuries to fingers and hands again comprised 31% of the total injuries, while foot and toe injuries contributed 17%.

The somewhat sharp rise in the accident rate generally is possibly due to the presence of a greater proportion of older and less fit men on the mines, owing to the call up of the young and fit men for the Armed Forces and essential services.

Table 11, showing fatal and serious accidents and the districts in which they occurred is forwarded herewith for inclusion in your Annual Report, together with a diagram showing fatal accidents year by year, arranged according to their causes.

Table B, hereunder shows the number of fatal accidents recorded during the past five years and the death rates per 1,000 men employed.

TABLE B.

——	1938.	1939.	1940.	1941.	1942.
Fatal accidents to men engaged in mining (exclusive of quarries)	28	39	28	27	20
Total number of men engaged in mining (average)	16,419	16,199	15,500	14,021	8,987
Accident death rate per 1,000 men engaged in mining ...	1·70	2·41	1·81	1·93	2·23
Fatal accidents at quarries	...	...	...	...	...

TABLE A.

SERIOUS ACCIDENTS—1942.

Goldfield.	Major Injuries—Exclusive of Fatal.																							Minor Injuries.											
	Fractures.												Amputations.											Fractures.											
	Head.	Shoulder.	Arm.	Hand.	Spine.	Rib.	Pelvis.	Thigh	Leg.	Ankle.	Foot.	Arm.	Hand.	Finger	Leg.	Foot.	Toe.	Loss of Eye.	Serious Internal.	Hernia.	Dislocations.	Other Major	Total Major.	Finger.	Toe.	Head.	Eyes.	Shoulder.	Arm.	Hand.	Back.	Rib.	Leg.	Foot.	Other Minor.	Total Minor.
East Coolgardie	....	....	1	1	1	3	1	1	2	....	2	....	....	2	....	....	....	....	....	11	....	7	32	14	3	11	21	11	34	130	84	8	62	66	26	470
Yilgarn	....	....	1	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	1	....	1	4	....	....	1	....	1	1	2	1	....	1	5	2	14
Coolgardie	....	....	1	....	....	....	....	....	2	1	3	....	....	....	....	....	....	....	....	1	....	....	8	1	1	....	....	....	2	6	3	....	4	....	....	17
Dundas	....	....	1	1	....	....	....	1	2	1	....	....	....	2	....	....	....	....	....	2	....	3	13	1	....	3	6	2	3	19	7	....	9	6	2	58
Mt Margaret	1	....	....	1	....	3	....	....	3	....	1	....	....	1	....	....	....	....	....	2	....	....	12	2	2	....	3	....	....	16	4	1	5	5	8	46
North Coolgardie	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1	....	....	1	1	..	....	2	....	6
East Murchison	....	1	2	1	....	2	....	1	2	....	....	....	....	2	....	....	....	....	....	1	1	2	15	1	....	3	1	1	5	29	5	....	12	11	4	72
Murchison	1	....	....	1	1	1	....	....	....	....	1	....	....	2	....	....	....	....	....	....	1	....	8	3	1	1	2	....	....	8	1	....	4	5	1	26
Pilbara	....	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	2	1	....	....	....	1	1	3	1	1	....	....	....	8
South-West Mining District	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1	2	....	....	1	....	....	2	1	....	....	2	2	....	8
Collie Coalfield	....	....	1	3	....	15	1	1	1	1	7	....	3	2	1	....	....	....	....	2	4	8	50	6	12	5	9	4	8	25	13	4	26	20	70	202
Total	2	1	7	8	2	24	2	4	12	3	16	....	3	12	1	....	....	....	....	21	6	22	146	29	19	26	43	20	56	240	120	14	125	122	113	927

FATAL ACCIDENTS.

Following is a brief description of all fatal accidents that occurred during the year:—

Name and Occupation.	Date.	Mine.	Details.
		Explosives (1).	
Perkovich, Luca (machine miner)	14–3–42	Lake View and Star, Ltd.	Was pushing a charge of gelignite into a hole with a tamping stick, when it exploded, inflicting fatal injuries. Explosion possibly caused by a thin film of explosive adhering to the tamping stick and becoming ignited by friction.
		Falls of Earth (6).	
Dawes, Richard; Parnaby, William Henry (miners)	27–1–42	Proprietary Colliery, Collie	Working in a dip back heading in No. 10 Section in bad ground due to faulting. Despite the fact that the place had been well timbered, a piece of coal about eight tons in weight slid from the face with little or no warning. It struck a skip near the face and broke. One piece of about four tons struck Dawes, killing him instantly. Parnaby was struck by the balance of the coal, receiving fatal injuries.
McCrae, James Donald (scaler)	11–6–42	Paringa	Was removing pass logs from a manway in a shrink stope from which most of the ore had been withdrawn. Without warning a piece of stone about one ton in weight fell directly on to him, killing him instantly. His mate escaped uninjured. Both men were experienced miners and had sounded the ground and were satisfied that the place was safe to work in.
Piazzani, Bartolo (miner) ...	22–7–42	Sons of Gwalia ...	Shovelling in a stope when a small sharp piece of stone fell from the hanging wall and struck him on the neck, penetrating and severing the right subclavian artery and causing a fatal haemorrhage.
Sampey, William Thomas (miner)	3–8–42	Moonlight Wiluna ...	Was returning along a sub-level with his mate after firing a hole in an oxidised stope. When immediately below the point where firing has taken place some ground came away from the hanging wall, striking both men. Sampey slipped down the rill and was found dead on the next sub-level 90 ft. below.
White, Frank William Samuel (machine miner)	3–11–42	Boulder Perseverance	Barring down loose ground in a stope, and shooting off loose slabs of rock with small charges. While preparing a charge a fall occurred and White was caught under a large slab. When extricated he was dead.
		Shafts (5).	
Bowen, Alexander (timberman)	4–2–43	Wiluna Gold Mines, Ltd.	Bowen was standing on bridle of skip effecting shaft repairs when skip moved off, throwing him off the bridle and crushing him between the skip and shaft timbers. It was afterwards learned that the engine driver noticed that the knocker line was jambed and reported accordingly to the shift boss, who went to the shaft to free it. While doing so he thought he felt a signal to raise the skip and repeated it to the engine driver, who raised the skip to the surface, causing Bowen's death. A Board of Enquiry was held and found the shift boss guilty of grave error of judgment in passing on the supposed signal. He was severely reprimanded.
Toy, Harold James (platman)	23–4–42	Lake View and Star, Ltd.	Toy was engaged unloading gimlet poles from the auxiliary cage at the 1,300 ft. plat of the Ivanhoe shaft when a stone weighing about 7 lbs. came down the shaft, striking him on the head and killing him. Investigation did not reveal where the stone came from.
Lamberto, Vincenzo (prospector)	13–5–43	Marvel Loch District	Lamberto fell from a bearer while repairing a skid in the shaft, a distance of about 60 ft., fracturing his spine. He subsequently died on 1st October. There were no witnesses to the accident.
Hicks, Robert (skipman) ...	24–5–42	Hannan's North ...	Having given the signal to change gear from No. 9 to No. 10 bin, Hicks and mate entered the skip. The skip coming to rest at the bin Hicks endeavoured to climb out, when the skip was raised again, crushing him against the cap of the bin. He should not have attempted to leave the skip until the engine driver signalled three rings, signifying that he had geared in again.
Pettit, David William (platman)	22–9–42	Lake View and Star, Ltd.	Pettit was loading steel into the cage when he was struck on the head by a comparatively small stone falling down the shaft. Two such stones were found on the plat beside him. It is presumed that he was struck by a piece of about 3 lbs. weight which had fallen down the haulage compartment. He was wearing his hard hat immediately prior to the accident. The shaft was in reasonably good condition and it is not known where the loose stones came from.

FATAL ACCIDENTS—*continued.*

Name and Occupation.	Date.	Mine.	Details.
		Fumes (Nil).	
		Miscellaneous Underground (2).	
Jeffries, Frederick George (miner)	25–4–42	Wiluna Gold Mines, Ltd.	Jeffries was assisting the machine man to bore out the face of a vertical rise above the 200 ft. level. They were standing on a stage with two other stages below. For some unexplained reason both men fell from the stage, but while the machine man fell to the bottom stage, Jeffries fell into an open stope and his body was eventually picked up on a rill at the 1,175 ft. sub-level, having fallen a distance of about 1,000 ft.
Wood, Norman Baker (miner)	31–8–42	Wiluna Gold Mines, Ltd.	Wood was working as a grizzly attendant. He saw a large stone rolling down the rill towards him and, in trying to avoid it, slipped and fell on to the grizzly bars. He was struck by the stone, sustaining injuries which resulted in his death four months later.
		Surface (6).	
Hardy, James Henry (winding engine driver)	1–7–42	Metropolitan Mining and Development Company	Hardy was assisting to restart the gas engine after a stoppage and was about to put the belt on the pulley wheel. On bending down to pick up the belt his head came in contact with the spokes of the wheel, causing multiple injuries, including a fractured skull and bruising and laceration of the brain. He had often performed the same operation previously.
Reid, Joseph (roaster attendant)	4–10–42	Kalgoorlie Ore Treatment	Reid was found lying on the floor alongside a roaster, unconscious. It was thought that he had collapsed, but examination revealed that he was severely injured. It is presumed that he fell from one of two travelling ways above him, 18 ft. and 9 ft. respectively, from the floor. Both travelling ways are protected by guard rails and it is not known what caused the fall.
Hanley, Edward John (watchman)	2–11–42	Central Norseman ...	Hanley sat down in the mill near the Oliver filter agitator arm which protrudes through the floor at that point. He was found lying on the ground about 12 ft. below the platform where he had been sitting, and it is presumed that he must have come into contact with the agitator arm, which dragged him through the hole in the floor. He was dead when found.
Tavani, Pietro (sand shoveller)	12–1–42	Westralian Tailings Treatment	Tavani was buried by a fall of sand while shovelling from a dump into a dray.
Hall, Ernest Clair	17–2–42	Consolidated Gold Areas	Hall was adjusting a pump at the surface of the Golden Hope shaft while wearing wet clothes. His clothes came in contact with the electrical fittings and he received an electric shock, which caused his death. It seems certain that his death was due to his clothes being wet when the adjustment was made. Steps have been taken to minimise the risk of a similar accident in future.
Tait, William Henry (mill foreman)	18–3–42	Sons of Gwalia ...	While on a tour of inspection on the cam shaft floor of the battery, Tait presumably stumbled and fell against the revolving bull wheel of No. 1 battery. He was dragged by protruding bolts through the space between the bull wheel and the cam shaft floor. He fell a distance of 11 ft. to the battery box floor and sustained multiple injuries. He died the following day from cerebral haemorrhage due to a fractured skull. There was no witness to the accident and the mill is considered particularly safe.

Table C shows the total number of fatal and serious accidents reported to the Department during 1942, classified according to the gold or mineral field on which they occurred and also according to the causes of the accidents.

WINDING MACHINERY ACCIDENTS.

There were nine accidents during the year involving winding machinery, including one skip derailment, two overwinds, three broken ropes and three miscellaneous. Brief details are given hereunder.

Skip Derailment.

A derailment was caused by a stone lodging on the line in the shaft. No appreciable damage was caused.

Overwinds.

(1) The driver inadvertently started the engine in reverse. The cage went to the thimble, the safety hook operated and the rope freed itself. No damage was caused.

(2) Confusion with the indicators caused the cage to go to the thimble. The indicator was broken off and brake lever bent by the rope. No damage was caused to the rope.

Broken Rope.

(1) A rope broke while bailing. The tank and 40 feet of rope dropped 50 feet into the sump. No damage was caused to tank or shaft.

TABLE C.

Fatal and Serious Accidents showing the Causes and Districts in which they occurred.

	Explosives.		Falls of Ground.		In Shafts.		Fumes.		Miscellaneous Underground.		Surface.		Total.	
	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.
1. East Coolgardie ...	...	2	2	26	3	5	...	1	...	351	2	117	8	502
2. Mt. Margaret ...	...	...	1	4	...	2	...	...	...	40	1	12	2	58
3. Coolgardie ...	...	...	...	4	...	1	...	...	...	11	...	9	...	25
4. North Coolgardie...	...	...	...	1	...	...	...	...	...	3	...	2	...	6
5. North - East Coolgardie	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Broad Arrow ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7. Dundas	...	...	...	6	...	...	...	...	...	41	1	24	1	71
8. Yilgarn	...	...	...	2	1	1	...	...	...	3	...	12	1	18
9. Murchison ...	...	1	...	1	...	2	...	...	...	25	1	5	1	34
10. East Murchison ...	...	1	1	6	1	1	...	1	2	58	1	20	5	87
11. Peak Hill ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12. Yalgoo	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13. Northampton ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14. Greenbushes ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15. South-West ...	...	1	...	2	...	...	...	...	...	...	...	7	...	10
16. Phillips River ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17. Collie	...	2	2	37	...	...	...	...	...	187	...	26	2	252
18. Pilbara	...	...	...	...	...	...	...	...	...	4	...	6	...	10
19. West Pilbara ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20. Ashburton ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals for 1942 ...	1	7	6	89	5	12	...	1	2	723	6	240	20	1,072
Totals for 1941 ...	1	14	10	113	4	26	1	3	5	981	6	239	27	1,376

(2) A rope broke and was found to be reduced in diameter by wear and rusted internally. No damage was caused.

(3) Through a chair not being properly adjusted under the cage, the cage got away while the drum was declutched when changing gear and fell to the bottom of the shaft. The rope ran off the drum and broke where attached to the drum.

Miscellaneous.

(1) A rope pulled out of the detaching hook and jumped off the head sheave. The cage hung up on the grippers.

(2) The clutch not engaging properly, the loose drum ran away. The brakes would not pull up the cage, which ran to the water in the bottom of the shaft.

(3) A cage was damaged and the safety grips fractured when a piece of stone, falling down the shaft jammed between the grippers and the cage.

PROSECUTIONS.

Two prosecutions were undertaken during the year for breaches of the Mines Regulation Act, 1906-38. Fines were imposed in both cases.

A manager was prosecuted under section 35, General Rule (34), for permitting a winze to be sunk without providing a ladder for safe means of exit.

A manager was proceeded against under section 35, General Rule (9), for failure to make safe a shaft in which persons were employed.

Three prosecutions were undertaken for breaches of the Coal Mines Regulation Act, 1902-26.

Two men were proceeded against for failing to take proper precautions when firing a shot. They were cautioned by the Magistrate.

One of the same men was subsequently prosecuted again for a similar offence and fined £3 and costs.

EXEMPTIONS.

In accordance with the provisions of section 34, subsection 4, of the Mines Regulation Act, 1906-38, 40 certificates were issued exempting the holders from the operation of subsection 1 (b) of the same section, as compared with 117 during 1941.

SUNDAY LABOUR.

One permit was granted to employ seven men underground on a gold mine for two successive Sundays to strip shaft timber and prepare penthouse to avoid loss of time in the subsequent working of the mine.

Twenty-two permits were issued under section 54 (4) of the Coal Mines Regulation Act, 1902-26, to managers of collieries to employ men for one Sunday underground to avoid loss of time in the subsequent working of the mine.

ADMINISTRATION.

Amendments of Acts.

The Mining Act, 1904-1937.

New Regulation 218A inserted *re* furnishing information to the Department relative to quantity and value of ore remaining in a mining tenement when surrendered, etc. Gazetted 1/5/42.

Mining Development Act, 1902-24.

Amendment to Clause (h), Section III. Gazetted 31/7/42.

Coal Mines Regulation Act, 1902-26.

Schedule. Amendment to Regulation 56. Gazetted 11/8/42.

VENTILATION.

Owing to the enlistment of Inspector Brisbane in the armed forces, Assistant Inspector Lloyd was appointed Acting Inspector in his place and has carried out the duties very satisfactorily. Inspector Lloyd's report on ventilation is quoted in full hereunder.

During the year a total of thirty-seven surveys of the mines in the East Coolgardie Goldfield was carried out, and attached is a summary of dust samples with a total of 298 giving an average count of 217 p.p.c.c.

It will be noted the figures show a decrease from those obtained last year, and this is due to the fact that figures for the surface and places underground registering 1,000 p.p.c.c. have not been included, as in the latter, these working places are invariably stopped and remedial action is taken immediately. Furthermore, dust at the surface has no bearing on the underground conditions and therefore the figures quoted represent a more accurate average estimation of the dust condition generally throughout the mines.

DUST SAMPLING.

Summary of Samples taken during 1942.

Month.	Level.		Development.		Stoping.		Surface.		Number of places showing count of 1000 p.p.c.c.			
	No.	Average Count.	No.	Average Count.	No.	Average Count.	No.	Average Count.	Level.	Development.	Stope.	Surface.
January	2	253	11	241	24	236	...	...	1	...	...	...
February	4	103	10	231	29	212	1	542	...	1	...	...
March	...	...	5	362	6	328	...	...	1	...	2	...
April	1	327	6	102	14	193	...	...	...	1	1	...
May	...	...	2	183	26	219	...	...	...	1	...	...
June	...	...	4	226	21	191	...	...	...	...	...	...
July	1	265	15	170	31	220	...	...	...	...	1	...
August	1	75	6	184	26	228	...	...	1	1	1	...
September	2	367	10	212	32	222	...	...	...	...	1	...
October	...	...	1	268	8	214	...	...	...	1	...	...
November	...	...	...	...	...	...	...	...	...	...	...	...
December	...	...	...	...	...	...	...	...	...	...	...	...
Total	11	212	70	210	217	219	1	542	Total—14.			

A total of fourteen samples of 1,000 p.p.c.c. was registered during the year, and these have been shown under a locality heading in order to indicate the working place in which the high count was obtained.

Despite the difficulty in obtaining fans and venturis owing to the war, temperature readings on the whole have been fairly satisfactory. Occasionally places were found to be working without adequate ventilation, and the management invariably stressed the difficulty in obtaining supplies, but in such cases when informed the places must stop, have generally rectified the position by salvaging pipes and blowers from other parts of the mine.

With regard to watering down of working places, efforts are continually being made to keep the men and officials dust conscious by means of visual demonstrations with the Konimeter and photographs of X-ray films showing the result of dust on the lungs.

With regard to ventilation, there has been a steady decline in the use of mechanical ventilation owing to a suspension of development on account of shortage of labour. On the larger mines where a number of fans were operating the motors have been removed and by concentrating the work, the ventilation is now performed by one fan, but even so, ventilation on the whole has been found to be good.

Fuming accidents reported to this office totalled 17 and only one was serious, due to handling wet fracteur.

During the year ventilation inspections were carried out in the Dundas and Yilgarn Goldfields, also the Co-operative Colliery, Collie.

GOLD MINING.

The gold mining industry has assumed a minor position in the troubled times through which we are passing. Calls on manpower for the armed forces, munition manufacture and essential industries have reduced the average number of men engaged in gold mining successively from 15,499 in 1939 to 14,791 in 1940, 13,243 in 1941 and 8,123 in 1942, while the number at the end of 1942 had fallen to about 6,000, or less than two-fifths of the average number working during 1939.

The total reported gold production for the year was 845,772 fine ounces valued at £A.8,840,642, from the treatment of 3,225,704 tons of ore, compared with 1,105,477 ounces worth £11,811,989 in 1941 from 4,210,774 tons.

The tonnage mined and gold produced per man employed are easily the highest ever recorded at 397 tons and 104.1 fine ounces per man, compared with the previous year's record figures of 321 tons and 84.4 fine ounces per man. This condition would appear to be brought about largely by reduction of development

TABLE D.

Gold Production Statistics.

Year.	Tons Treated. (2,240 lbs.)	Total Gold Yield.	Estimated Value of Yield.	Value of Yield per Ton.	Number of Men Employed.	Average Value of Gold per Oz.	Average Yield per Ton of Ore.
	tons.	fine ozs.	£A.	shillings A.		shillings A.	dwt.
1929 ...	628,400	372,064	1,580,426	50·30	4,108	84·96	11·84
1930 ...	645,344	419,767	1,874,484	58·09	4,284	89·33	13·01
1931 ...	982,163	518,045	3,042,019	61·94	5,961	117·44	10·55
1932 ...	1,327,021	599,421	4,358,989	65·70	8,695	145·44	9·03
1933 ...	1,588,979	636,928	4,884,112	61·48	9,900	153·36	8·01
1934 ...	1,772,931	639,871	5,461,004	61·60	12,523	170·69	7·22
1935 ...	1,909,832	646,150	5,676,679	59·45	14,708	175·71	6·77
1936 ...	2,492,034	852,422	7,427,687	59·61	15,698	174·27	6·84
1937 ...	3,039,608	1,007,289	8,797,662	57·99	16,174	174·68	6·64
1938 ...	3,759,720	1,172,950	10,409,928	55·38	15,374	177·50	6·24
1939 ...	4,095,257	1,188,286	11,594,221	56·62	15,216	195·14	5·80
1940 ...	4,291,709	1,154,843	12,306,816	57·35	14,594	213·15	5·38
1941 ...	4,210,774	1,105,477	11,811,989	56·10	13,105	213·70	5·25
1942 ...	3,225,704	845,772	8,840,642	54·81	8,123	209·04	5·24

NOTE.—In this table the figures given are those reported to the Department by the various producers.

and exploratory work and also by the curtailment of all but the barest essentials in manpower in all other possible directions.

In addition to manpower difficulties, the gold mines have been badly hit by the supply and transport difficulties mentioned in my last Annual Report, which have become more acute than ever. Up to the time of writing other mines have been forced to cease operations, and these will be followed by still more until the close of hostilities. This fact is unfortunate, but apparently unavoidable and must be faced.

The year's production must be regarded as very satisfactory under the very trying circumstances and reflects credit on the remaining operators.

Table D gives the production statistics year by year since 1929.

OPERATIONS OF THE PRINCIPAL MINES.

Table G (p. 27) gives a list of the principal gold mines of the State showing the outputs and yields for the past five years. Naturally, under the circumstances, there were no new names on such list for the year, while nine of the mines enumerated dropped below the 5,000 ounce production mark, which was the original qualification for inclusion in the list.

Comet and Hill 50 Mines showed an actual increase on previous years' production, while Big Bell's gold output was slightly higher than in 1940 owing to the higher grade of the ore treated.

Mines which closed down during the year for the duration of the war, through manpower and supply difficulty, were the Croesus Proprietary section of North Kalgurli, in January, Triton in August, Gladiator in September and Spargo's Reward in December, while Cox's Find closed permanently in June owing to exhaustion of ore reserves and failure to discover extensions of the lode.

Some minor producers meriting special mention are as follows:—

Mine.	Tons Treated.	Gold Output.	Yield per Ton.
		fine ozs.	dwt.
(1) Porphyry (1939) G.M., N.L.	38,869	4,888	2·52
(2) Lake View South	12,215	3,469	5·68
(3) Mt. Ida Gold Mine, N.L.	6,928	3,409	9·26
(4) New Milano Gold Mine, N.L.	7,675	3,036	7·91
(5) Sterling Gold Mines	4,608	2,061	8·94
(6) Westralian Tailings Treatment, Ltd.	....	1,950	....
(7) Moyagee	1,700	1,928	22·68
(8) Edward's Reward	2,775	1,608	11·59
(9) Carnation	1,494	1,452	19·44
(10) Listers (Paris Group)	950	1,230	25·89
(11) Rising Sun	6,899	1,168	3·39
(12) Fenian	2,304	1,050	9·11
(13) Edward Carson	1,140	1,043	18·30
(14) Swan Bitter	3,210	891	5·55
(15) Metropolitan Mining and Development, Ltd.	2,134	891	8·35
(16) Corona	905	825	18·23
(17) First Hit (Morley's Find)	208	812	78·08
(18) Mountain View (Day Dawn)	952	786	16·51
(19) Radio	734	707	19·26
(20) Morgans Gold Mine	1,701	656	7·71
(21) North Democrat	293	643	43·90
(22) Boomerang	56	441	157·50

East Coolgardie Goldfield—

Gold production from this field for the year was 425,614 fine ounces, while the total ore treated amounted to 1,407,069 tons, the average yield for the field thus being 6·05 dwt. per ton. The average number of men employed was 2,927.

These figures represent 50·3% of the total gold output for the State, 43·6% of the tonnage treated and 35·9% of the total men employed.

Production per man employed shows a considerable increase on previous years at 481 tons and 145 fine ounces compared with the previous year's figures of 421 tons and 119 fine ounces respectively.

It will be noted from reference to Table G that all the mines now working have reduced their output. This was more noticeable towards the end of the year and it is certain that the decline will continue in the current year.

Development work has of necessity been curtailed and a number of the companies will be forced to draw on their broken ore reserves. Prospecting for gold has practically ceased.

Operations on Hannan's North, Mt. Charlotte and Croesus Mines have been suspended for the duration of the war. South Kalgurli Consolidated, Ltd., propose to discontinue operations at their own treatment plant and have their ore milled by Kalgoorlie Ore Treatment, Ltd.

The mines have ample ore in sight and, generally speaking, were increasing their reserves annually. Little difficulty should be experienced in returning to normal production when conditions become favourable again. Every effort is being made to secure any workings which have to be closed so that they may be re-opened with the minimum of trouble and expense.

Some difficulty was experienced in obtaining a supply of winding ropes, but this has been overcome. All new ropes are now of Australian make and are giving excellent service. The supply is now equal to the demand.

The supply of explosives appears to be sufficient and up to standard quality.

The firewood supply is giving rise to some uneasiness. Stocks are low and labour short and restless, preventing the building up of reserves. A run of bad weather might cause a definite shortage at any time.

Lake View and Star, Limited, mined and treated 402,071 tons for a return of 127,149 fine ounces, or 6·32 dwt. per ton.

At the Ivanhoe shaft, stoping and development were carried on to the No. 27 level, while 300 feet of development was done at Nos. 15, 18, 19 and 21 levels.

On No. 2 lode, 145 feet of driving was done on No. 18 level in payable values, off the west crosscut.

Work at this shaft was discontinued and the shaft closed down early in September.

The average amount of ore pulled was about 9,000 tons of Ivanhoe ore and 6,000 tons of Horseshoe ore per month.

Horseshoe-Chaffers Section.

The Horseshoe No. 2 and Hannan's Star shafts were closed during the year. A little work is proceeding in both mines and any ore produced is being hauled up Chaffers shaft.

No further sinking was done on the internal shaft.

On No. 2 lode a small amount of driving was done on Nos. 11, 14, 15, 17, 24, 26, 27 and 29 levels. Altogether 1,500 feet of development was completed, principally winze sinking. A considerable amount of stoping was carried out on this lode.

The most outstanding development consisted of 187 feet of driving on the 24 level assaying 11·3 dwt. over 61 inches.

Very little work was done on Nos. 3 and 4 Lodes.

Stoping on the Hannan's Star is yielding about 1,500 tons monthly.

Ore hauled through Chaffers shaft amounts to about 14,000 tons monthly.

Lake View Shaft.

Practically the only development on this section was off the internal shaft below No. 23 level. A crosscut was put out west for 142 feet and 170 feet of driving north in low grade ore was done. The rich values cut in the crosscut from the Great Boulder workings (mentioned in my last two Annual Reports) are now being developed, but a considerable amount of work remains to be carried out in order to prove the extent of such ore.

Some 6,000 tons of ore are pulled from this shaft monthly.

At the Associated shaft the principal development for the year was on the No. 2 Lode at the 300-ft. level, where a drive was pushed out to the Kalgurli boundary in good grade ore over a width of 6 feet.

On the Australia East lode 200 feet of driving in good values was completed at the 600-ft. level.

A chain of ore passes has been completed to the No. 18 level through which all ore will be dropped to the No. 18 bin.

The shaft is being reconditioned below the No. 17 level and when it is completed to the No. 18 horizon it will be in good order through to the surface.

No stoping was done below No. 10 level, owing to labour shortage.

Development in this section, though on a comparatively small scale, continues to open up ore of a good grade.

Ore reserves of Lake View and Star, Limited, as computed at 30th June, amounted to 4,200,000 tons of an estimated grade of 5.05 dwt. per ton, showing an increase of 69,000 tons on the previous year's figures, but a decrease in grade of .12 dwt.

The Chaffers retreatment plant treated 807,554 tons of tailings for a recovery of 15,989 fine ounces.

Minor improvements in the treatment plant have resulted in increasing the overall recovery to 90.5%. Costs increased by .8d. per ton owing to the reduced tonnage handled and higher taxation.

Great Boulder Pty., Limited, mined and treated 328,277 tons for 81,057 fine ounces, a yield of 4.94 dwt. per ton.

Following is a brief description of the year's operations:—

Hamilton Shaft Workings.

No. 2 Ivanhoe (Ash Lode).—On the No. 12 level, 300 feet of driving was carried out. Of this 200 feet was in good values.

At No. 18 level, 300 feet of driving was done, approximately one half of which was in payable values.

At No. 2 Winze (Internal Shaft), a plat was cut at No. 31 level and 80 feet of crosscutting done. No ore had been intersected to that point.

At the 2,950-ft. level 100 feet of crosscutting and 100 feet of driving were done in payable values.

Some development was also carried out at Nos. 24 and 26 levels.

No. 10 Lode (Conroy's).—At No. 11 level 100 feet of driving was done in 8 dwt. ore. This work may be of importance, as it shows the Conroy lode on the west of the big "Fault C."

Approximately 8,000 tons of ore per month are pulled through Hamilton Shaft.

Main Shaft Workings.

On the Eastern Series 150 feet of driving north was done on the X lode on the 900-ft. level, in good values. No development was done below the 1,400-ft. level.

On the Western Series the following development took place:—

(a) On the 1,400-ft. level 130 feet was driven north on the Ivanhoe East lode to the limit of the shoot, in ore of good grade.

(b) On the 1,600-ft. level, driving on the main lode was extended 100 feet north in good ore, and a winze was sunk to the 1,750-ft. horizon.

(c) On the 1,900-ft. level 150 feet was driven north in fair values.

Some minor development was also carried out and stoping operations took place on most levels.

Lane Shaft.

Some extensions were carried on at the 100-ft. level and a crosscut at the 1,200-ft. level cut the No. 3 East lode. A moderate amount of stoping was done.

General.

The oxidised workings continued to supply high grade ore at the normal monthly rate of 3,000 tons.

Generally, the year's operations must be considered satisfactory when labour and other conditions are taken into consideration and developments were very pleasing.

Stope Filling.

Interesting experiments in stope filling with flotation tailings are being carried out, similar to the practice at the Triton Mine. The flotation tails at 60% + 200 mesh are thickened to 65% solids. The stope is prepared for the initial layer of fill by laying canvas on the packed rock and packing the manway and ore pass cribbing with old sacking. The fill is run through a 2in. pipe, allowed to settle and the liquid drawn off. These tailings set in 48 hours sufficiently for ore breaking operations to be resumed.

Some difficulty was experienced at the outset with leakage through broken rock and pass cribbing, but this was overcome by the use of the canvas and bagging. Leakage through broken rock ceases when one layer of fill is in place. No trouble has been experienced with the water which is run away to a settling dam and pumped to the surface.

When this system is perfected it is hoped to fill the stopes at one quarter of the cost of dry fill. So far, 1,472 dry tons have been run into a stope at the 2,200-ft. level at the rate of 25 tons of solids per hour and no trouble has been experienced. The results are being watched keenly in the district.

Gold Mines of Kalgoorlie, Limited, mined and treated 132,651 tons for a recovery of 30,278 fine ounces of gold, an average yield of 4.56 dwt. per ton.

Hereunder is a brief outline of operations on the various sections of this property:—

Iron Duke.—Stoping operations were carried out to the No. 10 level. A fair development was met with on the Blatchford lode, near the Hinchcliffe lode at that horizon.

On the Cygnet and Brown Hill leases operations consisted principally of stope preparation on Nos. 8 and 9 levels.

Australia East.—Development on Nos. 3 to 7 levels was productive of fair results. The open cut is supplying up to 6,000 tons monthly to the mill.

New North Boulder.—Very little work was done down to the 469-ft. horizon. It is intended to dewater the shaft, which is 1,300 feet deep, and crosscut west at Nos. 10 and 12 levels to prospect the country in the vicinity of the Oroya shoot.

Oroya Shaft.—Development on Nos. 7, 11, 13 and 15 levels gave encouraging results.

Blue Gap.—Development continued without any important results and stoping operations proceeded on the various lodes and crosslodes.

Lake View South.—Some crosscutting was done in low but payable values and stoping continued. Production from this mine, which has been recorded separately and is not included in the figures above, was 3,469 fine ounces from the treatment of 12,215 tons, an average yield of 5.68 dwt. per ton.

Ore reserves at this group of mines were computed in March at 610,000 tons at 5.0 dwt. per ton.

North Kalgurli (1912), *Limited,* mined and treated 122,976 tons for a recovery of 43,137 fine ounces, an average of 7.02 dwt. per ton, including 7,488 tons for 2,172 ounces from the Croesus Proprietary section.

The Kalgurli shaft was equipped with a new steel head-frame.

Little development was done on the Kalgurli lease. The Australia East lode enters and crosses this lease at the south-west corner and 450 feet of driving was done here in good values at Nos. 4, 5 and 6 levels.

Ore breaking was carried out on most levels and on the N.E.D. series which still contains a lot of broken ore reserves.

In the North Kalgurli lease, which is now worked from the Kalgurli shaft, the north drive off the east crosscut at the No. 14 level was extended 50 feet and cut the high values disclosed by diamond drilling and reported in my 1941 Annual Report. Some stripping was carried out in values above the average.

TABLE E.

Classification of Gold Output for 1942, *by Goldfields and Districts.*

Goldfield or District.	Unclassified, Sundry Claims, Alluvial, etc. (fine ozs.)	Under 100 ozs.		100–500 ozs.		500–1,000 ozs.		1,000–2,000 ozs.		2,000–3,000 ozs.		3,000–4,000 ozs.		4,000–5,000 ozs.		5,000–10,000 ozs.		10,000–20,000 ozs.		20,000–30,000 ozs.		30,000–40,000 ozs.		40,000–50,000 ozs.		50,000–100,000 ozs.		Over 100,000 ozs.	
		No. of Producers.	Gold (fine ozs.).	No. of Producers.	Gold (fine ozs.).	No. of Producers.	Gold (fine ozs.).	No. of Producers.	Gold (fine ozs.).	No. of Producers.	Gold (fine ozs.).	No. of Producers.	Gold (fine ozs.).	No. of Producers.	Gold (fine ozs.).	No. of Producers.	Gold (fine ozs.).	No. of Producers.	Gold (fine ozs.).	No. of Producers.	Gold (fine ozs.).	No. of Producers.	Gold (fine ozs.).	No. of Producers.	Gold (fine ozs.).	No. of Producers.	Gold (fine ozs.).	No. of Producers.	Gold (fine ozs.).
Kimberley Goldfield	510	6	81	1	377	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Pilbara Goldfield—																													
Marble Bar	548	15	441	7	1,579	....	....	....	....	....	....	....	....	....	....	....	....	1	13,324	....	....	....	....	....	....	....	....	....	....
Nullagine	330	7	245	3	434	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Ashburton Goldfield	43	1	35	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Peak Hill Goldfield	72	10	280	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
East Murchison Goldfield—																													
Lawlers	169	5	166	1	236	....	....	1	1,950	....	....	....	....	....	....	1	7,792	....	....	....	....	....	....	....	....	....	....	....	....
Wiluna	270	8	201	2	575	1	618	....	....	....	....	....	....	....	....	....	....	....	....	1	24,798	....	....	....	....	1	65,738	....	....
Black Range	53	6	207	5	1,324	....	....	....	....	1	2,825	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Murchison Goldfield—																													
Cue	802	8	322	2	538	1	758	....	....	....	....	....	....	....	....	....	....	1	10,391	....	....	....	....	1	46,117	....	....	....	....
Meekatharra	561	15	508	11	2,590	2	1,125	1	1,050	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Day Dawn	333	3	125	1	126	1	786	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Mt. Magnet	372	18	573	4	1,204	4	3,662	2	2,971	....	....	....	....	....	....	....	....	1	11,533	....	....	....	....	....	....	....	....	....	....
Yalgoo Goldfield	165	14	485	5	1,496	....	....	1	1,452	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Mt. Margaret Goldfield—																													
Mt. Morgans	1,428	14	338	5	1,285	3	2,016	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Mt. Malcolm	238	8	230	4	1,252	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	31,135	....	....	....	....	....	....
Mt. Margaret	827	12	363	6	1,304	1	536	....	....	....	....	1	3,236	1	4,876	....	....	....	....	....	....	....	....	....	....	....	....	....	....
North Coolgardie Goldfield—																													
Menzies	381	11	454	6	1,415	1	771	....	....	....	....	2	7,258	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Ularring	250	10	452	4	867	1	812	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Niagara	224	8	199	1	208	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Yerilla	82	4	95	2	614	....	....	....	....	....	....	....	....	1	4,888	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Broad Arrow Goldfield	981	25	591	6	1,346	2	1,300	....	....	....	....	....	....	....	....	1	5,262	....	....	....	....	....	....	....	....	....	....	....	....
North-East Coolgardie Goldfield—																													
Kanowna	118	5	214	1	393	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Kurnalpi	117	1	5	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
East Coolgardie Goldfield—																													
East Coolgardie	1,735	21	535	16	3,215	2	1,257	....	....	1	2,172	2	6,505	....	....	1	5,762	3	47,238	2	44,881	2	63,035	1	40,965	1	81,057	1	127,149
Bulong	67	1	40	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Coolgardie Goldfield—																													
Coolgardie	829	27	845	7	1,491	4	2,238	1	1,230	....	....	....	....	1	4,820	2	16,194	....	....	....	....	....	....	....	....	....	....	....	....
Kunanalling	172	7	353	2	336	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Yilgarn Goldfield	594	42	1,505	22	4,578	3	1,812	2	2,776	2	4,695	....	....	1	4,448	2	14,114	....	....	....	....	....	....	....	....	....	....	....	....
Dundas Goldfield	501	12	483	4	656	1	562	1	1,517	....	....	....	....	....	....	....	....	1	18,731	....	....	1	39,994	....	....	....	....	....	....
Phillips River Goldfield	154	3	30	2	524	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
State Generally	180	3	168	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Totals	13,106	330	10,549	130	29,963	27	18,253	9	12,946	4	9,692	5	16,999	4	19,032	7	49,124	7	101,217	3	69,679	4	134,164	2	87,082	2	146,795	1	127,149

On No. 13 level a pilot winze, which will later form part of the main shaft, was sunk to the No. 14 horizon.

A drive was taken north-east for 130 feet and will be continued to cut a winze from the 960-ft. level sunk on a cross lode in the east lode series. This will be the first connection between the east and west lode series below the North Kalgurli shaft bottom at 962 feet below the surface.

The following operations were carried out on the east lode series:—

On the No. 4 level, 200 feet of driving was completed in patchy values.

At No. 5 level the north drive was continued a further 100 feet in good values. A winze was sunk to the No. 6 horizon for ventilation. A crosscut off the north drive, 300 feet in, was driven 120 feet west in a cross lode in high values over a width of 3 feet.

At No. 6 level the north drive was extended a further 40 feet in good values over a width of 5 feet, while 180 feet of driving was done on a lode at 214 feet north in the main east crosscut. This drive has now proved ore over a length of 300 feet, the width being as high as 15 feet.

At No. 7 level a winze was sunk to the No. 8 level in low values. A crosscut off the north drive at 180 feet north showed high grade ore and was extended for a distance of 70 feet west in high values. No prospecting for this cross lode was carried out at the No. 6 level.

At No. 8 level the north drive was driven 200 feet and stripped for the last 100 feet. The lode was 30 feet wide and assayed 8 dwt. per ton. The cross lode was developed for 100 feet to the west, showing an average width of 15 feet, worth 7 dwt. per ton. A winze was sunk at the west end of this lode to the No. 13 horizon.

Developments were excellent on this series and stoping continued on all levels.

The Croesus shaft was closed down in January, 1942, while the Union Jack was closed in April. The Croesus mine is kept drained and conditioned for future recommencement of mining operations.

Ore reserves at the end of the year were computed at 1,020,000 tons proved at 6·34 dwt. and 390,000 tons probable at 5·74 dwt. per ton.

Boulder Perseverance, Limited, treated 107,377 tons for a recovery of 32,757 fine ounces, the average yield being 6.10 dwt. per ton.

Work was carried out on most levels from the 200-ft. to the 2,200-ft. level. Labour shortage reduced the amount of development that could be undertaken, and ore breaking decreased very consderably.

The collapse of a level pillar on the 500 ft. level, Lake View Lode, over the back of a depleted shrinkage stope, started a run of old stope filling, which worked through to the surface at the position of the old open cut on such lode. The cavity was 100 ft. in diameter at the surface and extended to the 100 ft. level. No extensive damage was caused to the underground workings in use, and operations were not interrupted. Filling of the hole was in progress at the end of the year.

Kalgoorlie Enterprise, Limited, mined and treated 62,241 tons for 19,911 fine ounces of gold, the average yield being 6.40 dwt. per ton.

The Victoria Shaft was sunk 136 feet to a total depth of 2,176 feet. On the No. 19 level the main east crosscut was driven.

Development footage amounted to only a little more than one half of the previous year's total and was carried out mainly on Nos. 11, 13, 17 and 19 levels. Stoping operations were confined to Nos. 12, 13, 15 and 17 level.

The main ventilating fan was moved from No. 12 to No. 17 level, to include the lower levels in the principal ventilating circuit.

Some bursting of the pillar occurred below the No. 13 level on the Greenhill shoot, near the eastern boundary of the Enterprise lease.

On the Enterprise Extended lease, the old shaft was unwatered and three diamond drill holes bored from the crosscut at the 1,046-ft. horizon. Labour shortage prevented further work at this shaft.

South Kalgurli Consolidated, Limited, treated 75,470 tons for a return of 22,696 fine ounces, an average yield of 6.01 dwt. per ton.

At the Main and Morty's shafts stoping only was done on the cross lode at Nos. 15, 16 and 17 levels.

At No. 18 level a little development was done on No. 1 lode, while 200 feet of driving on the Lake View lode showed fair values over a width of 5 feet.

At No. 19 level a drive was put in along a diamond drill track to cut No. 2 cross lode. Stoping preparations were completed on the Lake View lode while No. 1 cross lode was prepared for timbering. Little ore can be extracted from this level until the shaft is sunk, which is not practicable at present.

At No. 16 level a south-west drive was driven in the Golden Cellar lease (Boulder Block) from No. 2 cross lode and cut the extension of a lode worked in Great Boulder ground. Ore worth 7 dwt. per ton was disclosed over a length of 75 feet and a further 50 feet was tested by diamond drilling.

At No. 14 level a drive north from the old cross lode in the Hainault section for a distance of 150 feet cut the Hainault cross lode in values.

In the Hainault Shaft, development and stoping were carried out down to the No. 9 level.

Ore reserves at 22/9/42 were reported as 181,000 tons at 4·94 dwt. per ton.

Paringa Mining and Exploration, Limited, crushed 83,798 tons for 22,185 fine ounces, the average yield being 5·29 dwt. per ton. This average is about ½ dwt. higher than the average grade for the previous four years.

The principal development consisted of opening up the East lode found in the 520-ft. level north shaft, which will eventually be developed on the 800-ft. level.

The shoot follows the contact of the quartz dolerite and the calc schist, pitching south at a flat angle and dipping east. Included in the ore reserves is 15,700 tons from this shoot having a value of 22.55 dwt. per ton over a stoping width of 8 ft., which materially increases the value of the reserves.

Very little other development was undertaken.

At the Paringa Extended and Block 45, the lode has been proved below the No. 4 level by sinking two winzes off which intermediate drives have been driven in fair values.

Ore reserves are given as 191,000 tons at 6·95 dwt. per ton.

Hannan's North (Broken Hill Pty., Ltd.) treated 38,939 tons for a return of 14,928 fine ounces, the average yield being 7.34 dwt. per ton.

The tonnage treated by this mine was almost normal, but the grade was about 1 dwt. lower than during the past two years.

Consolidated Gold Areas, N.L., at Hampton Plains crushed 22,195 tons for 5,762 fine ounces, averaging 5.19 dwt. per ton.

Recent developments, although necessarily curtailed, have been very satisfactory and have increased the average grade of ore reserves appreciably, as is evidenced by the fact that the average grade of ore treated is nearly 1 dwt. higher than in previous years.

Prospecting and small mining on this field, as on others, has fallen off considerably, the only other mine of note being the New Milano at Mt. Monger, which treated 7,675 tons for 3,036 fine ounces. Ore reserves are given as 33,000 tons, but the value is not stated. The total production from prospecting and other small mining activities was 6,742 fine ounces.

TABLE F.

Classification of Gold Output, 1938–1942.

Range of Output.	1942.			1941.			1940.			1939.			1938.		
	No. of Producers.	Production.	Percentage of Total.	No. of Producers.	Production.	Percentage of Total.	No. of Producers.	Production.	Percentage of Total.	No. of Producers.	Production.	Percentage of Total.	No. of Producers.	Production.	Percentage of Total.
Fine ozs.		fine ozs.			fine ozs.			fine ozs.			fine ozs.			fine ozs.	
Over 100.000	1	127,149	15·0	1	170,550	15·4	1	165,894	14·4	2	281,948	23·7	2	278,010	23·7
50,000–100,000	2	146,795	17·4	4	279,155	25·2	3	237,863	20·7	2	149,896	12·6	3	220,109	18·8
40,000– 50,000	2	87,082	10·3	3	131,557	11·9	3	137,651	11·9	2	95,093	8·0	2	86,650	7·4
30,000– 40,000	4	134,164	15·8	1	38,145	3·5	3	101,711	8·8	6	204,218	17·2	4	136,508	11·6
20,000– 30,000	3	69,679	8·2	6	146,278	13·2	7	166,613	14·4	5	124,818	10·5	5	128,267	10·9
10,000– 20,000	7	101,217	12·0	8	107,847	9·8	5	72,370	6·2	5	80,351	6·8	5	72,724	6·2
5,000– 10,000	7	49,124	5·8	9	62,514	5·6	13	99,321	8·7	8	55,115	4·6	9	62,797	5·4
4,000– 5,000	4	19,032	2·3	3	12,796	1·2	2	8,850	0·8	2	8,195	0·7	...	...	...
3,000– 4,000	5	16,999	2·0	5	16,992	1·5	3	10,950	0·9	7	24,450	2·1	5	17,093	1·5
2,000– 3,000	4	9,692	1·2	5	11,018	1·0	4	9,137	0·8	6	14,120	1·2	7	16,499	1·4
1,000– 2,000	9	12,946	1·5	19	27,040	2·4	19	26,932	2·3	20	29,500	2·5	21	28,195	2·4
500– 1,000	27	18,253	2·2	35	24,966	2·3	42	30,418	2·6	33	23,362	2·0	47	30,176	2·6
100– 500	130	29,963	3·5	180	41,730	3·8	193	43,007	3·7	203	46,358	3·9	202	43,922	3·7
Under 100	330	10,569	1·2	396	13,193	1·2	433	15,550	1·4	429	16,954	1·4	432	18,685	1·6
Sundry Claims, P.As., etc.	...	13,108	1·6	...	21,696	2·0	...	28,066	2·4	...	32,908	2·8	...	33,215	2·8
Total	535	845,772	100·0	675	1,105,477	100·0	731	1,154,843	100·0	730	1,188,286	100·0	744	1,172,950	100·0

Note.—Individual producers include private and State Battery cyanide treatment plants.

COOLGARDIE GOLDFIELD.

Consolidated Gold Mines of Coolgardie, Limited, mined and treated 43,169 tons of ore for a recovery of 8,252 fine ounces of gold, the average yield being 3·82 dwt. per ton.

Owing to shortage of labour this mine only worked at about half of its full capacity, and was unable to carry out its planned development programme. Development completed indicates that values met on the upper levels are being maintained at the 750-ft. level.

Phoenix Gold Mine, Limited, treated 28,214 tons for 7,942 fine ounces, averaging 5·63 dwt. per ton.

Little development was done and mining operations generally consisted of stoping only.

The shaft bottom is at the 1,400-ft. horizon. A winze was sunk below the 1,200-ft. level to the 1,350-ft. horizon and is reported to show good values.

A winding engine from Woolgar was installed during the year and is working satisfactorily.

Forty-one men are employed underground, working two shifts.

Spargo's Reward Gold Mine, N.L., treated 20,533 tons of ore for a return of 4,820 fine ounces, the average yield being lower than previous years at 4·69 dwt. per ton.

The plant operated satisfactorily for the year and residues were reduced to an average of 0.42 dwt. A secondary crusher, thickener, two agitators and a fine ore bin were purchased early in the year with the object of increasing the output and discarding the Huntington mills. The installation was not completed, owing to labour shortage.

A 300 h.p. National gas engine direct coupled to a 150 K.W. generator, was purchased as an assurance against failure of the fuel oil supplies. Storage capacity for fuel oil was increased by 5,800 gallons.

The main shaft was sunk 111 feet to a total depth of 422 feet and the 400-ft. level partly opened up. Ore won from this level to date totals 1,736 tons at 4·65 dwt. from development and 2,499 tons from stoping worth 6·71 dwts. per ton. The water channel passed through and sealed up between the 300 and 400-ft levels prevented stoping on any considerable scale.

In all, 867 feet of development has been completed on the 400-ft. level, mainly on the East lode.

Shortage of labour prevented development of No. 2 West lode on the 200, 300 and 400-ft. levels and of the West lode on the 400-ft. level.

Ore reserves are reported at 41,000 tons of which 15,000 tons is positive ore averaging 5·32 dwt., while the remaining 26,000 tons of probable ore averages 5·9 dwt. per ton. No ore has been included without an exposure at the depth to which the ore has been estimated.

The mine ceased operations on the 1st December, leaving only maintenance men working.

There are indications that another lode, or possibly a series of lodes, exists west of the No. 2 West lode, but exploration must of necessity be deferred until production recommences.

Lister's Mine, in the Paris district, treated 950 tons for the production of 1,230 fine ounces of gold. This mine also had tests made on its ore with the object in view of copper and pyrites production.

There were four other mines in the district which produced between 500 and 1,000 ounces, while nine produced between 100 and 500 ounces.

Prospecting on this field was dull and no discoveries of note were reported.

DUNDAS GOLDFIELD.

Central Norseman Gold Corporation, N.L., was the principal gold producer of the Dundas field, with a total recovery of 39,994 fine ounces from the treatment of 89,095 tons of ore. The average yield was 8·98 dwt. per ton.

Development consisted of 4,048 feet of driving, 124 feet crosscutting, 1,120 feet of rising and winzing and 6,175 feet of diamond drilling.

Connection of All Nations ventilation shaft to No. 16 level has been completed.

Driving north was continued on all levels from No. 14 to No. 22. The No. 14 level drive followed a narrowing reef with good values. On No. 18 level, payable ore was exposed in sections 35 to 39 and on No. 20 level from sections 31 to 36. On No. 22 level only one short section of ore was exposed in section 31.

A winze from No. 21 level at section 31 was sunk 381 feet on low grade quartz, while the winze from No. 22 level at section 21 a further 67 feet on the shear without exposing ore.

At the Hardy Norseman shaft, driving and crosscutting at the 400-ft. and 750-ft. levels have exposed small shoots of ore.

At the Princess Royal, headframe, winding engine and buildings have been erected at the Central shaft in readiness to re-open the mine when labour is available.

Diamond drilling for exploratory purposes was continued from Nos. 22 and 26 levels at the Ajax shaft, and short holes were put out at the Phoenix mine to assist development.

During the year the number of men employed decreased from 322 to 218 as follows:—

	December 1941.	December 1942.
Surface	94	63
Underground	196	134
Staff	32	21
	322	218

Norseman Gold Mines, N.L., mined and treated 80,428 tons of ore for a return of 18,731 fine ounces, an average yield of 4·66 dwt. per ton. Of this tonnage 6,422 tons valued at 2·79 dwt. per ton came from the Iron King Mine.

This company, in addition to gold production has taken a considerable interest in the production of strategic minerals.

A large pyritic lode on the Iron King Mine is being developed for the production of pyrite for use in fertiliser manufacture and has prospects of developing into a permanent producer of such commodity.

The increased price for tungsten, due to war demands, encouraged this company to undertake some development operations on the Higginsville scheelite deposits, upon which project some £1,300 was spent up to the end of the year.

Some work was also in hand towards the latter part of the year in exploring the possibilities of a copper deposit on Lake Dundas.

Working costs per ton for the year ending 31st December, 1942, excluding development expenditure were as follows:—

	Ore Extraction.	Treatment.	Total.
Norseman mine ..	22/11d.	11/8d.	34/7d.
Iron King Mine	8/1½d.	9/2½d.	17/4d.

Development carried out for the year may be tabulated as follows:—

	Norseman Mine.	Iron King Mine. Gold.	Iron King Mine. Pyrites.
	ft.	ft.	ft.
Shaft sinking ..	—	—	155
Driving	3,204	220	427
Crosscutting ..	37	87	110
Rising and winzing	1,134	225	221
Diamond drilling ..	1,757	49	3,316
Percussion drilling	—	320	822

Ore reserves at the 31st December were estimated as follows:—

Norseman Mine—268,000 short tons averaging 4·3 dwt.

Iron King Mine—333,000 short tons averaging 2·2 dwt.

TABLE G.—MINES PRODUCING 5,000 OUNCES AND UPWARDS PER ANNUM FOR THE PAST FIVE YEARS.

Mine.	1942.			1941.			1940.			1939			1938.		
	Tons.	Ounces Gold.	Dwt. per Ton.	Tons.	Ounces Gold.	Dwt. per Ton.	Tons.	Ounces Gold.	Dwt. per Ton.	Tons.	Ounces Gold.	Dwt. per Ton.	Tons.	Ounces Gold.	Dwt. per Ton.
Lake View and Star, Ltd.	402,071	127,149	6·32	618,191	170,550	5·52	591,671	165,894	5·61	604,340	171,623	5·68	566,749	172,703	6·09
Great Boulder Pty., Ltd.	328,277	81,057	4·94	392,779	93,216	4·75	417,298	97,141	4·66	358,364	110,325	6·16	276,430	97,232	7·04
Wiluna Gold Mines, Ltd.	548,226	65,738	2·40	568,900	72,586	2·55	583,516	86,732	2·97	581,245	90,169	3·10	594,739	105,307	3·54
Big Bell Mines, Ltd.	376,550	46,117	2·45	423,420	45,984	2·17	466,142	53,890	2·31	447,322	59,727	2·67	400,473	70,537	3·52
North Kalgurli (1912) Ltd.	115,488	40,965	7·09	140,911	45,415	6·44	135,957	45,674	6·72	139,205	49,476	7·11	135,135	52,340	7·75
North Kalgurli (Croesus Section)	7,488	2,172	5·80	65,450	14,025	4·27	*17,221	3,065	3·56	....	....	....	....	....	....
Central Norseman Gold Corporation, N.L.	89,085	39,994	8·98	121,212	53,913	8·89	98,799	34,626	7·01	88,313	35,255	7·98	71,117	17,691	4·98
Boulder Perseverance, Ltd.	107,377	32,757	6·10	121,313	38,145	6·29	111,996	36,103	6·45	114,589	37,681	6·58	111,824	40,958	7·32
The Sons of Gwalia, Ltd.	99,004	31,135	6·39	134,365	42,520	6·33	138,162	44,512	6·44	136,114	45,617	6·70	138,203	45,692	6·61
Gold Mines of Kalgoorlie, Ltd.	132,651	30,278	4·56	162,274	43,053	5·36	140,483	44,278	6·30	104,052	34,419	6·62	102,615	36,059	7·03
State Batteries	40,396	27,309	13·52	73,001	43,518	11·92	100,456	58,831	11·71	101,433	65,803	12·23	108,966	73,253	13·44
Moonlight Wiluna, Ltd.	113,791	24,798	4·36	105,881	26,141	4·94	106,467	26,735	5·07	95,805	26,816	5·60	132,407	35,972	5·43
South Kalgurli Consolidated, Ltd.	75,470	22,696	6·01	91,874	27,467	5·98	84,380	22,894	5·43	89,405	24,836	5·56	87,947	25,193	5·73
Paringa Mining and Exploration, Ltd.	83,798	22,185	5·29	92,289	22,460	4·87	92,000	21,206	4·61	79,676	18,749	4·77	40,939	9,804	4·79
Kalgoorlie Enterprise, Ltd.	62,241	19,911	6·40	70,806	22,495	6·35	66,424	20,953	6·31	59,336	19,274	6·49	39,594	12,592	6·36
Norseman Gold Mines, N.L.	80,428	18,731	4·66	138,813	26,220	3·78	152,289	25,906	3·40	123,404	31,406	5·03	79,250	27,692	7·00
Hannan's North (Broken Hill Pty., Ltd.)	38,939	14,298	7·34	40,444	16,211	8·26	40,018	16,828	8·41	37,162	17,022	9·16	30,224	12,617	8·35
Comet Gold Mines, Ltd.	12,977	13,324	20·54	15,844	12,221	17·32	10,901	8,027	14·73	5,872	5,564	18·95	4,996	6,563	26·27
Hill 50 Gold Mine, N.L.	39,068	11,533	5·90	30,863	10,688	6·93	26,065	9,802	7·52	24,764	7,912	6·39	24,424	5,569	4·56
Triton Gold Mine, N.L.	33,272	10,391	6·24	75,742	21,495	5·67	104,525	30,982	5·93	107,201	33,776	6·30	108,878	34,437	6·33
Yellowdine Gold Development, Ltd.	27,687	8,430	6·09	41,097	13,711	6·67	46,346	19,054	8·22	47,534	23,703	9·98	47,175	30,041	12·74
Consolidated Gold Mines of Coolgardie, Ltd.	43,169	8,252	3·82	72,507	13,175	3·63	69,086	12,857	3·72	43,106	8,764	4·07	....	....	....
Phoenix Gold Mines, Ltd.	28,214	7,942	5·63	33,831	9,631	5·69	24,282	7,329	6·03	....	....	....	....	....	....
Emu Gold Mines, Ltd.	30,827	7,792	5·06	18,484	3,119	3·37	47,050	11,941	5·07	48,452	12,649	5·21	48,370	11,952	4·94
Consolidated Gold Areas, Ltd.	22,195	5,762	5·19	31,152	6,642	4·26	34,377	7,315	4·26	....	....	....	....	....	....
Edna May Amalgamated Gold Mines, Ltd.	11,797	5,684	9·64	17,371	9,367	10·78	17,339	9,448	10·89	15,822	5,970	7·55	14,450	5,451	7·54
Ora Banda Amalgamated, N.L.	20,745	5,262	5·07	24,065	6,649	5·52	23,775	8,330	7·01	18,955	8,020	8·46	18,730	8,700	9·29
Gladiator Gold Mine, Ltd.	18,733	4,876	5·21	29,220	6,034	4·13	27,788	7,795	5·61	24,169	6,760	5·49	....	....	....
Spargo's Reward Gold Mine, N.L.	20,533	4,820	4·69	27,182	7,468	5·49	19,815	7,083	7·15	....	....	....	....	....	....
Evanston Gold Mine	9,959	4,448	8·95	15,284	6,219	8·01	11,352	8,391	14·78	....	....	....	....	....	....
First Hit Gold Mine, N.L.	5,624	3,849	13·69	7,760	5,397	13·91	8,065	5,570	13·81	7,949	5,034	12·67	7,794	5,728	14·68
Cox's Find (Western Mining Corporation, Ltd.)	5,636	3,236	11·48	21,890	12,397	11·33	19,116	9,200	9·63	17,615	12,657	14·37	17,985	17,872	19·87
Youanmi Gold Mines, Limited	3,893	2,825	14·51	73,858	17,023	4·61	85,017	22,569	5·31	77,221	20,696	5·36	75,160	20,396	5·43
Burbidge Gold Mines, N.L.	29,920	2,634	1·76	45,115	5,107	2·26	....	....	....	....	....	....	....	....	....
Blue Bird Gold Mines, N.L.	1,590	1,517	19·08	3,569	4,214	23·61	2,667	5,877	44·07	1,169	4,004	68·50	1,185	†8,277	†139·78
Lancefield (W.A.) Gold Mine, N.L.	....	....	....	....	....	....	49,179	11,690	4·75	128,343	32,041	4·99	101,176	29,612	5·85
Mt. Magnet Gold Mines, Limited	....	....	....	....	....	....	38,452	4,121	2·14	60,019	7,091	2·36	59,671	7,639	2·56
Riverina Gold Mines, Limited	....	....	....	....	....	....	....	....	....	2,424	932	7·69	15,812	5,166	6·53
Total	3,067,119	759,867	4·95	3,946,657	974,476	4·94	4,008,475	1,012,749	5·05	3,788,311	1,029,407	5·43	3,461,233	1,024,770	5·92
Other Sources (excluding large retreatment plants)	158,585	72,876	9·19	264,117	116,638	8·85	283,133	109,979	7·77	306,946	130,112	8·47	298,487	122,807	8·23
Total (excluding large treatment plants)	3,225,704	832,743	5·16	4,210,774	1,091,114	5·18	4,291,608	1,122,728	5·23	4,095,257	1,159,519	5·66	3,759,720	1,147,577	6·10
Golden Horseshoe Sands Retreatment	....	13,029	....	....	12,421	....	....	26,350	....	....	28,767	....	....	25,373	....
Morgans Sands Retreatment	....	....	....	....	1,942	....	....	5,765	....	....	....	....	....	....	....
GRAND TOTAL	3,225,704	845,772	5·24	4,210,774	1,105,477	5·25	4,291,608	1,154,843	5·38	4,095,257	1,188,286	5·80	3,759,720	1,172,950	6·24

* Tonnage from Croesus Section is for three months only. Prior to September, 1940, ore was treated at Kalgoorlie Ore Treatment Plant and was bulked with other North Kalgurli ore.

† Blue Bird output is included in State Battery figures and has not been included in the total. The yield shown from this mine is by amalgamation only.

Plant additions and alterations during the year comprised—

(1) Equipment of the Red, White and Blue shaft at the Iron King Mine for the production of pyrites, including headframe, ore bin, electric winder, pumps, etc.

(2) Equipment for mining scheelite at Higginsville.

(3) Underground plant for the Norseman Mine, including a mechanical loader, trucks, hoists, ventilating fans, etc.

(4) Treatment plant additions, including the installation of machinery for the preparation and distribution of lime, also new salt water tanks.

(5) Gas producer units for three trucks.

(6) House for metallurgist.

The foundry output for the year amounted to 47,402 lbs. of various castings and 315 tons of balls for ball mills.

The only other producer on the field requiring special note was the *Blue Bird Gold Mine, N.L.*, which produced 1,517 fine ounces from the treatment of 1,590 tons of ore.

YILGARN GOLDFIELD.

Edna May Amalgamated Gold Mines, N.L., treated 11,797 tons of ore for the recovery of 5,684 fine ounces, an average yield of 9.64 dwt. per ton.

Development footages for the year comprised 372 feet of driving, 627 feet crosscutting and 560 feet of rising and winzing.

The plat at No. 6 level (575-ft. horizon) at the new main shaft was cut and a pumping station equipped. Such station consists of two 2-stage centrifugal pumps, each of 850 gallons per minute capacity, delivering to the main pumps at the 426 ft. level.

Work has been confined largely to opening up the 575-ft. level, which is expected to yield a large tonnage of ore from the Edna May South, Middle, Consolidated and footwall ore bodies. None of these reefs had been opened up on this horizon at the end of the year although one or two exposures had been made.

Owing to the heavy flow of water along the 426-ft. level, winzing below this horizon cannot be undertaken until such time as the water is tapped on the level below. An attempt was made to sink a winze below this level on the Consolidated reef, but was flooded, after proceeding 67 feet, with the loss of the machine and other gear. The rate of inflow from a machine drill hole was estimated at 400 gallons per minute, the hole obviously having tapped a fissure leading to the main water channel. No increase in the total flow from the mine was noted.

Owing to the late delivery of pumping equipment and labour shortage, the opening up of the 575-ft. level was seriously delayed, with consequent heavy depletion of ore reserves. Figures for ore reserves are not available at the time of writing, but it is expected that production will be maintained on a reduced scale until ore becomes available from the new level.

Strategic Minerals.—Tests are being carried out on accumulated and current residues with the object of producing a concentrate of tungsten minerals known to exist in the ore.

Yellowdine Gold Development, Limited, mined and treated 27,687 tons for the recovery of 8,430 fine ounces, an average yield of 6.09 dwt. per ton.

Development was very restricted consisting of only 412 feet of driving, 82 feet of rising and winzing and 2,010 feet of diamond drilling.

No developments or occurrences of special moment were reported to the Department for the year and apparently routine operations were continued with a depleted staff.

Evanston Gold Mine treated 9,959 tons of ore for a return of 4,448 fine ounces of gold, the average yield being 8.95 dwt. per ton.

Some trouble was experienced during the year owing to falls of ground. The ore body, which is very flat, is, as mentioned in previous reports, worked on a system similar to the "pillar and bord" system in use in the Collie coal mines. While this system is adhered to, provided sufficient pillars are left, the workings are safe, but a considerable quantity of high grade ore is left as pillars. Such pillars, or a large proportion, can eventually be recovered in retreating when the end of the ore body is reached. Some pillars, however, were apparently removed and timber bulkheads substituted, which were either improperly constructed or insufficiently strong to carry the weight of the overburden, and an extensive fall took place, signs of subsidence being evident on the surface and threatening some of the buildings.

In flat ore bodies such as this the greatest care should be taken to leave ample pillars as support. Such pillars are always ore in reserve and their removal, except as a general policy in retreating after the boundary of the ore body is reached, is liable to result in the loss of a large portion, or possibly the whole of the mine.

Burbidge Gold Mine, N.L., treated 29,920 tons of ore for the recovery of 2,634 fine ounces, the average yield being the rather remarkable figure of 1.76 dwt. per ton. The operations of this mine illustrate very strikingly what may be accomplished with low grade surface deposits by up to date mechanised methods. Unfortunately the manpower position, which had become very serious at the end of the year, was responsible for the cessation of operations early in the current year.

Sterling Gold Mines, N.L., produced 2,061 fine ounces from the treatment of 4,608 tons of ore, the average extraction being 8.94 dwt. per ton.

Very wet conditions prevail in the main shaft.

Little or no development has been carried out for the year and the manpower position had reached the stage towards the close of the year where the management had recommended the suspension of operations.

Edwards' Reward Gold Mine treated 2,775 tons for a return of 1,608 fine ounces, an average yield of 11.59 dwt. per ton.

Good values are being obtained in stopes working above the 300-ft. level at the north and south ends of the ore channel.

The water supply problem appears to have been overcome, at least temporarily, owing to good rains and the construction of a second dam. A good supply of water for mill purposes is also obtained from a winze sunk below the 300-ft. level.

The Rising Sun Mine produced 1,168 fine ounces from the treatment of 6,899 tons of ore, averaging 3.39 dwt. per ton.

The Radio Mine treated 734 tons for the recovery of 707 fine ounces, averaging 19.26 dwt. per ton.

In addition to the above-mentioned mines, there were two other producers of between 500 and 1,000 ounces and 20 small shows yielding between 100 and 500 fine ounces of gold for the year on this field.

NORTH-EAST COOLGARDIE GOLDFIELD.

Mining operations on this field produced a total of only 847 fine ounces and there was no development calling for special comment.

BROAD ARROW GOLDFIELD.

Ora Banda Amalgamated, N.L., mined and treated 20,745 tons for a return of 5,262 fine ounces, an average yield of 5.07 dwt. per ton.

Operations were continuous throughout the year and most of the underground work was carried out on Hall's lease from the new shaft at the 500-ft. and 600-ft. levels. At Nicholson's shaft work was confined to the 600-ft. level, where satisfactory values were encountered.

Despite the difficulty of securing adequate labour, the mill throughput dropped only 18%, which must be considered satisfactory under the circumstances.

TABLE H.

Development Footages reported by Principal Mines for 1942.

Goldfield.	Mine.	Shaft Sinking.	Driving.	Cross-cutting.	Rising and Winzing.	Diamond Drilling.	Total.
		feet.	feet.	feet.	feet.	feet.	feet.
Pilbara	Comet Gold Mines, Ltd.	...	...	...	...	...	...
East Murchison	Wiluna Gold Mines, Ltd.	...	4,801	555	2,579	71	8,006
	Moonlight Wiluna Gold Mines, Ltd. ...	...	255	83	369	...	707
Murchison ...	Triton Gold Mines, N.L.	...	120	...	...	1,143	1,263
	Big Bell Mines, Ltd.	53	3,880	1,960	2,230	862	8,985
	Hill 50 Gold Mine, N.L.	...	...	...	126	2,399	2,525
Mt. Margaret ...	Sons of Gwalia, Limited	44	731	627	772	1,899	4,073
	Gladiator Gold Mine, Limited	...	494	...	294	...	788
North Coolgardie	Mt. Ida Gold Mines, N.L.	...	112	...	50	...	162
	First Hit Gold Mine, N.L.	...	411	172	435	...	1,018
East Coolgardie	Lake View and Star, Limited	...	4,012	1,573	4,152	7,087	16,824
	Great Boulder Pty., Ltd.	...	3,800	912	2,814	5,204	12,730
	North Kalgurli (1912), Limited ...	...	3,374	1,097	853	6,017	11,341
	Gold Mines of Kalgoorlie, Limited ...	...	2,205	914	1,028	3,719	7,866
	Boulder Perseverance, Limited ...	...	1,139	108	1,455	8,503	11,205
	South Kalgurli Consolidated, Limited ...	...	1,901	1,336	746	4,444	8,427
	Kalgoorlie Enterprise, Limited	137	1,226	415	971	4,767	7,516
	Paringa Mining and Exploration, Limited	...	1,505	650	469	...	2,624
	Hannan's North (Broken Hill Pty., Ltd.)	...	543	186	323	1,396	2,451
	Consolidated Gold Areas, N.L. ...	...	110	...	234	70	414
	New Milano Gold Mine, N.L.	...	240	45	50	...	335
Coolgardie ...	Consolidated Gold Mines of Coolgardie, Ltd.	...	194	11	123	...	328
	Phoenix Gold Mines, Ltd.	...	...	...	82	...	82
	Spargo's Reward Gold Mine, N.L. ...	111	846	336	421	...	1,714
Yilgarn ...	Yellowdine Gold Development, Limited	...	412	...	82	2,010	2,504
	Edna May Amalgamated Gold Mines, Limited	...	372	627	560	...	1,559
Dundas ...	Central Norseman Gold Corporation, N.L.	...	4,048	124	1,120	6,175	11,467
	Norseman Gold Mines, N.L. (including Iron King)	155	3,631	147	1,355	5,895	11,183

Ora Banda United Mines, Limited, were engaged during practically the whole of the year on plant erection, including the slackline equipment for open cutting and disposal of residues.

Prospecting and small mining operations on this field were responsible for the production of 4,218 fine ounces of gold for the year.

NORTH COOLGARDIE GOLDFIELD.

Yerilla District.

The principal producer in this district was the *Porphyry Gold Mine, N.L.,* which treated 38,868 tons for 4,888 fine ounces, an average yield of 2.51 dwt. per ton.

This mine was first worked on the open cut system, but during the past year a change was made. The ore lies very flat and when the depth of the open cut workings reached about 40 feet, an open stope was worked, leaving pillars to support the hanging wall. All ore is pulled out by motor trucks and tipped into the main bin, feeding a rock crusher. From the crusher it is fed by belt conveyor through a secondary crusher and thence to a fine ore storage bin, whence it is drawn to feed a tube mill.

Yilgangie Queen.—This rich small mine, which was recently acquired by the Western Mining Corporation, has closed for the duration of the war, only a caretaker being left in charge. Up till June, when operations ceased, 397 tons were treated for a return of 358 fine ounces of gold.

Insufficient development has been carried out on this mine for a reliable estimate of ore reserves to be computed.

The average number of men employed was seven.

Niagara District.

The total production from this district reached only 631 fine ounces and there is nothing warranting special comment.

Ularring District.

There was some prospecting activity in the Morley's Find area, the "First Hit" being the most prominent producer with 812 fine ounces from 208 tons of ore. This small show is not to be confused with the First Hit Gold Mine. N.L., in the Menzies district.

The Callion Gold Mine, owned by the Western Mining Corporation, is reported to have had promising developments, but was forced to close down in April owing to shortage of labour.

Development figures for the year are as follows:—259 feet of driving, 40 feet of crosscutting and 52 feet of rising and winzing.

No ore was treated and no ore reserve figures are available

Menzies District.

The principal producer of this district was again the *First Hit Gold Mine, N.L.,* which treated 5,624 tons for a return of 3,849 fine ounces, averaging 13.69 dwt. per ton.

Development work completed comprised 411 feet of driving, 172 feet crosscutting and 435 feet of rising and winzing.

The average number of men employed was 23.

Mt. Ida Gold Mines, N.L. worked throughout the year in the face of serious labour difficulties and treated 6,928 tons for 3,409 fine ounces recovery, the average recovered grade being 9.26 dwt. per ton.

Development carried out consisted of 112 feet of driving and 50 feet of rising and winzing.

This mine, under normal conditions, shows prospects of becoming a steady producer. The proved length of ore is 600 feet with an average width of 42 inches. The ore reserve position, as computed, is satisfactory.

A 50 h.p. Crossley engine with a direct coupled "Sentinel" compressor were removed from the Forrest Belle lease and installed on the Timoni lease. A 5,000 gallon oil storage container was also installed.

The average number of men employed was 38.

MOUNT MARGARET GOLDFIELD.

MOUNT MALCOLM DISTRICT.

The *Sons of Gwalia, Limited,* working on a restricted scale, mined and treated 99,004 tons for a return of 31,135 fine ounces, the average yield, at 6·39 dwt. per ton remaining as consistent as usual on this mine.

The internal shaft was sunk another 44 feet, and other development consisted of 731 feet of driving, 627 feet of crosscutting, 772 feet of rising and winzing and 1,899 feet of diamond drilling. Although such developmental footage is on a considerably reduced scale compared with normal operations, development generally is still well ahead of stoping.

No. 30 level is well developed although preparatory timbering for stoping operations has not yet been put in hand.

A considerable amount of driving and crosscutting has been carried out on No. 31 level, and the values encountered are well up to expectations.

An automatic control gear has been fitted to the pumps on Nos. 7 and 10 levels.

On the surface the swimming pool has been completed and a new garage and several smaller buildings erected.

Values met with in the bottom levels promise continued prosperity to this mine when normal conditions are reached again.

This mine produced 95% of the gold won in this district and no other mine warrants special mention.

MOUNT MARGARET DISTRICT.

Gladiator Gold Mine, Limited, treated 18,733 tons for a return of 4,876 fine ounces, an average yield of 5·21 dwt. per ton. Development work carried out consisted of 494 feet of driving and 294 feet of rising and winzing.

Owing to the general unfavourable conditions, this mine was forced to close down at the end of September. Four men are employed on maintenance with the object of keeping the mine in good shape to continue operations as soon as conditions improve.

Cox's Find Gold Mine (Western Mining Corporation, Ltd.) operated until 22nd June, when it closed down permanently owing to the exhaustion of the ore and failure to locate payable extensions of the ore body.

The plant was taken over for distribution among various essential industries.

Ore treated for the portion of the year worked amounted to 5,636 tons and returned 3,236 fine ounces, averaging 11·48 dwt. per ton.

It is rather interesting to note that this mine, which started production in 1936 and is now abandoned, has reported 75,816 fine ounces from the treatment of 106,009 tons, averaging 14·3 dwt. per ton.

The permanent closing of this mine following that of the Lancefield in 1940 is a serious loss to the district generally.

Small mining in this district produced about 3,000 ounces of which *Lancefield West Extended* was responsible for 536 ounces, while the rich *Boomerang Mine* at Burtville yielded 441 ounces from 56 tons of ore treated.

MOUNT MORGANS DISTRICT.

The *Morgan's Gold Mine,* which was held on tribute, won 650 fine ounces from the treatment of 1,701 tons and then ceased operations.

Apart from this, there was little activity in either the Mt. Morgans or Murrin areas.

At Linden small operators and prospectors were still fairly active, the *North Democrat Mine* being the biggest producer with 643 ounces from 293 tons.

The total yield from the whole district was 5,067 ounces.

EAST MURCHISON GOLDFIELD.

LAWLERS DISTRICT.

Emu Gold Mines, Limited, at Agnew, the principal producer of this district, had a better year than in 1941, when, it will be remembered, production was restricted by a large inflow of water to the workings.

Ore treated amounted to 30,827 tons for a recovery of 7,792 fine ounces of gold, an average yield of 5·06 dwt. per ton.

Manpower difficulties on this mine are illustrated by the fact that, whereas 140 men used to be employed, the average number is now reduced to 60. Difficulties were also experienced in securing the necessary firewood for fuel owing to the shortage of wood cutters. As a result of such shortage a considerable reduction from normal output took place and development work was also seriously affected; most of the work being concentrated on the footwall lode and the hanging wall lode on No. 9 level.

Owing to manpower shortage the Company has not yet been able to start on its programme of sinking an internal shaft below No. 9 level (933 feet vertical depth).

Westralian Tailings Treatment, Limited, was the only other producer of note in this district. This Company produced 1,950 fine ounces of gold from the treatment of the old Bellevue tailings dump. Some experimental work was also carried out with the object of extracting the copper from these tailings by precipitation on scrap iron. Very little copper production had been reported by the end of the year.

Apart from the above-mentioned producers, 571 fine ounces were reported from small operators in the district.

WILUNA DISTRICT.

Wiluna Gold Mines, Limited, mined and treated 548,226 tons for the production of 65,738 fine ounces of gold. The tonnage treated was comparatively little less than in previous years although the yield of the ore dropped to 2·40 dwt. per ton. Owing to the fact that this mine is a producer of strategic minerals in antimony and arsenic, it has been protected and has not felt the manpower shortage to the same extent as those companies mining gold alone.

Development compared with previous years was very restricted, consisting of 4,801 feet of driving, 555 feet crosscutting, 2,579 feet rising and winzing and 71 feet diamond drilling.

No new ore bodies of importance were discovered for the year. The mill operated at an average monthly throughput of 45,700 tons and it is expected that operations will be continued throughout the present year at the same rate provided that men and materials are available. No new equipment was installed, but minor adjustments in metallurgical practice were made from time to time with beneficial results.

Ore reserves at December, 1942, were estimated at 596,000 tons at 3·2 dwt. per ton.

Moonlight Wiluna, Limited, treated 113,791 tons of ore for a return of 24,798 fine ounces of gold, the average yield being 4·36 dwt. per ton. As this mine was also protected on account of its antimony output, the production was comparable with previous years (see Table G).

Development footages reported consisted of 255 feet driving, 83 feet crosscutting and 369 feet rising and winzing. This work, however, should be classed as stope preparation only, no actual development having been carried out with the object of searching for or opening up new ore bodies or extensions of known ones. No new machinery was installed and no work was carried out on the Horseshoe leases.

The average number of men employed was 113, of whom 83 were employed underground.

Apart from these mines the total gold production for the district was only 1,664 fine ounces, only three producers exceeding 100 ounces for the period.

BLACK RANGE DISTRICT.

Operations in this area were on a greatly reduced scale. *Youanmi Gold Mines, Limited,* reported the production of 2,825 fine ounces from the treatment of 3,893 tons, obviously the result of cleaning up operations prior to the final and permanent closure of the mine.

Other production from the district was 1,584 fine ounces from small scale operators.

MURCHISON GOLDFIELD.

Cue District.

Triton Gold Mines, N.L., treated 33,272 tons of ore for a production of 10,391 fine ounces of gold, the average yield being 6·24 dwt. per ton. The manpower and supply problem became so acute that it was decided to suspend operations until after the war and the mine was closed on the 6th August. Government assistance was sought and granted to provide the necessary maintenance costs which are rather heavy on this mine owing to the weak nature of the ground and the fact that many of the stopes are filled with mill residues, which will be washed out if the water is allowed to rise.

The only development done consisted of 120 feet of driving and 1,143 feet of diamond drilling.

Ore reserves at the closure were estimated at 228,500 tons, but no figure was given for the value.

Big Bell Mines, Limited, mined and treated 376,550 tons for a gold output of 46,117 fine ounces, the average grade recovered being somewhat higher than the previous two years, at 2·45 dwt. per ton.

The reason for the somewhat higher recovery in dwt. per ton as compared with 1940 and 1941 is bound up in the percentage of ore mined from the glory holes and is not in any measure due to selective mining. The dilution in glory hole mining to date has been higher than in the sub-level mining, which is at yet in its early stages. In 1941 53% of the ore mined came from glory holes, compared with 4.9% in 1942.

Development figures reported for the year are 53 feet of shaft sinking, 3,880 feet driving, 1,960 feet crosscutting, 2,230 feet rising and winzing and 862 feet of diamond drilling.

It is interesting to note that in the ring blasting method adopted in the sub-level stoping, the total length of holes bored amounted to 87,904 feet, of which 28,518 feet were bored by diamond drill in the form of long blast holes.

The tonnage extracted for the year considerably exceeded the tonnage developed but, although no ore reserve figures are officially reported, it is understood that at least six years' supply at the normal rate of mining still remains in reserve.

The opening up of the 613-ft. level was started and, in addition to the main haulage crosscut, which was driven to the boundary of the ore body, excavations for pump station and sump, ore pocket, skip loading station and magazine were completed.

Prospecting and small mining operations in this district were carried on on a very small scale.

MEEKATHARRA DISTRICT.

The extent of the falling off of production in this district is indicated by the fact that the principal producer was the *Fenian,* with 1,050 fine ounces from the treatment of 2,304 tons.

Total production from the district was 5,834 fine ounces compared with 10,133 in 1941.

DAY DAWN DISTRICT.

The only production worthy of note was from the *Mountain View Mine,* which produced 786 fine ounces from 952 tons of ore. Apart from this there was only a little minor prospecting.

MOUNT MAGNET DISTRICT.

Hill 50 Gold Mine, N.L., was again the major producer for this district and actually increased its output over previous years, both in tonnage treated and gold won. The tonnage was 39,068 while the total gold recovery amounted to 11,533 fine ounces, an average yield of 5·90 dwt. per ton.

The only development work undertaken was 126 feet of rising and 2,399 feet of diamond drilling, while a further 457 feet of diamond drilling was carried out on the *Morning Star,* over which the company had an option.

New plant installed during the year comprised one 410 h.p. Crossley gas engine direct coupled to a 250 K.W. B.G.E. alternator.

Ore reserves at 30th June were reported as 254,485 long tons at 5·83 dwt. per ton, about six years ahead of the mill at the present rate of treatment.

The *Corona Mine* won 825 ounces from the treatment of 905 tons at its own mill, the output being slightly less than the previous year.

The *Edward Carson Mine* treated 1,140 tons for 1,043 fine ounces, a successful year for this small mine.

Moyagee had a successful year with a return of 1,928 fine ounces from the treatment of 1,700 tons of ore.

Metropolitan Mining and Development and Swan Bitter both ceased operations towards the end of the year, after producing 976 and 891 fine ounces respectively.

A number of smaller producers in the district had a total output of some 3,000 fine ounces.

YALGOO GOLDFIELD.

The *Carnation* at Payne's Find, in treating 1,494 tons for a recovery of 1,452 fine ounces, had a comparatively successful year, but apart from this one producer, activity on the field was very restricted, the total production reaching only 3,598 fine ounces. Towards the end of the year gold mining was almost dead, prospecting being confined to a few old pensioners.

PEAK HILL GOLDFIELD.

There is nothing of note to report from this field.

PILBARA GOLDFIELD.

Marble Bar District.

Comet Gold Mines, Limited, treated 12,977 tons of ore and retreated 5,590 tons of sands for a total recovery of 13,324 fine ounces, the average yield (based on ore treated only) being 20·54 dwt. per ton.

In spite of manpower shortage, development work has been carried out on both the Comet Mine proper and the McKinnon's Mine (Alexander lode).

On the latter lode at the No. 1 (137 ft.) level, a further 57 feet was driven east and 48 feet west, making a total length of ore exposed on No. 1 level 500 feet. On the No. 2 (269 feet) level driving was continued 77 feet east and 52 feet west, making the total length of ore exposed 420 feet. Nos. 1 and 2 levels were connected by two winzes.

In March considerable damage was caused to mine buildings by a cyclone, but the plant was not seriously affected. All buildings have since been replaced.

Normay Gold Mine.—It is reported that Australian Mining and Industrial Finance, Limited, have proved by diamond drilling the existence of a substantial ore body on the Normay Mine, some 40 miles west of Marble Bar. This Company has purchased the mine from the prospectors and proposes to commence development operations when conditions again become favourable.

Limited prospecting and small mining operations in this district resulted in the production of a further 2,668 fine ounces.

Nullagine District.

Blue Spec Gold Mine, N.L. is being assisted by the Commonwealth Government to develop and equip the mine for antimony and gold production. It is anticipated that very appreciable tonnages of antimony will be produced in addition to gold.

Production from this area totalled 1,009 fine ounces.

COAL MINING.

The total output of the Collie coalfield was 24,602 tons higher than in 1941, while the value appreciated by £72,216.

The individual outputs of the various mines for the two years were as follows:—

Mine.	1941.		1942.	
	Tons.	Value.	Tons.	Value.
		£A.		£A.
Proprietary	151,773	109,919	149,387	121,987
Co-operative	103,087	72,295	91,631	73,553
Cardiff	90,623	59,034	96,405	73,957
Stockton	120,987	84,559	135,032	106,181
Total, Amalgamated Collieries	466,470	325,807	472,455	375,678
Griffin	90,104	63,471	108,721	85,817
TOTAL	556,574	389,278	581,176	461,495

The average number of men employed was 825, compared with 778 in the previous year. Of this total 649 were underground workers, while 176 were employed on the surface, including the men in the central workshops.

The increase of 47 men employed was made up of 12 extra men underground and 35 on the surface.

Proprietary Mine.

The number of working places available for coal production at the end of December in this mine was 70, as compared with 73 at the end of 1941. The position here, however, is better than is indicated by these figures, as grading through the fault in No. 11 Section, which is almost completed, will make available immediately another 16 places, while new dip headings will be started in that area as soon as the water can be removed and a haulage system installed.

The installation of the main haulage in No. 10 Section was considerably delayed during the year and new winches are urgently required. Arrangements are being made for the supply of such winches. The provision of these winches and the reopening of No. 11 Section should substantially increase the output of the mine.

During the year the work of enlarging the overcast, to carry return air from the workings over the haulage road, has been effected, causing a satisfactory improvement in the ventilation of the mine.

Co-operative Mine.

The number of working places on this mine at the end of the year was 76, the same as at the corresponding period of the previous year.

The whole of the production has been from the area served by the five Right haulage road, and, although two shifts have been worked, the production has decreased by some 11,000 tons. Places on the west side of the haulage road are becoming fewer and failure to complete the unwatering and continuation of the main haulage road has become serious. The rise headings towards the main dip have been stopped until such time as the latter is unwatered.

Ventilation and the haulage system in this mine will not be satisfactory until the main dip connection is through. Apart from this matter, development has been fairly satisfactory.

Cardiff Mine.

The number of places in this mine has been reduced from 52 to 36, and the position is far from satisfactory. Development has proved that the main fault on the eastern side of the mine comes sharply round to the west, and many places have been lost on this account.

It is suggested that work should be commenced on the west side of the mine, opposite No. 8 flat, where recommended by the Royal Commission on Development in 1940 and where coal has been proved by boring.

Rise headings in the bottom of the mine have become so steep that it has become dangerous to transport the coal cutting machine along the road.

Boring from the surface is still in progress on this mine.

Stockton Mine.

The number of working places available at the end of December was 62, as against 57 in the previous year. In addition there are 12 places available in the "Pillar Section" where coal is being won by splitting pillars.

In the stone drive a place has been started where the top seam was encountered and it is intended to drive in such seam until the second fault is struck, when a further 1½ chains of stone drive will be required to get back on to the working seam.

A large area of coal ahead of the workings has been proved by boring, which is still in progress.

The pillar section in six left workings has been of great assistance in keeping up the output from this mine, the yield from pillar splitting operations being from 1,100 to 1,200 tons per fortnight.

Griffin Mine.

Working places on this mine at the end of December numbered 47, compared with 52 at the end of 1941. Some faces were temporarily unavailable, being under water owing to deficient pump capacity, extra pumps being unprocurable. These places will be available when the water is removed.

Several places in the northern part of the mine were cut off by faulting.

Places in the stone drive section are being driven towards the old workings in 6 east section with which they will eventually connect.

Development in this mine has been generally satisfactory, but has been somewhat hampered by the water problem and faulting in the stone drive and top sections.

Estimated developed coal reserves at the end of the year were as follows:—

	Tons.
Proprietary	1,142,000
Stockton	380,000
Co-operative	340,000
Cardiff	108,000
Griffin	278,000
Total	2,258,000

Additional coal proved by boring at Stockton was estimated at 380,000 tons.

MINERALS OTHER THAN GOLD AND COAL.

There has been considerable activity during the year in the search for those strategic minerals directly or indirectly required for defence purposes, but such activities have been hampered by the shortage of private capital to start any enterprise with a view to their exploitation, and particularly by the manpower problem and the difficulty of securing plant and supplies.

No effort has been spared by this Department to encourage and assist producers of such minerals, with the co-operation of the Commonwealth Department of Supply and Shipping.

The total value of mineral production other than gold and coal during the year was £178,186, compared with £157,433 for 1941.

Alunite.—Plant construction at Lake Campion got well under way during the year and it is anticipated that potash production will commence during the current year.

Antimony.—Wiluna Gold Mines, Limited, were again the major producers of antimony concentrates with 2,370 tons, valued at £60,068. Blue Spec, at Nullagine, produced 13 tons worth £169.

In view of the possible exhaustion of the Wiluna deposits in the not too remote future, a loan was granted to the Blue Spec Mine for development and plant in order to increase the production of gold antimony concentrates from that mine. All available information points to the existence of large quantities of antimony, associated with payable gold over a line some miles in length in the Blue Spec area, which is considered to be the logical successor to Wiluna as a source of antimony supply. In the past, the antimony in this ore has been regarded as a drawback, interfering with gold production, rather than an asset for exploitation, although several parcels of high grade antimony-gold ore were shipped overseas and marketed profitably. During the past three years, production by the Blue Spec company has been on a very limited scale, seriously hampered by scarcity of water and suitable labour, isolation and climatic conditions. It is considered that the water supply situation is now greatly improved and that the provision of social amenities and protection granted for the production of antimony will contribute largely to the solution of labour difficulties.

Arsenic.—Wiluna was the sole producer of arsenic during the year, the production being 2,727 tons valued at £57,267, the tonnage being 651 tons and the value £13,671 less than in 1941.

It is understood that the management of the Comet Mine at Marble Bar has made preparations for future arsenic production.

Asbestos.

Chrysotile.—There has been some activity shown during the past year in the production of chrysotile. In the absence, however, of suitable plants for the preparation of short fibre, on which any asbestos industry must be based, only the higher grades can be worked. Such work is somewhat comparable to gold production by dollying rich leaders. All chrysotile production in the State to date has been from the North-West Division and although many deposits have been worked on a small scale, and the asbestos is of excellent quality, no single deposit has yet been proved of sufficient size to warrant large scale activities. It must be pointed out in this regard, however, that little systematic development has been carried out and only those deposits exhibiting long and easily mined fibre at the surface have been touched.

It is suggested that a method to encourage production of this valuable mineral, which is imported into Australia each year in large quantities, would be the provision of small portable plants for the preliminary treatment of the ore from groups of small mines. A central processing plant conveniently located might follow in due course. There is an urgent Australian demand for all grades of chrysotile at present, and there should be an immediate post-war market for all of this material that can be produced at competitive prices.

The production of chrysotile for the year amounted to 11 tons valued at £550.

Crocidolite.—The L. G. Hancock Asbestos Company has been in active operation throughout the year, and in addition to sales has approximately 50 tons of milled fibre in store at Fremantle. This company's plant has been enlarged and improved, with departmental assistance, which has been reflected in the greatly improved quality of the milled fibre.

During the year the Colonial Sugar Refining Company, Limited, took an option over this company's plant and holdings, which it is anticipated will be exercised early in the current year. It is expected that the advent of such company into the field of asbestos production will give a great impetus to the efforts to establish the industry.

The Asbestos, Molybdenum and Tungsten Company, whose plant in Yampire Gorge has been lying idle for nearly four years, reconditioned the plant sufficiently to produce 10 tons of fibre and then closed down again. Towards the end of the year this company went into liquidation, and advertised the sale of the plant and approximately 1,600 acres of leases by public auction in January.

The Marramamba Leases held by the Lionel Chrysotile Asbestos Company, Limited, a subsidiary company of Australian Mines Management and Secretariate, Limited, have been held under exemption during the year and no work of any import has been done on them.

The total production of crocidolite for the year amounted to 84 tons valued at £4,949.

Anthophyllite and Allied Fibres.—A small parcel of 14 tons of somewhat mixed and inferior fibre valued at £139, was produced from Bindi Bindi with departmental assistance for the purpose of testing the market for this material. This parcel was taken from near the surface and was rather badly iron stained, but apparently was of value, as a repeat order was obtained by the producer.

There appears to be a considerable quantity of this material available at the deposit from which the parcel was won, and the market for it is apparently more extensive than has been hitherto supposed. The deposit warrants some prospecting at depth below the zone of surface weathering. It is easily mined and conveniently situated for transport, being only quarter of a mile from the railway and main road and two miles from the nearest siding.

Some anthophyllite fibre of considerable tensile strength has been found in this area.

Samples of similar fibre have also been received from a locality some 80 miles out of Southern Cross. The deposit is said to be extensive and the quality is good of its kind and free from surface iron stains. It has a somewhat better tensile strength than the Bindi Bindi surface material and when disintegrated forms a white woolly mass which should be very suitable for insulating purposes and for filters.

Total production from this class of asbestos for the year was 24 tons valued at £289.

Beryl.—Apart from the production of about 2 cwt. of beryl from a small and unpayable deposit in the Darling Range there was none of this mineral marketed during the year.

Some tons were collected at Yinnietharra on the Gascoyne River, but had not been shipped at the end of the year.

At both Yinnietharra and Wodgina it is anticipated that an appreciable quantity of this mineral will be collected during the current year as a by-product of the mining of mica and tantalite.

Bismuth.—No production was reported for the year, but it is likely that some small parcels may be won at Yinnietharra during the current year.

Copper.—Production of copper in the State totalled 7.8 tons for the year, valued at £738. The enhanced price of the metal led to several trial parcels being sent to Port Kembla for treatment, but freight charges are too high for any but high grade ore.

The experimental charcoal smelting furnace built by Messrs. Malloch Bros. for the Department and the trial smelt of some ore from Marble Bar and Ilgarere (Peak Hill Goldfield) early in the year created great interest.

The furnace was air cooled. It was designed by Mr. M. Philliphoff, who also supervised its construction. Overall dimensions were 3ft. 9in. x 3ft. 9in. x 9ft. 4in., and it was constructed of steel uplates bolted together and lined, the flue with ordinary brick and the furnace portion and crucible with firebrick.

About 3 tons of ore were smelted and the result of the smelt may be summarised as follows:—

Copper content by assay, 910.14 lbs.

Metallic copper recovered, 745.05 lbs. (pure Cu).

Recovery, 81.86%.

For a single trial this recovery may be regarded as very satisfactory.

The cost of smelting was not carefully kept, but appeared to be of the order of £10 per ton of ore treated. As the experiment was carried out at an inconveniently situated site, the available labour was totally inexperienced and charcoal and ironstone fluxing material were considerably more costly than would be the case under ordinary working conditions, such costs should be capable of considerable reduction.

The furnace was loaned by the Department to Messrs. Wehr Bros., of Marda, for a test under practical conditions. These men, who are very practical and energetic, had the advantage of the advice and assistance of the Senior Research Metallurgist of the W.A. School of Mines and gave the furnace a good try-out. Consider

able difficulty was experienced in freezing of the slag and a great amount of time was lost in pulling down and re-building the furnace on account of such freezing and the Wehr Bros. eventually decided that they were not prepared to continue operations with this type of plant.

It is possible that a furnace of this type with some slight structural alterations might be used profitably on small high grade copper shows, but the operators require to gain the necessary experience and a closer chemical control of operations is required than is available in most outback centres.

Following the experiment outlined above, a small water jacketed furnace, the principal parts of which were kindly donated by Wiluna Gold Mines, Limited, was assembled and erected at Ravensthorpe, with the object of encouraging production from the comparatively low grade gold-copper shows in that district. The plant erection was well in hand at the end of the year.

Emery was produced from the Richenda River deposits in the West Kimberley Goldfield to the amount of 13 tons valued at £130.

Felspar.—The production of felspar for the year totalled 3,251 tons valued at £9,734, all but 11 tons of which came from the Coolgardie area. The quantity mined fell 856 tons short of the figure for 1941. Production was hampered, it is understood, by manpower shortage.

Glauconite production totalled 260 tons valued at £6,500, an advance of 105 tons and £2,613 on the previous year's figures.

Graphite.—The production of 6 tons valued at £30 was reported from P.A. 805H in the Donnelly River area. At Munglinup in the Young River area, Perth Modelling Works have done some work on the known graphite deposits and have forwarded samples to the Kalgoorlie School of Mines for beneficiation tests. Preliminary tests indicate that a very satisfactory product may be obtained.

Iron.—The proposal to erect a plant for the production of charcoal iron was advanced considerably during the year. Several deposits of limonitic ironstone in the Darling Range were investigated and those at Coate's Siding and Wundowie were found suitable for the purpose. Preliminary designs and estimates have been prepared by the Department of Industrial Development, and a site for the plant has been selected adjacent to Wundowie Siding. It is hoped that it will be possible to commence plant construction during 1943.

Lead.—There was a small production of lead ore from Nabawa during the year. It is understood that such ore was mined in 1939 and was left at grass. Final details are not to hand at the time of writing. Mining is proceeding and further production may be anticipated.

Magnesite.—The only production reported was 25 tons valued at £100 from M.L. 87 at Coolgardie. This deposit shows promise as far as opened up and it is considered that regular and appreciable quantities could be mined should a market become available.

Mica.—During the year this Department was requested by the Department of Supply and Shipping to take whatever steps possible to encourage the production of mica—especially the better qualities known as clear and commercial clear. Prices fixed by the Prices Commission were considered too low to encourage prospective producers, and after representations by this Department through the Department of Supply and Shipping they were eventually raised by about 75%.

Samples forwarded from our various mica occurrences were of sufficient interest to the Commonwealth Government to cause them to send Mr. H. B. Owen, the Commonwealth mica expert, to examine such deposits, and on receipt of his favourable report, it was decided that a Commonwealth party should commence mining operations at Yinnietharra Station on the Gascoyne River.

Prior to Mr. Owen's visit, this Department assisted Mr. A. B. Thompson to go to Yinnietharra to break out a trial parcel. He produced in all 389 lbs. of prepared mica, valued at £115. This was the only reported production for the year.

Molybdenite.—In view of the enhanced price now offering for molybdenite, some thought has been given to mining the Mt. Mulgine deposits. At the old price it was considered that such deposits were too low grade to be profitably operated, but the price has now been doubled and it is possible that steps may be taken to bring the mine into production.

Pyrites.—Several investigations were undertaken to prove the feasibility or otherwise of replacing imported elemental sulphur, which is becoming increasingly difficult to obtain, by local pyrite. Consideration was given to various factors, such as

(a) Accessibility of deposit.
(b) Size of deposit and estimated output.
(c) Sulphur content.
(d) Cost of production.

Bores were sunk on the Great Victoria deposit at Burbidge, which showed that, while the lode was of substantial size, the material consisted largely of pyrrhotite of comparatively low sulphur content. A minimum of 40% S. was aimed at, which could not be obtained from this deposit. Also 30 miles of cartage was necessary before the ore could be placed on rail at Southern Cross.

Pyrite from Murrin had previously proved satisfactory, but rail haulage is rather long.

Norseman Gold Mines located a large deposit of pyrite at the Iron King Mine. The sulphur content was over 40% and tests showed that concentration would give a still higher grade. The mine is near the railway siding and cartage is therefore reduced to a minimum. An output can be maintained to meet all requirements and Norseman was therefore selected as the source of the State's pyrite requirements.

Production on a limited scale commenced in November and to the end of the year 368 tons were produced valued at £607.

Red Oxide.—Production from M.L. 370H in the Ophthalmia Range was 133 tons valued at £1,330, while M.C. 242H at Kendenup reported 10 tons valued at £30.

Silver.—Silver production, wholly as a by-product from the refining of gold, totalled 188.421 fine ozs. valued at £23,916.

Soapstone.—The production of 265 tons of soapstone, valued at £975, is interesting in that it may be the start of a new industry. With the exception of 10 tons it was all produced from the deposit situated on the agricultural holding of Mr. E. S. Mabey, of Bridgetown. The soapstone is quarried from the surface down in large boulders, which are hoisted to the surface and then cut into the required shapes and sizes at a saw bench. The first cut is made by a cross-cut saw worked by hand and the remaining shaping is done by circular saw. The sawn blocks are carefully crated for transport.

A large proportion of the product is rejected as scrap, especially as only a limited quantity of special sizes has been ordered.

Some investigations are in hand by the Department of Agriculture into the advisabilty of utilising ground soapstone in fertilisers, and outlets are being sought for its marketing in other directions.

The value reported for this material is presumably the value of the unprocessed material, as it would obviously be an unpayable proposition to market soapstone blocks cut to specified sizes for £3 13s. per ton.

Talc.—The production of 38 tons of talc valued at £57 was reported from the Mt. Monger mining centre.

Tantalite.—From Pilgangoora on the Pilbara Goldfield 68 tons was produced valued at £314, while 17 tons worth £157 was reported from Greenbushes. In addition several hundredweight was produced from the latter locality in cleaning tin concentrates, but the Ta_2O_5 content has not been determined at the time of writing and its value is unknown.

Arrangements have been made by the Commonwealth Government to re-open the tantalite mines at Wodgina in order to meet the shortage of this mineral.

Tin.—Tin production during 1942 totalled 23.41 tons of concentrate valued at £4,634. Of this total 10.7 tons came from the Pilbara Goldfield, while the remainder was won by sluicing at Greenbushes.

Departmental assistance was granted to Greenbushes Tin, Limited, to commence sluicing operations on the claim previously worked by the bucket dredge. It is anticipated that sluicing operations will commence early in 1943.

Tungsten.—The quantity of tungsten concentrate reported for the year was only ·324 ton of wolfram worth £116 and 1·153 tons of scheelite concentrate valued at £357.

Goldfields Australian Development, Limited, did some development work on their deposit at Comet Vale and developed a small tonnage of scheelite bearing material. A small tonnage mined was railed to the Coolgardie State Battery for treatment.

Norseman Gold Mines, N.L., commenced development operations on the scheelite leases at Higginsville.

J. L. Nevill, of Yalgoo, took up some scheelite leases at Melville and preliminary work indicates the possibility of a regular if comparatively small production. A crushing plant and Wilfley table were installed and an appreciable production is anticipated during the current year.

Tailings at the Edna May Amalgamated Gold Mine have been known for some time to carry tungsten values and tests by the Kalgoorlie School of Mines are in hand with the object of producing a concentrate of tungsten minerals from both accumulated and current tailings. It is confidently anticipated that appreciable quantities of such concentrate can be economically produced.

Vermiculute.—Production of 178 tons was reported, all from the Young River deposits, valued at £1,070. These figures show an increase of 18 tons and £108 on those for 1941. All this material is processed by the Perth Modelling Works.

Several newly discovered occurrences of this mineral have been reported to this office, but no samples were submitted or inspections made.

CONCLUDING REMARKS.

The decline of gold production during the past two years is entirely due to the influence of the war and, with one or two exceptions, not in any way due to the falling off in productivity of the mines themselves.

In view of the difficulties under which the industry laboured, the gold yield of 845,772 fine ounces and the treatment of 3,225,704 tons of ore cannot be regarded as anything but extremely satisfactory. The output per man employed was the highest ever recorded, being 23% higher than the previous year, which was itself a record, in both tonnage and value. While this fact was largely due to restriction of development and drawing on broken ore reserves, the performance is very creditable.

Although the average number of men employed in gold mining for the year was 8,123 the total number employed had fallen at the end of the year to about 6,000, or less than one half the average number employed during 1941, and still further reductions are anticipated during 1943.

While the incidence of war-caused disabilities has appeared particularly harsh on the gold mining industry, it has nevertheless to be faced. Where mines are forced to cease production on this account, every effort is being made to maintain them in such condition that they may resume production as speedily and effectively as possible when circumstances permit.

Mines which so closed during the year included Triton, Croesus, Spargo's Reward and Gladiator, while the Western Mining Corporation's mine at Cox's Find ceased operations owing to the exhaustion of the ore body.

A heavier demand for coal, combined with a shipping shortage which has hampered imports from New South Wales, has been responsible for a somewhat serious deficiency in supplies. Every avenue has been explored with a view to increasing production and arrangement has been made for increased mechanisation of the Collie mines during the current year.

A sustained effort is being made to encourage and foster the production of minerals other than gold and coal. Of the more urgently required strategic minerals, the Commonwealth Government has arranged for the working of the Wodgina tantalite and Yinnietharra mica, while at both places beryl will also be produced in appreciable quantity. The same authority is assisting the Blue Spec mine at Nullagine to get into regular production of antimony concentrate.

The advent of the Colonial Sugar Refining Company into asbestos production in the Hamersley Range deposits is particularly pleasing, as it is felt that big capital is necessary to work such deposits successfully in a manner warranted by their magnitude.

There seems to be a possibility of a regular, if limited, production of tungsten concentrates from the treatment of accumulated and current tailing at Edna May Amalgamated Gold Mine, while a scheelite find at Melville, near Yalgoo, shows sufficient promise to warrant further investigation.

The installation of a small pilot plant for copper smelting at Ravensthorpe should furnish data which might indicate the feasibility or otherwise of establishing similar plants on other fields.

A considerable amount of time has been put in by departmental officers on the Greenbushes tinfield, and, although the production for the year was small, it would seem that a systematic investigation of the field is desirable with a view to regular and possibly fairly large scale operations for the production of both tin and tantalite.

The shortage of sulphur has been largely relieved by the location and working of a large, high grade pyritic lode at Norseman.

Investigations into ironstone deposits in the Darling Range have proved sufficient ore to warrant the erection of a small charcoal smelting unit, while preparations for the treatment of Lake Campion alunite are nearing completion.

I wish to express my appreciation of the co-operation and high standard of the work carried out by Mr. Foxall, Assistant State Mining Engineer, and all the Inspectors of Mines.

Mr. Foxall has devoted himself largely to the important work of fostering the production of strategic minerals, particularly mica, asbestos, tin and tantalite. During the year a report by him entitled, "The Blue Asbestos Deposits of the Hamersley Range and their Economic Importance" was published in Geological Survey Bulletin No. 100.

He was ably assisted in his work on the strategic minerals by all the Inspectors of Mines. Inspector Adams, whose headquarters are at Cue, was particularly active in his extensive district, which seems to offer considerable scope for the development of such minerals.

The spirit of co-operation between all Inspectors of Mines and members of the staff has been excellent.

RICHARD C. WILSON,
State Mining Engineer.

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TABLES.

Division III.

Report of the Superintendent of State Batteries.

Under Secretary for Mines.

I have the honour to submit for the information of the Hon. Minister, my report on the operations of State Batteries for the year ending 31st December, 1942.

The concluding part of my report for 1941 reads as follows:—

> One cannot, unfortunately, look forward to a bright year for 1942, but if the abnormally wet season experienced to date takes up and we are allowed to retain the men we have, the downward movement should slacken.

The exigencies of the war situation have increased the call for men and materials at an ever increasing rate and the downward trend in our activities is shown in a drop in tonnage milled from 72,807¼ tons in 1941 to 40,396 tons in 1942, a decrease of 61% on the tonnage crushed in 1940.

The estimated value of bullion produced dropped from £428,766 in 1941 to £265,611 or 38% against a fall in tonnage of 44%.

DETAILS OF PRODUCTION.

Eight hundred and twenty-seven parcels averaging 48·85 tons and aggregating 40,396 tons were crushed at 17 batteries as against 1,611 parcels and 72,807 tons in 1941.

Estimated value is as follows:—

	Fine ozs.	Value.	Premium.	Total.
By Amalgamation	21,160·65	£89,896	£115,921	£205,817
„ Cyanide	6,148·65	£26,132	£33,662	£59,794
		£116,028	£149,583	£265,611

The previous year's figures were 43,692·25 ozs., worth £428,766.

VALUE PER TON.

The estimated average value per ton by amalgamation was 10 dwts. 11·4 grs. and the average value of tailing produced was 4 dwts. 10 grs., giving an average head value of 14 dwts. 21·4 grs., being 1 dwt. 21·4 grs. higher than that for 1941.

This is the highest figure for many years and is mainly due to the high values at Meekatharra, 5,184½ tons producing 4,937·63 ozs., equal to 19 dwt. 1 gr. per ton.

Schedule 3 shows the details at all batteries.

ESTIMATED PERCENTAGE RECOVERY.

The whole of the tailing produced was not treated, and a small amount of refractory tailing was segregated, but applying the average extraction obtained at our cyanide plants for the year to the average value of the tailing produced, we obtain the following result:—

Head Value	14 dwts. 21·4 grs.	
Recovery by Amalgamation	10 dwts. 11·4 grs.	= 70·33%
Recovery by Tailing 76·6% of 4 dwts. 21·4 grs.	3 dwts. 17·2 grs.	= 25·16%
Total recovery	14 dwts. 4·6 grs.	95·49%

RECEIPTS AND EXPENDITURE.

Receipts from all sources were £51,030 and expenditure, £61,464 18s. 4d., a loss of £10,434 for the year.

Milling costs were higher by 2s. 9·5d. or 18%, but revenue increased 7d. per ton.

Tailing cost rose by 1s. 4d. to 12s. 8·3d. per ton.

MILLING.

Excluding leased plants at Darlot and Linden and the St. Ives and Youanmi batteries which are closed for the time being, 1-20 stamp, 7-10 stamp and 9-5 stamp batteries were available for public crushing and treated 827 parcels averaging 48·85 tons as against 1,611 parcels and 45·19 tons respectively, in the previous year.

Only two batteries exceeded 5,000 tons, viz., Kalgoorlie, 5,479 tons and Meekatharra, 5,184 tons.

Boogardie crushed 4,947·25 tons and Cue 4,467·75 tons. See schedule 3.

TAILING TREATMENT.

Sixteen tailing plants were in operation and handled 40,107 tons for a recovery of 6,148 fine ozs. valued at £59,793 including premium.

Details of respective tonnages and recoveries are on Schedule 4 attached.

Extraction was well maintained and the labour was difficult to obtain and insufficient, approximately the same tonnage was cyanided as milled.

Costs rose from 11s. 4.33d. in 1941 to 12s. 8·13d. per ton due to higher overhead charges and increase in piece-work rates. Revenue increased slightly from 15s. 1·13d. to 15s. 4·78d. notwithstanding £1,050 was deducted by the Treasury for interest on the amount set aside for tailing purchase.

COMPARATIVE SYNOPSIS OF RESULTS AT STATE BATTERIES FOR 12 MONTHS ENDING 31st DECEMBER, 1941 AND 1942.

	1941.			1942.		
	Tonnage.	Expenditure per ton.	Revenue per ton.	Tonnage.	Expenditure per ton.	Revenue per ton.
		s. d.	s. d.		s. d.	s. d.
Milling	72,807·25	15 0·3	9 4·76	40,396·5	17 9·8	9 11·7
Tailing Treatment ...	66,017·5	11 4·33	15 1·13	40,107·0	12 8·3	15 4·78

RECEIPTS AND EXPENDITURE.

——	Tonnage.	Expenditure.	Revenue.	Profit.	Loss.
		£ s. d.	£ s. d.		£ s. d.
Milling	40,396·5	35,998 7 10	20,151 12 6	...	15,846 15 4
Tailing	40,107·0	25,466 10 5	30,879 2 3	5,412 11 10	...
	...	61,464 18 3	51,030 14 9	5,412 11 10	15,846 15 4
Less Profit	...	...	...	...	5,412 11 10
Net Loss	...	...	...	...	£10,434 3 6

CARTAGE SUBSIDIES.

The tonnage on which subsidy was paid and total cost were lower in proportion to tonnage crushed and amount paid in previous year. A comparison with the two previous years is as follows :—

Year.	Tons Treated. at State Batteries.	State Batteries.		Private Batteries.		Total.
		Tons Claiming Subsidy.	Amount Paid.	Tons Claiming Subsidy.	Amount Paid.	
			£ s. d.		£ s. d.	£ s. d.
1940	100,454·75	24,517	9,091 18 6	6,573	1,890 17 3	10,982 15 9
1941	72,807·25	13,283	5,411 0 1	5,922	2,458 16 3	7,869 16 6
1942	40,396·5	6,127	2,317 1 0	2,177	871 15 0	3,188 16 9

ERECTION AND RECONSTRUCTION, AND GENERAL LOAN EXPENDITURE.

The total expenditure from General Loan was £1,005 0s. 4d., including the purchase of 2 leading hands' cottages belonging to men who joined the Forces. These dwellings were necessary to house men on transfer.

Details are:—

Purchase of Cottages ..	£225 0 0	
Paynes Find reconstruction	£671 13 2	
Coolgardie Scheelite plant	£108 7 2	£1,005 0 4

ADMINISTRATION EXPENSES, 1942.

	£ s. d.
Salaries	3,107 18 3
Inspection (Salary Inspector) ..	146 8 6
Pay Roll Tax	952 13 6
War Damage Insurance	539 14 4
Workers' Compensation	1,622 1 10
Postages	69 12 9
Travelling	241 19 5
Sundries	99 15 5
	£6,780 4 0

Workers' Compensation premium is high for the tonnage crushed as it is based on wages paid in the previous year. Salaries have been reduced and inspection and travelling is approximately 40% of previous year's figure.

STAFF.

I regret to report the death of Manager W. J. Weekley whilst on leave from Cue early in the year and the retirement of Manager E. Wann after 30 years' continuous service with this Branch.

Assayer Symons was loaned to a large Explosive Plant in South Australia and is a Section Superintendent. Acting Manager John McLean retired to take other work.

No new appointments were made.

Manager A. Hepworth was transferred from Ora Banda to Coolgardie and was succeeded by Manager P. F. Hogg who still retained his management of Laverton and Yarri.

Manager Breustedt was removed from the Yalgoo-Warriedar circuit to Cue.

OUTPUT SINCE INCEPTION.

Production at par:

	£
By Amalgamation	7,285,260·40
By Sands	1,507,955·31
By Slimes	265,293·11
By Residues	10,080·54
Total at par	£9,068,589·36
Gold Premium:	
By Amalgamation	2,171,671·86
By Sands	689,902·85
By Slimes	35·61
By Residues	766·99
	£2,862,377·31
Total Australian Currency	£11,930,966·67
Tons of Tin Ore Milled:	
Production	
By Black Tin	93,833.96
By Residuess	572.20
	£12,025,372.83

GENERAL REMARKS.

Unfortunately for the industry, the call up during the year has been more drastic than we were led to believe by the Federal Government and managers have been at their wits end to obtain sufficient engine drivers or men of experience to crush the reduced tonnage.

It was found necessary to move the staffs about and use leading hands as drivers. Occasionally Assayer Young of Kalgoorlie was also employed in this capacity.

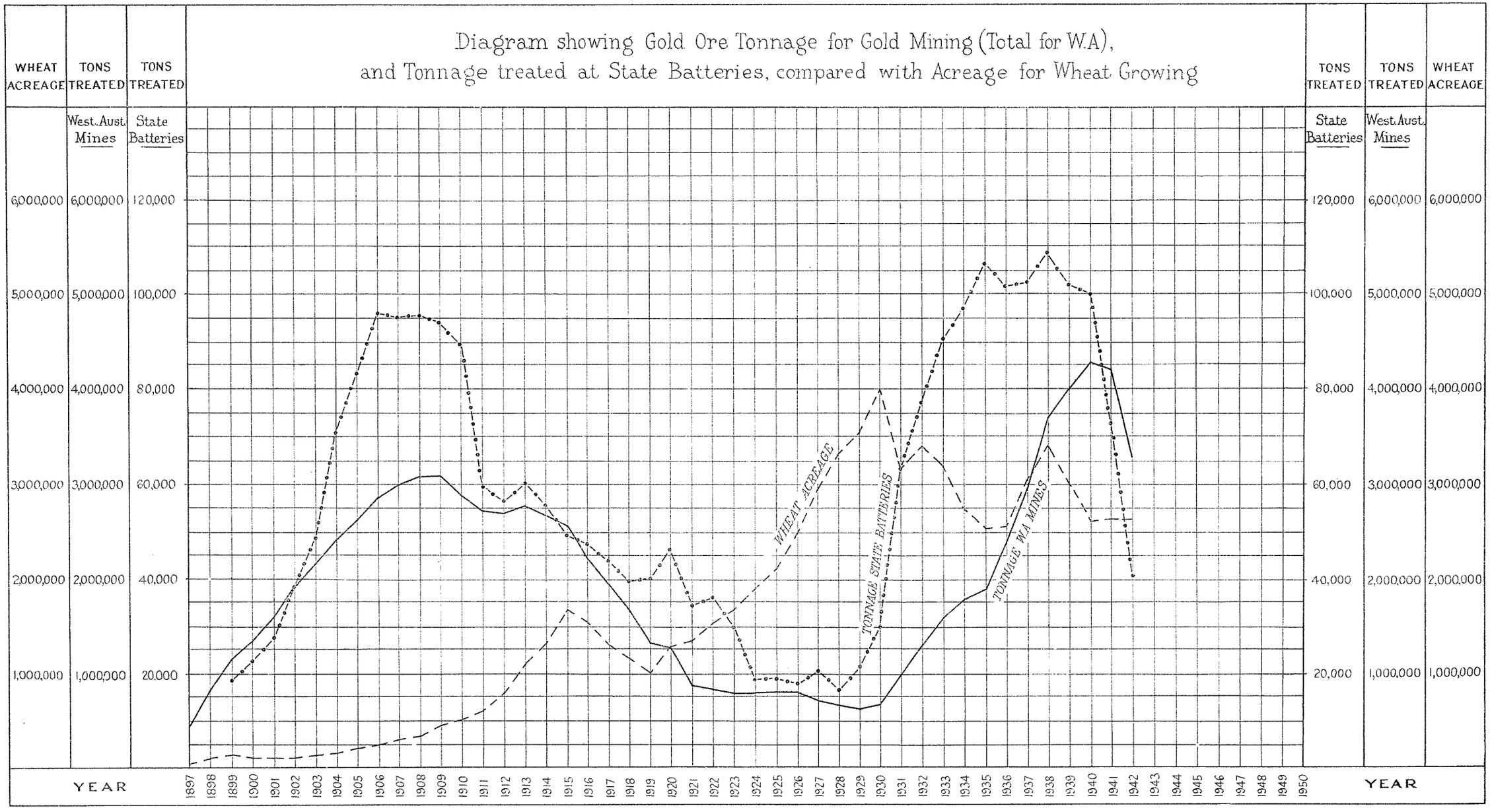
In addition to paying the higher rate, transport charges and away-from-home allowances had to be met.

To these extra charges had to be added the cost of closing down and restarting plants and hang-ups on account of carting difficulties.

Every effort has been made to keep the plants in good mechanical order, and I have used the services of Erection Officer McLean to this end.

In some districts, like the Pilbara, we have received considerable support from the local prospectors in supplying labour, in others, none.

Diagram showing Gold Ore Tonnage for Gold Mining (Total for W.A), and Tonnage treated at State Batteries, compared with Acreage for Wheat Growing



A survey of the items shown under Head Office Expenditure previously in this report, shows the added burdens which the industry has to shoulder in the way of payroll tax and war damage insurance. Included in my report is a graph showing the related magnitude of the mining and wheat growing industry. It would appear that the call to the land began to affect mining about 1909 and the acreage under wheat increased over 100% from 1912 to the then peak in 1915.

Immediately after the war, land under wheat showed a continuous upward movement till the depression period commenced in 1930, but State Battery and mine tonnages rose continuously, due to the increased price of gold and exodus to the fields from the farms.

The State Battery upward movement really began two years before the increased price for gold and the graph suggests that our State Batteries have pioneered each new movement of note and may be the means of starting another revival after the present conflict, providing it is not unduly protracted.

D. F. BROWNE,
Superintendent of State Batteries.

APPENDIX, SUPERINTENDENT OF STATE BATTERIES ANNUAL REPORT, 1942.

Tungsten Ores.

During the year, considerable activity was evinced throughout the State in a search for strategic minerals including those containing tungsten.

A close survey was made of our ore dressing plant at Coolgardie, which was erected in 1919, but was closed down after less than a thousand tons of scheelite ore had been treated, due to the fall in world's price.

After this long hang up, during which parts of the plant had been dismantled and used elsewhere, expenditure of approximately £2000 was considered the minimum required to put this plant in order as a reasonable efficient gravity concentration one.

Known tungsten deposits of any magnitude were at Higginsville, Comet Vale and later Yalgoo, though reference in our Geological Bulletin to scheelite contents of the ores in several of our older gold mines, suggested the likelihood of payable values being in the residue dumps of such mines as the Westonia Group, Fraser's at Southern Cross, and the Golden Pole at Davyhurst.

These dumps have been systematically sampled; the Westonia ones by the Edna May Consolidated Management, and the other two by our State Battery staff.

Approximately 150,000 tons at Frasers Central were sampled with disappointing results.

The Edna May dumps contain relatively small percentages when bulked, but one dump contained sufficient values to justify the erection of a gravity concentration plant, and at time of writing the initial arrangements are in train. A bulk sample of the highest valued dump was treated on our mill concentrating table at Coolgardie and particulars are given later.

Very considerable research work has been completed at the Kalgoorlie School of Mines on these tailings. A preliminary sampling of the Golden Pole dump revealed low but possibly payable values on an estimate of 70,000 tons, since considerably reduced by actual measurement to 40,000 tons. Systematic sampling confirmed the values; the tonnage was found to be approximately 40,000 tons.

Owing to pressure of work, the laboratory tests have been delayed and final recovery figures are not yet available.

The Goldfields Australian Development Coy. commenced mining operations on the Comet Vale deposits and the Norseman Gold Mines started operations at Higginsville, erecting a concentrating unit at their mine plant at Norseman which is 37 miles distant by rail.

The Yalgoo deposit held by Nevill Bros. came under option to the Bernales interests, but has reverted to the owners and is at the present time being worked by them.

Information received from treatment plants in America and at King Island bore out our experience with the original dressing plant at Coolgardie, regarding the difficulty of preventing sliming of the scheelite and of obtaining accurate determination of the WO_3 contents, in the presence of large excess of silica.

It has been clearly demonstrated that ordinary methods of sampling tungsten ores with their unevenly dispersed WO_3 values, is unreliable and can only be attained by actual crushing and treatment of a reasonably large portion of the material to be sampled.

It will be noted that the known tungsten deposits are very scattered and of no great proved extent, and before going to the expense of rehabilitating the Coolgardie dressing plant, it was decided to use the concentrating table installed at the gold crushing section, for trial parcels of sufficient size to give a reasonable estimate of the value of the deposits.

The treatment consists of preliminary crushing with No. 2 Gates rockbreaker to belt conveyor to ore bin, where it is mechanically fed to a stamp battery using the three middle stamps only in each box.

The dies are set high so as to maintain a quick discharge, using No. 14 and later 10 mesh screens; No. 8 was tried but presented difficulties in tabling.

The crushed material is run over a 10' x 5' amalgamated copper plate to collect any free gold, but the coarseness of the material tends to scour the plate and the negligible gold contents of parcels treated to date resulted in no appreciable values being recovered.

Without dewatering or classification, the pulp is run over a No. 6 Wilfley table and a rougher concentrate taken off for subsequent retabling. The middling is returned to the table and the tailing run over corduroy strakes with a fall of 1 in 6, the cloths being washed every 20 minutes. The tailing is run to waste. A careful hand sample of the tailing after passing the strakes is taken and occasionally a sample of the crushed ore before tabling, but it is not considered practicable to sample such material accurately before concentration. The tailing sample is considered reasonably accurate, but the difficulty in determining the very small amount of WO_3 in the samples of such crushings as have already been treated, is admitted.

The rate of crushing is from 16 cwt. to 20 cwt. per hour.

With only one table, and in view of the fact that these crushings were in the nature of a bulk sampling, the concentrates were not cleaned to a high WO_3 content, though no trouble was found in subsequently obtaining an over 65% WO_3 grade with the Comet Vale concentrates.

Comparison of Coolgardie treatment of a parcel of Comet Vale scheelite ore crushed by stamp battery using 14 mesh screen and a similar type ore treated by the Norseman Gold Mines using Symons crusher and rolls in close circuit with ⅛in. trommel:—

The Norseman figures are from Kalgoorlie School of Mines investigation of head and tail samples and values are by super-panner.

The Coolgardie head value is calculated from actual WO_3 in table concentrates, middling, and strake concentrates plus residue value by assay.

DETAILS OF TRIAL PARCELS OF TUNGSTEN ORES TREATED AT COOLGARDIE.

Date.	No. of Parcel.	Mining Tenement.	Tons Treated.	1. WO_3 in Table Concentrate.	2. WO_3 in Middling.	3. WO_3 in Strake Concentrate.	Total WO_3 in 1, 2, and 3.	Percentage WO_3 per ton in 1, 2, and 3.	Percentage WO_3 in Tails by Assay.	Percentage WO_3 of Calculated Heads.	Percentage left in Tail.
Wolfram Ores.				lbs.	lbs.	lbs.	lbs.	=	=	=	=
December, 1942	†5912	P.A. 4187H	12·00	86·00	29·00	2·26	117·66	0·440	0·15	0·590	25·5
January, 1943	†5916	P.A. 2325Y	*6·75	68·5	...	1·75	70·00	0·459	0·41	0·869	47·2
April, 1943 ...	†5918	P.A. 2325Y	*13·50	124·00	...	5·00	129·00	0·430	0·39	0·820	47·6
Scheelite Ore.											
December, 1942	†5914	M.L. 23Z	50·00	172·04	0·84	2·45	175·33	0·156	0·11	0·266	41·0
January, 1943	†5915	M.L. 23Z	97·00	158·00	2·20	...	160·20	0·073	0·04	0·133	36·0
April, 1943 ...	†5917	M.L. 23Z	28·25	136·00	...	5·00	141·00	0·226	0·05	0·276	18·2
May, 1943 ...	‡5929	M.L. 23Z	27·75	78·00	3·70	2·10	84·00	0·134	0·02	0·154	13·4

* Concentrate and Middling Bulked. † No. 14 mesh screen used. ‡ No. 10 mesh screen used.

Coolgardie. No. 5917.		*Norseman.*	
+ 200	60%	+ 200	73·46%
— 200	40%	— 200	26·60%
	100%		100·00%
Head Value	0·267%	Head Value	0·422%
Tail Value	0·05%	Tail Value	0·068%
WO_3 in tails	18·7%	WO_3 in tails	16·1%

The finer grinding by stamp battery has apparently resulted in freeing a greater proportion of the mineral sufficient to make up for the loss of extra sliming.

Slightly better figures have resulted from a later crushing at Coolgardie, using a 10 mesh screen.

J. N. Cummings in a paper on the Benefication of some British Columbia Tungsten ores, appearing in the February issue of the Canadian Mining and Metallurgical Bulletin, gives particulars of the treatment in eighteen present day tungsten mills in North America.

One plant is identical with the Norseman Gold Mines plant mentioned in this report. It treats 25 tons per day and the recovery is given at 80 %.

The head value of the ore is not stated.

A summary is as follows:—

Method of Treatment.	No. of Mills.	Total Capacity.		Recovery.
		Tons Ore per Day.	Lbs. WO_3 per Day.	
				%
Gravity	10	525	8,000— 9,000	65–85
Gravity Flotation	4	1,235	9,000—10,000	85–95
Flotation	4	1,850	17,000—17,500	80–90

As will be seen, flotation is used as a scavenger after gravity concentration in four plants. Heads are given at from 0·2 to 0·6 per cent. WO_3.

Recoveries run from 65 to 95 per cent. Flotation concentrates are low in value from 4·35 per cent. WO_3.

Fortunately these low grade concentrates can be treated chemically in America at charges of $2-$2.50 per unit WO_3. The min. is 3%.

SUPER PANNER AND ASSAY RESULTS OF SCHEELITE TAILS, SHOWING APPARENT UNRECOVERABLE WO_3 BY GRAVITY CONCENTRATION.

Parcel.	Percentage WO_3 by Assay.	Percentage WO_3 Super Panner.	Apparent Percentage WO_3 unrecoverable by Gravity Concentration.
5914	0·11	0·013	0·097
5917	0·05	0·020	0·030
5929	0·02	0·016	0·004

CONCLUSION.

It is to be regretted that none of the practical tests on the different bulk ores revealed any deposit of commercial value.

The percentage of WO_3 left in the residues suggests that there is no great difficulty in the reduction of scheelite ores for concentration, and that even a stamp battery under proper conditions is reasonably effective and quite suitable for preliminary sampling of a deposit in bulk.

The information set out in this report may be of interest to persons desiring to test deposits in districts where stamp mills are available.

The substitution of a low discharge ball mill and jig in the place of the stamp battery, and flotation plant after gravity concentration would then provide the latest methods. Lack of experience of tungsten ores has resulted in owners in every case considerably overestimating values.

If persons whose knowledge is confined to gold ores realised that 0·1% of WO_3 represented 2·2 lbs. per ton, equal to a gold prospect of some 38 ozs. and increased it nearly four times in bulk on account of the difference in specific gravity, they would get some idea of a pan prospect and appreciate the impossibility of sampling such ores except by bulk treatment.

D. F. BROWNE,
Superintendent of State Batteries.

26th June, 1943.

SCHEDULE No. 1.

Return showing Tons Crushed, Gold Yield by Amalgamation, Average Per Ton in Shillings, and Total Value without Premium for Year ended 31st December, 1942.

Battery.	Tons Crushed.	Gold Yield Bullion.	Value per Ton in Shillings and Pence.	Total Value without Premium.
			s. d.	£
Bamboo Creek	983·00	513·95	37 7·7	1,850·22
Boogardie	4,947·25	2,188·15	31 10·6	7,887·34
Coolgardie	3,603·00	2,051·10	40 11·7	7,383·96
Cue	4,467·75	3,161·15	50 9·1	11,380·14
Kalgoorlie	5,479·25	2,570·90	33 9·4	9,255·24
Laverton	790·25	1,175·15	107 1·2	4,230·54
Marble Bar	2,469·00	1,165·10	33 11·5	4,194·36
Meekatharra	5,184·50	4,185·21	58 1·4	15,066·72
Mt. Ida	608·25	371·30	43 11·5	1,336·60
Norseman	1,904·00	1,777·60	67 2·6	6,399·36
Ora Banda	2,002·50	1,156·40	55 4·8	4,163·04
Payne's Find	3,855·00	2,507·25	46 5·1	9,026·10
Peak Hill	740·75	201·14	19 6·5	724·14
Sandstone	1,443·25	894·10	44 7·2	3,218·76
Warriedar	357·50	203·00	40 10·6	730·80
Wiluna	393·00	99·59	18 2·9	358·52
Yarri	1,168·25	747·25	46 0·7	2,690·10
	40,396·50	24,968·34	44 6·0	89,895·94
Scheelite	85·00	...	20 2·8	86·00

SCHEDULE No. 2.

Number of Parcels treated, Tons crushed, and Head Value for the Year ended the 31st December, 1942.

No. of Parcels Treated.	Battery.	Tons Crushed.	Yield by Amalgamation, Bullion.	Yield by Amalgamation, Fine ozs.	Gross Contents of Tailings on 100 %	Total Contents of Ore, Fine Gold.	Average per ton, Fine Gold.	Gross Value per ton, at £4 4s. 11½d. per oz.
			ozs. dwts.	ozs. dwts.	ozs. dwts.	ozs. dwts.	dwts. grs.	£ s. d.
26	Bamboo Creek	983·00	513 19	435 12	314 14	750 6	15 6	3 4 9
80	Boogardie	4,947·25	2,188 3	1,854 9	1,072 7	2,926 16	11 19	2 10 1
70	Coolgardie	3,603·00	2,051 2	1,738 6	875 12	2,613 18	15 8	3 5 2
113	Cue	4,467·75	3,161 3	2,679 2	1,266 13	3,945 15	17 14	3 14 8
106	Kalgoorlie	5,479·25	2,570 18	2,178 16	1,017 18	3,196 14	11 15	2 9 4
39	Laverton	790·25	1,175 3	995 18	243 11	1,239 9	31 8	6 13 1
58	Marble Bar	2,469·00	1,165 2	987 8	434 10	1,421 18	11 2	2 7 1
74	Meekatharra	5,184·50	4,185 4	3,546 19	1,390 14	4,937 13	19 1	4 0 10
21	Mt. Ida	608·25	371 6	314 14	145 12	460 6	15 3	3 4 3
81	Norseman	1,904·00	1,777 12	1,506 10	342 11	1,849 1	19 9	4 2 3
49	Ora Banda	2,002·50	1,156 8	980 1	543 17	1,523 18	15 5	3 4 7
34	Payne's Find	3,855·00	2,507 5	2,124 18	405 17	2,530 15	13 3	2 15 9
12	Peak Hill	740·75	201 3	170 10	80 16	251 6	6 17	1 8 6
22	Sandstone	1,443·25	894 2	757 15	410 3	1,167 18	16 4	3 8 8
8	Warriedar	357·50	203 0	172 1	122 19	295 0	16 12	3 10 1
12	Wiluna	393·00	99 12	84 8	87 10	171 18	8 17	1 17 0
22	Yarri	1,168·25	747 5	633 6	169 8	802 14	13 16	2 18 1
827		40,396·50	24,968 7	21,160 13	8,924 12	30,085 5	14 21	3 3 2

Average tons per parcel .... 48·85.
Average yield by amalgamation per ton (fine gold) .... £10 11s. 4d.
Average value by amalgamation .... £2 4s. 6d.
Average head value of tailings per ton (fine gold) .... 4 dwts. 10 grs.
Average value of tailings per ton .... 15s. 9d.

SCHEDULE No. 3.

Direct Purchase of Tailings.

Battery.	Tons Purchased.	Amount Paid for Tailings.	Amount Paid A/c. Premium.
		£ s. d.	£ s. d.
Bamboo Creek	666¾	709 15 9	982 6 5
Boogardie	4,161½	1,634 0 0	2,563 0 5
Coolgardie	2,761	1,360 3 9	1,474 19 4
Cue	2,437¾	1,906 11 7	2,685 8 0
Kalgoorlie	2,296¾	1,099 5 10	1,339 19 8
Laverton	507¾	457 8 11	812 7 2
Marble Bar	1,309¼	1,501 5 10	1,568 13 0
Meekatharra	2,703	2,226 8 2	1,640 4 7
Mt. Ida	211½	155 15 8	219 15 0
Norseman	1,457¼	534 15 5	1,061 6 3
Ora Banda	968½	1,101 9 8	978 11 4
Payne's Find	252	53 9 8	68 19 4
Peak Hill	364	137 3 11	338 0 1
Sandstone	833¼	758 15 11	1,382 19 7
Warriedar	147¾	42 15 4	27 8 3
Wiluna	253¼	127 16 8	82 16 4
Yalgoo	...	...	87 5 5
Yarri	650	155 12 11	212 13 2
Youanmi	90	15 2 8	9 16 1
Totals	22,071½	13,977 17 8	17,536 9 5

SCHEDULE No. 4.

Tailings Treatment for 1942.

Battery.	Tonnage.	Yield.	Value.	Premium.	Total.
		Fine ozs.	£	£	£
Bamboo Creek	1,092	184·59	785·267	1,011·008	1,796·275
Boogardie	5,617	1,075·90	4,578·920	5,895·191	10,474·111
Coolgardie	5,023	606·97	2,578·225	3,324·552	5,902·777
Cue	4,374	703·81	2,990·713	3,855·419	6,846·132
Kalgoorlie	6,163	763·81	3,245·337	4,183·690	7,429·027
Laverton	780	188·31	801·329	1,031·450	1,832·779
Marble Bar	1,470	425·12	1,806·850	2,328·554	4,135·404
Meekatharra	2,505	360·57	1,519·020	1,958·739	3,477·759
Mt. Ida	110	10·11	42·950	55·383	98·333
Norseman	3,260	626·02	2,673·102	3,428·951	6,102·053
Ora Banda	2,389	374·63	1,591·397	2,051·953	3,663·350
Payne's Find	4,111	264·35	1,123·097	1,447·965	2,571·062
Peak Hill	218	18·31	77·758	100·266	178·024
Sandstone	990	291·54	1,238·416	1,596·912	2,835·328
Yalgoo	390	86·35	366·792	472·966	839·758
Yarri	1,624	167·74	712·554	918·771	1,631·325
Totals	40,107	6,148·13	26,131·727	33,661·770	59,793·497

SCHEDULE No. 5—Milling and Tin.

Statement of Receipts and Expenditure for the Year ended 31st December, 1942.

Battery.	Tonnage Crushed.	Expenditure.									Receipts.		Profit.	Loss.
		Management.	Wages.	Stores.	Total Working Expenditure.	Cost per Ton.	Renewals and Repairs.	Sundries.	Gross Expenditure.	Cost per Ton.	Receipts.	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.	£ s. d.
Bamboo Creek	983·00	141 11 1	573 2 2	181 6 0	895 19 3	18 2·7	142 11 10	156 15 2	1,195 6 3	24 3·8	502 13 6	10 2·7	....	692 12 9
Boogardie	4,947·25	370 6 7	1,139 1 11	428 19 0	1,938 7 6	7 10·0	266 9 7	563 6 5	2,768 3 6	11 2·3	2,428 1 9	9 9·8	....	340 1 9
Coolgardie	3,603·00	483 14 3	1,299 9 8	644 3 11	2,427 7 10	13 5·6	204 2 11	631 7 4	3,262 18 1	18 1·3	1,872 15 7	10 4·7	....	1,390 2 6
Cue	4,467·75	528 6 3	1,208 10 11	999 9 7	2,736 6 9	12 2·9	433 13 3	720 19 9	3,890 19 9	17 5·0	2,222 7 0	9 11·4	....	1,668 12 9
Kalgoorlie....	5,479·25	458 17 7	1,430 10 10	1,411 13 6	3,301 1 11	12 0·6	258 14 11	822 7 7	4,382 4 5	15 11·9	2,328 3 11	8 6·0	....	2,054 0 6
Laverton	790·25	127 18 0	257 10 6	147 0 10	532 9 4	13 5·7	71 10 9	133 19 11	738 0 0	18 8·1	427 2 6	10 9·8	....	310 17 6
Marble Bar	2,469·00	239 6 5	942 18 9	419 5 8	1,601 10 10	12 11·6	216 1 6	449 15 5	2,267 7 9	18 4·4	1,131 17 10	9 1·1	....	1,135 9 11
Meekatharra	5,184·50	403 6 7	1,828 6 3	1,166 13 4	3,398 6 2	13 1·3	288 10 0	686 6 8	4,373 2 10	16 10·4	2,201 17 11	8 5·9	....	2,171 4 11
Mt. Ida	608·25	227 1 8	352 2 11	166 8 4	745 12 11	24 6·1	55 1 3	192 11 7	993 5 9	32 7·9	324 15 2	10 8·1	....	668 10 7
Mt. Sir Samuel	....	....	....	....	....	....	....	....	....	....	19 7 0	....	19 7 0	....
Norseman	1,904·00	359 14 1	999 6 6	734 8 5	2,093 9 0	21 11·8	225 18 9	285 17 5	2,605 5 1	27 4·3	980 17 4	10 3·6	....	1,624 7 9
Ora Banda	2,002·50	456 14 4	418 13 3	337 4 6	1,212 12 1	12 1·3	135 16 10	254 8 11	1,602 17 10	16 0·1	857 12 8	8 6·2	....	745 5 2
Payne's Find	3,855·00	209 18 3	1,773 19 2	558 5 3	2,542 2 8	13 2·2	172 17 9	503 14 2	3,218 14 7	16 8·4	2,056 7 6	10 8·0	....	1,162 7 1
Peak Hill	740·75	135 6 5	337 13 4	113 2 2	586 1 11	15 9·9	111 10 5	156 8 11	854 1 3	23 0·7	234 5 9	6 3·9	....	619 15 6
St. Ive's	....	....	31 5 6	....	31 5 6	....	....	16 1 7	47 7 1	....	20 19 2	....	....	26 7 11
Sandstone	1,443·25	171 19 1	664 14 0	213 14 3	1,050 7 4	14 6·6	125 12 3	225 18 9	1,401 8 4	19 5·0	1,269 8 6	17 7·2	....	131 19 10
Siberia	....	....	....	....	....	....	....	....	....	....	5 15 0	....	5 15 0	....
Warriedar	357·50	48 18 3	240 18 2	110 9 8	400 6 1	22 4·7	33 0 11	67 16 5	501 13 5	28 0·7	204 18 7	11 5·8	....	296 14 10
Wiluna	393·00	46 0 6	168 19 3	39 16 11	254 16 8	12 11·3	64 12 9	121 12 4	441 1 9	22 5·3	215 7 0	10 11·5	....	225 14 9
Yalgoo	....	....	27 2 6	....	27 2 6	....	....	54 8 5	81 10 11	....	6 8 11	....	....	75 2 0
Yarri	1,168·25	159 1 9	556 5 7	241 7 0	956 14 4	16 4·5	142 6 8	237 0 11	1,336 2 0	22 10·4	586 5 11	10 0·5	....	749 16 1
Youanmi	....	....	6 17 0	....	6 17 0	....	....	9 9 11	16 6 11	....	....	....	....	16 6 11
Darlot	....	....	....	....	....	....	....	....	....	....	2 14 6	....	2 14 6	....
Linden	....	....	....	....	....	....	....	....	....	....	157 19 0	....	157 19 0	....
Mulwarrie	....	....	....	....	....	....	....	....	....	....	13 14 0	....	13 14 0	....
	40,396·50	4,568 1 1	14,257 8 2	7,913 8 4	26,738 17 7	13 2·9	2,948 12 4	6,290 7 7	35,977 17 6	17 9·8	20,071 16 0	9 11·2	199 9 6	16,105 11 0
Greenbushes	....	....	....	....	....	....	....	20 10 4	20 10 4	....	9 10 6	....	....	10 19 10
Scheelite	85·00	....	41 7 0	....	41 7 0	9 9·9	....	12 1 6	53 8 6	12 6·8	53 2 6	12 6·0	....	0 6 0
Head Office	....	....	....	....	....	....	....	....	....	....	17 3 6	....	17 3 6	....
Total	40,481·50	4,568 1 1	14,298 15 2	7,913 8 4	26,780 4 7	....	2,948 12 4	6,322 19 5	36,051 16 4	....	20,151 12 6	....	216 13 0	16,116 16 10
							....	....	....	....	....	....	....	216 13 0
Total Loss	....	....	....	....	....	....	....	....	....	....	....	....	....	15,900 3 10

SCHEDULE No. 6—Tailing Treatment.

Statement of Receipts and Expenditure for the Year ended 31st December, 1942.

Battery.	Tonnage Treated.	Expenditure.									Receipts.		Profit.	Loss.
		Management.	Wages.	Stores.	Total Working Expenses.	Cost per Ton.	Repairs. and Renewals.	Sundries.	Gross Expenditure.	Cost per Ton.	Receipts.	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.	£ s. d.
Bamboo Creek	1,092·0	84 16 9	432 14 11	218 10 5	736 2 1	13 5·7	47 19 5	134 6 1	918 7 0	16 9·8	784 0 8	14 4·3	....	134 6 4
Boogardie	5,617·0	246 6 10	1,528 3 1	730 6 10	2,504 16 9	8 11·0	177 11 0	537 5 3	3,219 13 4	11 5·5	5,541 14 10	19 8·8	2,322 1 6	....
Coolgardie	5,023·0	346 11 1	1,303 9 4	895 16 11	2,545 17 4	10 1·6	7 4 6	558 18 1	3,111 19 11	12 4·7	3,821 1 9	15 2·6	709 1 10	....
Cue	4,374·5	83 12 7	1,026 6 1	647 0 11	1,756 19 7	8 0·4	37 18 9	454 9 10	2,249 8 5	10 3·4	3,327 3 11	15 2·5	1,077 15 6	....
Kalgoorlie	6,163·0	398 15 0	1,588 10 1	840 14 2	2,827 19 3	9 2·1	88 18 3	689 16 5	3,606 13 11	11 8·4	4,916 13 7	15 11·4	1,309 19 8	....
Laverton	780·0	88 4 3	197 0 10	123 8 11	408 14 0	10 5·7	18 13 2	110 6 2	537 13 4	13 9·4	751 0 1	19 3·1	213 6 9	....
Marble Bar	1,470·0	99 12 0	619 15 1	247 10 5	966 17 6	13 1·1	39 2 7	196 12 5	1,202 12 6	16 4·3	959 3 1	13 0·6	....	243 9 5
Meekatharra	2,505·0	177 2 3	766 17 6	400 4 7	1,344 4 4	10 8·7	2 6 0	268 12 7	1,615 2 11	12 10·7	2,058 14 11	16 5·2	443 12 0	....
Mt. Ida	110·0	24 12 0	85 3 2	48 19 9	158 14 11	28 10·3	0 3 0	29 19 3	188 17 2	33 5·1	68 19 5	12 6·5	....	119 17 9
Norseman	3,260·0	312 19 6	870 3 11	573 19 2	1,757 2 7	10 8·9	76 14 6	332 1 9	2,165 18 10	13 2·9	3,047 8 6	18 8·3	881 9 8	....
Ora Banda	2,389·0	230 13 4	612 8 0	449 15 4	1,292 16 8	10 9·8	58 15 1	301 5 3	1,652 17 0	13 10·0	1,370 1 10	11 5·6	....	282 15 2
Payne's Find	4,111·0	229 11 8	878 15 11	744 11 4	1,852 18 11	9 0·1	54 1 6	395 1 7	2,302 2 0	11 2·3	2,022 7 4	9 10·0	....	279 14 8
Peak Hill	218·0	22 1 0	89 17 5	62 17 10	174 16 3	16 0·4	5 1 10	78 11 8	258 9 9	23 8·5	76 0 8	6 11·6	....	182 9 1
Sandstone	990·0	76 10 2	391 7 1	189 7 0	657 4 3	13 4·9	10 18 2	127 10 9	795 13 2	16 2·8	661 8 10	13 4·3	....	134 4 4
Warriedar	....	....	....	2 1 5	2 1 5	...	....	....	2 1 5	....	Dr. 3 2 1	....	....	5 3 6
Wiluna	....	21 9 7	11 18 11	1 5 3	34 13 9	....	125 11 7	9 18 4	170 3 8	....	44 13 0	....	....	125 10 8
Yalgoo	380·5	....	156 17 7	82 19 8	239 17 3	12 7·2	131 15 9	65 16 2	437 9 2	23 0·2	252 15 6	13 3·6	....	184 13 8
Yarri	1,624·0	131 12 11	451 11 1	199 19 0	783 3 0	9 7·7	64 3 11	184 0 0	1,031 6 11	12 8·4	1,178 16 5	14 6·2	147 9 6	....
Head Office	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Total	40,107·0	2,574 10 11	11,011 0 0	6,459 8 11	20,044 19 10	9 11·9	946 19 0	4,474 11 7	25,466 10 5	12 8·3	30,879 2 3	15 4·8	7,104 16 5 1,692 4 7	1,692 4 7
Total	....	....	....	....	....	....	....	....	....	....	....	....	£5,412 11 10	

SCHEDULE—No. 7.

State Battery Statistics from Inception to 31st December, 1910, and from 1st January, 1930, to 31st December, 1942.

Year.	Milling.				Sand and Tailing Treatment.				Slime Treatment.				Tin Treatment.				Gross Profit. ‡
	Tons.	Expenditure. per ton.	Revenue per ton.	Loss.	Tons.	Expenditure. per ton.	Revenue per ton.	Profit.	Tons.	Expenditure. per ton.	Revenue per ton.	Loss.	Tons.	Expenditure per ton.	Revenue per ton.	Loss.	
		s. d.	s. d.	£		s. d.	s. d.	£		s. d.	s. d.	£		s. d.	s. d.	£	£
1899	18,806	...	...	2,827	...	...	...	...	...	...	...	...	...	...	...	...	2,827†
1900	22,675	22 10·1	17 4·5	7,611	...	...	...	...	...	...	...	...	...	...	...	...	7,611†
1901	26,775	18 0·0	16 6·0	1,983	9,534	16 9·0	...	1,337	...	...	...	...	...	...	...	...	646†
1902	39,516	14 8·6	14 8·2	169	9,721	22 3·0	...	724	...	...	...	...	1,170	12 2·0	...	286	269
1903	49,233	13 6·8	12 10·6	1,250	33,369	7 7·0	...	1,442	...	...	...	...	2,009	8 2·0	...	153	2,539
1904	71,616	14 4·4	12 6·5	6,423	43,251	7 10·0	...	1,448	...	...	...	...	2,337	8 2·0	...	165	5,141†
1905	85,018	12 4·0	12 2·5	957	54,420	7 3·0	9 8·5	6,689	7,028	12 1·0	...	410	3,697	5 8·0	5 0·3	324	3,342
1906	95,831	12 2·0	11 3·8	4,076	65,159	7 4·0	9 2·1	5,549	4,737	11 8·0	12 1·1	2,254*	11,428	4 2·0	4 3·3	156*	2,880
1907	95,280	12 6·0	11 4·8	8,724	64,514	6 8·7	9 2·8	6,474	8,220	8 7·6	13 5·5	1,983*	10,496	4 4·4	4 8·8	191*	1,688†
1908	95,628	12 1·9	9 3·6	13,669	62,272	6 4·7	8 11·0	8,017	5,818	12 0·9	11 8·0	120	5,573	4 5·2	3 6·3	254	7,278†
1909	94,218	11 1·7	9 6·6	7,568	61,032	6 5·8	8 9·7	7,096	16,848	10 0·7	9 6·7	423	5,043	4 8·2	3 7·5	267	1,965†
1910	89,278	11 3·3	9 6·6	7,709	43,391	6 2·9	8 6·1	4,903	28,600	8 9·1	9 11·5	1,723*	3,769	5 5·5	3 4·1	401	2,365†
1930	29,285·75	15 3·41	9 2·58	6,420	20,344	7 11·16	10 2·3	2,300	...	...	...	...	159	14 5·16	3 4·24	88	6,420†
1931	63,428·5	12 8·2	9 7·9	9,677	37,315	6 9·8	11 2·8	8,256	...	...	...	...	...	...	...	16*	1,361†
1932	79,745·75	12 6·3	9 9·04	11,068	66,216	6 11·0	14 6·6	25,249	...	...	...	...	...	...	...	26	14,155
1933	91,616	11 6·7	9 6·5	9,068	84,151	6 7·3	15 9·7	38,468	...	...	...	...	...	...	...	24	29,375
1934	97,454	13 7·3	9 6·3	20,219	94,616	6 9·3	14 2·0	35,442	...	...	...	...	...	...	...	26	15,197
1935	108,360	13 9·3	9 6·8	22,739	102,037	7 1·0	13 5·9	32,676	...	...	...	...	...	...	...	26	9,912
1936	102,086·25	14 0·2	9 5·1	23,411	110,543	7 9·1	14 11·8	39,919	...	...	...	...	...	...	...	26	16,482
1937	102,800	13 5·7	9 2·2	22,032	110,263	7 9·7	13 5·8	31,258	...	...	...	...	...	...	...	24	9,202
1938	108,966	12 10·9	9 1·9	20,397	103,175	8 2·1	14 4·7	32,039	...	...	...	...	...	...	...	19	11,612
1939	101,443	13 2·8	9 4·7	20,591	95,056	8 11·1	15 5·5	31,033	...	...	...	...	...	...	...	27	10,415
1940	100,454·75	13 2·4	9 6·5	18,367	94,933·5	9 2·5	16 6·9	34,986	...	...	...	...	...	...	...	2	16,620
1941	72,807·25	15 0·3	9 4·76	21,691	66,017·5	11 4·33	15 1·13	12,044	...	...	...	...	...	...	...	...	9,647†
1942	40,396·50	17 9·8	9 11·7	15,679	40,107	12 8·3	15 4·78	5,209	...	...	...	...	...	...	...	...	10,470†

* Profit. † Loss. ‡ Details of Ore Dressing and Residue Treatment not shown, but financial result included in the figure of this column.

STATE BATTERY SYSTEM.

Balance Sheet as at 31st December, 1941.

LIABILITIES.	£ s. d.	£ s. d.
Capital Expenditure—		
General Loan Fund	404,516 1 9	
Consolidated Revenue	93,726 4 5	
Assistance to Gold Mining Industry	28,621 13 5	
Commonwealth Assistance	13,786 8 0	
		540,650 7 7
Sundry Creditors—		
Cash Orders	1,543 10 1	
Other	3,378 8 4	
		4,921 18 5
Treasury Account		88,752 10 7
Interest		595,530 0 0
Sinking Fund		130,365 14 6
		£1,360,220 11 1
Purchase of Tailings Advance Account		21,000 0 0
Sundry Creditors for Tailings Payment	1,529 15 7	
Advance of Premium	878 17 1	
		2,408 12 8
Balance of Premium (estimated)		8,124 5 8
		£1,391,753 9 5

ASSETS.	£ s. d.	£ s. d.
Plant and Buildings	116,141 3 10	
Less Depreciation	11,613 17 7	
		104,527 6 3
Stores Account—		
Outstations	17,240 1 11	
Suspensee	1,285 1 2	
		18,525 3 1
Sundry Debtors		6,838 15 6
Battery Spares		524 16 11
Profit and Loss Account		1,229,804 9 4
		£1,360,220 11 1
Amount Paid for Tailings not Treated (including Premium Advance)	15,166 6 4	
Amount Due but not Paid for Tailings Untreated (including Premium Advance)	2,408 12 8	
		17,574 19 0
Estimated Gold Premium		8,124 5 8
Purchase of Tailings Cash Account		5,833 13 8
		£1,391,753 9 5

General Working Account for the Year ended 31st December, 1941.

Particulars.	Milling. £ s. d.	Cyaniding. £ s. d.	Total. £ s. d.	Particulars.	Milling. £ s. d.	Cyaniding. £ s. d.	Total. £ s. d.
To Wages	32,696 13 11	21,839 12 10	54,536 6 9	By Revenue	34,472 14 2	49,592 12 5	84,065 6 7
,, Stores	12,761 5 8	10,491 5 2	23,252 10 10	,, Loss carried down	17,700 11 10	....	17,700 11 10
,, Battery Spares	1,237 5 11	....	1,237 5 11				
,, Water	3,969 0 6	936 7 1	4,905 7 7				
,, General Expenses	1,509 0 0	642 13 0	2,151 13 0				
,, Profit Carried Down	....	15,682 14 4	15,682 14 4				
	£52,173 6 0	£49,592 12 5	£101,765 18 5		£52,173 6 0	£49,592 12 5	£101,765 18 5

Profit and Loss Account.

Particulars.	Milling. £ s. d.	Cyaniding. £ s. d.	Total. £ s. d.	Particulars.	Milling. £ s. d.	Cyaniding. £ s. d.	Total. £ s. d.
To Loss brought down	17,700 11 10	....	17,700 11 10	By Profit brought down	....	15,682 14 4	15,682 14 4
,, Administration	3,990 16 4	3,638 10 7	7,629 6 11	,, Gross Loss carried down	21,691 8 2	....	21,691 8 2
,, Gross Profit carried down	....	12,044 3 9	12,044 3 9				
	£21,691 8 2	£15,682 14 4	£37,374 2 6		£21,691 8 2	£15,682 14 4	£37,374 2 6

General Profit and Loss Account.

	£ s. d.	£ s. d.		£ s. d.
To Gross Loss Milling	21,691 8 2		By Net Loss brought down	42,907 2 0
Less Gross Profit Cyaniding	12,044 3 9			
		9,647 4 5		
,, Interest	....	20,236 0 0		
,, Sinking Fund	....	1,410 0 0		
,, Depreciation	....	11,613 17 7		
		£42,907 2 0		£42,907 2 0
,, Balance brought forward		1,186,897 7 4		
,, Balance brought down		42,907 2 0	,, Balance carried forward	1,229,804 9 4
		£1,229,804 9 4		£1,229,804 9 4

STATE BATTERY SYSTEM.

Balance Sheet as at 31st December, 1942.

LIABILITIES.	£ s. d.	£ s. d.	ASSETS.	£ s. d.	£ s. d.
Capital Expenditure—			Plant and Buildings	105,622 7 1	
General Loan Fund	405,611 2 7		*Less* Depreciation	10,563 7 1	
Revenue	93,726 4 5				95,059 0 0
Assistance to Gold Mining Industry	28,621 13 5		*Stores Account*—		
Commonwealth Assistance	13,786 8 0		Outstations	....	18,942 6 11
Sundry Creditors—			Suspense	....	869 3 0
Cash Orders	1,506 13 3		Sundry Debtors	....	4,626 18 3
Other	2,266 2 7		Battery Spares	....	666 9 1
Treasury Account	99,619 10 10		Profit and Loss Account	....	1,272,994 3 6
Superannuation	460 11 2				1,393,158 0 9
Interest	615,782 0 0				
Sinking Fund	131,777 14 6		Amount paid for Tailings not Treated (including Premium Advance)	16,959 4 2	
		1,393,158 0 9	Amount Due but Unpaid for Tailings not Treated (including Premium Advance)	1,931 9 2	
Purchase of Tailings Advance Account	....	21,000 0 0			18,890 13 4
Sundry Creditors for Tailings Payment	1,451 7 7		Estimated Gold Premium	....	13,101 12 3
Advance of Premium	480 1 7		Purchase of Tailings Cash Account	....	4,040 15 10
Balance of Premium (Estimated)	13,101 12 3				
		15,033 1 5			
		£1,429,191 2 2			£1,429,191 2 2

General Working Account for the Year ended 31st December, 1942.

	Milling. £ s. d.	Cyaniding. £ s. d.	Total. £ s. d.		Milling. £ s. d.	Cyaniding. £ s. d.	Total. £ s. d.
To Wages	20,907 11 2	14,435 10 4	35,343 1 6	By Revenue	20,098 10 0	30,879 2 3	50,977 12 3
,, Stores	7,057 14 2	6,432 19 11	13,490 14 1	,, Loss carried down	12,281 1 6	....	12,281 1 6
,, Battery Spares	612 10 6	....	612 10 6				
,, Water	2,384 18 10	541 6 7	2,926 5 5				
,, General Expenses	1,416 16 10	1,072 18 3	2,489 15 1				
,, Profit carried down	....	8,396 7 2	8,396 7 2				
	£32,379 11 6	£30,879 2 3	£63,258 13 9		£32,379 11 6	£30,879 2 3	£63,258 13 9

Profit and Loss Account.

	Milling. £ s. d.	Cyaniding. £ s. d.	Total. £ s. d.		Milling. £ s. d.	Cyaniding. £ s. d.	Total. £ s. d.
To Loss brought down	12,281 1 6	....	12,281 1 6	By Profit brought down	....	8,396 7 2	8,396 7 2
,, Administration	3,398 0 3	3,187 1 4	6,585 1 7	,, Gross Loss carried down	15,679 1 9	....	15,679 1 9
,, Gross Profit carried down	....	5,209 5 10	5,209 5 10				
	£15,679 1 9	£8,396 7 2	£24,075 8 11		£15,679 1 9	£8,396 7 2	£24,075 8 11

General Profit and Loss Account.

	£ s. d.	£ s. d.		£ s. d.
To Gross Loss Milling	15,679 1 9		By Net Loss carried down	43,189 14 2
Less Gross Profit Cyaniding	5,209 5 10			
		10,469 15 11		
,, Interest	....	20,252 0 0		
,, Sinking Fund	....	1,412 0 0		
,, Depreciation	....	10,563 7 1		
,, Superannuation	....	460 11 2		
,, Scheelite Treatment	....	32 0 0		
		£43,189 14 2		£43,189 14 2
,, Balance brought forward		1,229,804 9 4	,, Balance carried forward	1,272,994 3 6
,, Balance brought forward		43,189 14 2		
		£1,272,994 3 6		£1,272,994 3 6

Table of Contents.

Division IV.

Annual Progress Report of the Geological Survey of Western Australia for the Years ended 31st December, 1941, and 31st December, 1942.

The Under Secretary for Mines.

I have the honour to submit, for the information of the Honourable the Minister for Mines, my report on the operations of the Geological Survey for the year 1941.

STAFF AND FIELD WORK.

There were no changes of staff during the year, and the work of the Branch continued to be carried out by the Government Geologist, three Field Geologists, a typiste, a junior clerk and a messenger.

On the completion of the field work connected with the re-survey of a portion of the Mt. Margaret Goldfield, the conduct of broad geological examinations of the goldfields of the State was temporarily abandoned owing to the difficulty of carrying on this type of work during war time, and the necessity of having every member of the field staff available at short notice for the conduct of investigations directly relating to the war effort.

The principal activities of the professional officers of the Branch are set out below:—

F. G. Forman, B.Sc., Government Geologist.—In January, in the company of representatives of Phoenix Oil Extractors, Ltd., I inspected portions of oil prospecting area 10H, east of Albany, where surface indications of mineral oil were alleged to have been found. No genuine indications of the existence of petroleum in the area were discovered.

During March and April a number of short trips were made to investigate a variety of mineral deposits; these included limonite at Clackline, bauxitic laterites in the Darling Ranges and mineral phosphates at Dandaragan.

During May I examined deposits of lime sand at Karridale, soapstone at Glenlynn, and tin at Greenbushes, all in the South-West Division. At the latter end of the month I inspected the progress of the geological survey being carried out on the Tindals' Gold Mine, Coolgardie, by Mr. Miles, and on the same trip viewed developments on the Ora Banda Amalgamated Mine at Grants Patch, and investigated the possibilities of a water supply for mining purposes at Callion.

In June I investigated an occurrence of sillimanite in the Chittering district and made a visit of inspection to the Dandaragan area where Mr. Matheson was carrying out a survey of the mineral phosphate deposits. I also investigated the alleged occurrence of potassium nitrate deposits in the Mt. Ridley district, north-east of Esperance.

During the latter part of August and the early part of September I accompanied the Director of Works on an investigation of dam sites on the Ord River in the Kimberley district, and at the same time made inspections of mining operations in the vicinity of Halls Creek and of drilling operations at the Nerrima Bore Site of the Freney Kimberley Oil Co.

During the latter part of October and early in November I made a second visit to Nerrima in connection with petroleum prospecting operations, and with the Commonwealth Geological Adviser and the Chief Geologist of Caltex Oil Development Ltd., reviewed in the field the progress of geological work being conducted by that company. During the return trip to Perth the opportunity was taken to inspect recently found deposits of crocidolite asbestos at Marramamba in the Hamersley Ranges and the workings of the Whim Well Copper Mine at Whim Creek.

During December I paid a visit to the Jimperding Gold Mine near Toodyay and investigated the possibility of obtaining commercial supplies of beryl near Londonderry in the Coolgardie Goldfield.

R. A. Hobson, B.Sc. (Hons.) Geologist.—From January until May Mr. Hobson was mostly at head office. During this time he completed his report on the copper deposits in the Murchison and Yalgoo Goldfields which were inspected by him towards the end of 1940. He also made a preliminary examination of the diatomite specimens in the geological survey collection with a view to further field work in connection with this mineral. A brief inspection was made of the diatomite occurring in the bed of Lake Gnangarra in the Wanneroo district. Summaries of reports on field work done during 1940 were also prepared. Two weeks were spent by Mr. Hobson in examining and mapping the ironstone deposits in the vicinity of Clackline in connection with a proposal to drill for sulphide ore bodies in this locality.

On the 21st May Mr. Hobson left for the Mt. Margaret Goldfield and was engaged continuously in field work in that district until his return to head office on the 6th December. This work was a continuation of that stopped due to war conditions in July, 1940, and enabled the completion of field work over the area as originally proposed for examination.

Until the end of December Mr. Hobson was engaged at head office mainly in work connected with the resurvey of the Mt. Margaret Goldfield.

R. S. Matheson, B.Sc., Geologist.—From January until March Mr. Matheson was engaged at head office in completing reports and revising plans and sections dealing with the mining groups in the northern portion of the Yilgarn Goldfield, which had been examined by him during 1940. During April Mr. Matheson was engaged in preparations for a survey of the phosphate deposits at Dandaragan, and from May to August was engaged in field work connected with the survey and sampling of these deposits. On his return to Perth Mr. Matheson was engaged until the middle of October in the completion of his report and accompanying plans on the above area.

In November Mr. Matheson made a surface geological examination of the Whim Creek Copper Mine and was engaged in miscellaneous duties at head office. During December Mr. Matheson was continuously at head office finalising his work on Whim Creek and in compiling information for a proposed examination of the bauxitic laterites of the State.

K. R. Miles, B.Sc. (Hons.) Geologist.—From the 14th January, after having returned from annual leave, to 21st March Mr. Miles was engaged in miscellaneous duties which included petrological investigations of bore cores from Meier's Find and Heaney's Find, near Yellowdine; from Corinthian G.M. Bullfinch; and from Wiluna; examination of rocks from the North Yilgarn and from the Mt. Margaret Goldfields; correction of typescripts of various reports; and various office duties in connection with the preparation of departmental reports by the Government Geologist. Also during this

period he paid a short visit to the quarries at Cardup and Armadale for the purpose of investigating the possibilities of certain alleged honestone deposits in the district.

From the latter part of March to the middle of April he was working on the preparation of a petrological report on metasomatism of the Corinthian Ore Body.

On April 16th Mr. Miles left Perth for Coolgardie and was engaged there until May 30th in making a complete surface and underground geological survey of the Tindals Gold Mine.

From June to November Mr. Miles spent most of his time at head office, leaving Perth only for brief periods to carry out a number of short geological examinations. His duties during this period included the completion of a full report on the geology of Tindals G.M., drafting and petrological work in connection with this report; petrological and mineralogical determinations for the public; and various office duties, including the registering of many rocks and their sections. During this time he also made numerous brief petrographical determinations of rock specimens sent down from the field in connection with the Mt. Margaret survey. This work was often seriously delayed by the absence of any trained technical assistant—the preparation of thin sections for the microscopical examinations having to be carried out by himself in addition to his other duties.

From July 15th-19th he paid a short visit to Albany to make a report for departmental purposes on an alleged iron ore deposit near Warriup, about 30 miles north-east of Albany.

On July 31st Mr. Miles left Perth for Mt. Magnet where until August 10 he was engaged in an underground investigation for departmental purposes of the ore body of the Hill 60 Gold Mine, which was closed down shortly after.

From October 27th-30th in the company of two Kalgoorlie prospectors, Mr. Miles paid a visit to the Wallangie Hills, about 100 miles due west of Kalgoorlie, in order to prepare a report for departmental purposes on the possibilities of an alleged manganese and iron deposit in that district.

From December 1st to 15th he took his annual leave and from then on to the close of the year was engaged in miscellaneous office duties, including the preparation of a report on the geology of bore sites at Meier's Find and Heaney's Find, Yilgarn Goldfield.

PUBLICATIONS.

During the year the following publications were issued by this Branch:—

Annual Progress Report of the Geological Survey for the year 1940.

Geological Survey Bulletin 99:—The Mining Groups of the Yilgarn Goldfield, South of the Great Eastern Railway, Part 2. South of Marvel Loch, by R. A. Hobson, B.Sc. (Hons.) and R. S. Matheson, B.Sc.

Bulletin 99 is the third of a series of three Bulletins numbers 97, 98 and 99, which were compiled as a result of a re-survey of that portion of the Yilgarn Goldfield situated south of the Great Eastern Railway.

Bulletin 98 dealt with the mining groups from Southern Cross southwards as far as Marvel Loch, and Bulletin 97 dealt with the regional geology of the whole of the area covered by the mining groups described in the other two bulletins.

All members of the staff have worked conscientiously throughout the year, sometimes under very trying circumstances.

F. G. FORMAN,
Government Geologist.

SUMMARIES OF REPORTS.

F. G. FORMAN, B.Sc., Government Geologist.

INVESTIGATION OF BITUMINOUS SAMPLES FROM THE COUNTRY BETWEEN ALBANY AND THE FITZGERALD RIVER.

In January, portions of oil prospecting area 10H, where surface indications of mineral oil were alleged to have been found, were inspected in the company of representatives of Phoenix Oil Extractors, Ltd. No genuine indications of the existence of petroleum were discovered in the area.

SUPPOSED NITRATE DEPOSIT EAST OF MT. RIDLEY, EUCLA DIVISION.

Following reports that an important deposit of potassium nitrate occurred in the vicinity of Mt. Ridley an examination of the area was carried out during the period 16th June to 2nd July, 1941. Although the actual spot where the deposit is reported to occur was not visited negative results from tests carried out on a number of lakes in the district together with unfavourable climatic conditions, indicate that the area is unsuitable for the occurrence of commercially valuable nitrate deposits.

INVESTIGATION OF WATER SUPPLY AT CALLION, ULARRING DISTRICT.

In August, 1941, an examination was made of the country in vicinity of the Callion Mine, in connection with selecting bore sites for water. The investigations led to the conclusion that further boring in the area was not justified, and in all probability it would be necessary to pipe water to Callion to obtain an adequate supply.

NOTES ON A DAM SITE ON THE ORD RIVER, KIMBERLEY DIVISION.

During August, 1941, a brief inspection of a gorge on the Ord River in the vicinity of River Traverse Station N 27 was carried out in the company of the Director of Works and the Acting Engineer for the North-West. It was hoped that this gorge would provide a suitable dam site for a proposed irrigation scheme. Attention was paid to the suitability of the country rocks as a foundation for a dam, and the size of the retaining wall that would be necessary to impound the water. In the area examined, the site most suitable from both aspects is situated about ½ miles north of N 27, where the gorge narrows, and at low water has a water gap of 315 feet.

R. A. HOBSON, B.Sc., (Hons.).

PROPOSED DRILLING IN THE VICINITY OF THE CLACKLINE (BAKER'S HILL) IRONSTONE DEPOSITS.

In connection with the search for sulphides for use in the preparation of sulphuric acid an examination was made, during March, 1941, of an area in the vicinity of a number of old ironstone quarries near Clackline. Between 1899 and 1907 the Fremantle Smelting Works obtained ironstone from these quarries for use as a flux. It was thought that the ironstone may have been formed by the oxidation of sulphide ore bodies.

However, investigation showed that the ironstone was merely the more ferruginous portions of the laterite and that the iron was derived mainly from ferromagnesian minerals, but possibly also from iron oxides contained in banded quartzites.

As there was no evidence of the existence of sulphide ore bodies below the zone of oxidation drilling was not recommended.

PROGRESS REPORT ON THE GEOLOGY OF PORTION OF THE MT. MARGARET GOLDFIELD.

This report refers to work commenced at Beria in 1937 by Mr. Hobson and his colleagues and continued during the following years. The work was completed during 1941 and in all, 6,300 square miles of country were examined and mapped. During the 1941 field season Mr. Hobson was concerned with an area extending north and south from Murrin. In the vicinity of Murrin the outcrops were very much better than in the

areas previously examined and more information was obtained regarding the relationship of the various rock types.

The report includes a detailed classification of the rock types of the whole of the area so far examined and summarised such new information as was obtained during 1941. A point of interest noted is the occurrence at one place of thin bands of a metamorphosed sandy magnesian limestone.

Reference is also made to the structural geology of the area and to various factors of the economic geology such as the relation of the various rock types and of structure to gold deposition. It was found that the principal ore bodies in the area examined during the 1941 field season occur at the junction of igneous and sedimentary rocks. This however does not apply to the whole of the area examined since 1937.

Some notes are given on the Waiti Kauri Group and on the Anaconda Group.

Prospecting is recommended at three localities in the vicinity of Murrin and some advice is given regarding prospecting in the district generally.

A map on a scale of 300 chains to an inch was prepared to illustrate the report.

R. S. MATHESON, B.Sc.

THE PHOSPHATE DEPOSITS IN THE DANDARAGAN DISTRICT, SOUTH-WEST DIVISION.

Detailed mapping and test sampling of the principal phosphate deposits in the Dandaragan district were carried out by Mr. Matheson during the period May to August, 1941. The deposits are the outcropping sections of two, thin, nodular, phosphate beds of chemical origin, which are part of a series of Cretaceous rocks consisting mainly of greensands and chalk.

Estimates of the reserves, based on a 20ft. stripping limit, indicate that deposits on the lower bed contain 691,000 long tons of phosphate rock, while those on the upper bed contain 263,000 long tons. Due to the presence of iron and aluminium phosphates, and to their probable low average phosphoric oxide content, the deposits on the lower bed are of no importance. Deposits on the upper bed, which have an average phosphoric oxide content of about 11 per cent., and in which the phosphoric oxide occurs mainly as apatite, could be utilised in the event of a critical shortage in supplies of imported phosphate rock, but are of little commercial importance under normal conditions. It would be possible to improve the grade of the material available from the deposits on the upper bed by concentrating the nodules separately, though this would result in a reduction in the quantity of reserves.

Additional deposits associated with the upper phosphate bed may be located elsewhere in the district by prospecting at the base of the chalk, particularly on the Vine Cottage and Yerri Yerri properties.

WHIM CREEK INVESTIGATIONS.

In November, 1941, following a request of the Commonwealth Copper and Bauxite Committee, a geological and contour map of the country in the immediate vicinity of the Whim Well Copper Mine, and a cross section of the mine workings, were prepared by Mr. Matheson. An estimate was also made of the tonnage of material in the various dumps. The work carried out was in connection with a proposed diamond drilling campaign.

K. R. MILES, B.Sc. (Hons.).

REPORT ON A PETROLOGICAL INVESTIGATION OF METASOMATISM NEAR THE CORINTHIAN ORE BODY.

Petrological investigations of bore cores from bores drilled by Big Bell Mines Ltd., to explore the ore body of the Corinthian G.M. 10 miles N.W. of Southern Cross, were made by Mr. Miles during March, 1940. The object of this investigation was to determine whether or not from a megascopic and microscopic examination of the core any evidence could be obtained indicating significant metasomatic changes in mineralogical composition of the wall rock as the ore body was approached. It was thought that if it could be established that certain constant mineralogical changes did occur, then under such conditions rapid petrological examinations of core should provide very special material assistance during campaigns of prospecting by drilling.

The megascopic and microscopic examination of the core did indicate that certain detectable mineral changes had taken place in the wall rock in proximity to the ore body, but it appeared probable that these changes could not all be attributable to metasomatic replacement by contemporaneous emanations from the ore body, but that they were to a considerable degree contact metamorphic effects. Chemical analyses of representative samples of the country rock confirmed this view.*

THE GEOLOGY OF TINDALS, COOLGARDIE GOLDFIELD.

During the period 17th April to 29th May, 1941, Mr. Miles was engaged in investigations of the geology of the country in the immediate vicinity of the Tindals Gold Mine, situated some 2½ miles by road south of Coolgardie townsite. A detailed geological subsurface map of an area of some 2½ square miles was prepared and all lodes and underground workings were examined.

The principal geological features revealed in this investigation are—(1) the country to the north and north-east of Tindals Mine has been folded on a major east-west axis in a broad east-facing arc (probably an east pitching anticline). Tindals is situated on the southern limb of this fold. (2) The Tindals lodes occur in a belt of comparatively soft basic schists (believed to represent recrystallised products of original basic tuffs) bounded to the east and west by belts of harder recrystallised basic (probably basaltic) lava flows. (3) Contact between the basic schists and the eastern lava belt, which contains interbedded thin bands of metamorphosed graphitic slate, forms a well marked structural horizon.

The Tindals main lode is a compound, post folding acid intrusive body consisting of (1) dark aphanitic siliceous material, little mineralised and seldom auriferous, (2) med-coarse grained auriferous aplite which is usually well mineralised with sulphides and intersected by quartz veins. From field observations and microscopic studies Mr. Miles considers that these two types are co-magmatic, the first probably representing an early phase injection of very fluid and volatile acid material at fairly high temperatures along planes of lamination in the basic schists, the second or aplitic phase being a later phase of injection of material from the same magma source along substantially the same channels. The final emplacement of the vein quartz, and the sulphide mineralisation of the aplite with concomitant introduction of gold was probably an end phase process carried out at falling temperatures.

From his examination Mr. Miles could find no structural evidence to suggest any immediate diminution in dimensions of the lode channel with increasing depth. The distribution of gold within this channel is indicated by the distribution of the sulphide mineralisation.

A table has been prepared giving a complete analysis of the recorded production for the Tindals area dated from the time of first official records (prior to 1893) up to July, 1941.

TWO REPUTED IRON ORE DEPOSITS IN THE VICINITY OF ALBANY, S.W.

Following representations by the Mayor, Chairman of the Road Board and residents of the district, Mr. Miles was instructed to make inspections of two reputed iron ore deposits in the vicinity of Albany. These examinations were made during 16th-18th July, 1941. The first deposit is situated near Warriup at about 33 miles by road north-east of Albany and the second on a ridge just north of Lake Sepping, about two miles north-east of Albany townsite.

Short inspections quickly revealed that both of these reputed iron deposits represented portions of a thin ferruginous laterite capping apparently overlying tertiary (Plantagenet) sediments. Although specimens of high grade limonitic iron ore could be obtained it was

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* The full text of this report has since been published under the title "Metasomatism Near the Corinthian Ore body, Western Australia," in the Proceedings of the Australasian Institute of Mining and Metallurgy (New Series No. 125, 1942, pp. 71-83).

obvious that in neither locality was iron ore present in sufficient quality or quantity to be of any commercial value.

THE HILL 60 LODE, MT. MAGNET GOLD MINES, LTD., MT. MAGNET.

From August 2nd-9th, 1941, Mr. Miles was engaged in an examination of the underground workings of the Hill 60 Mine, Mt. Magnet, in order to determine the nature, origin, mineralisation and any structural features of the ore body such as might provide indications of its future prospects at depth. This investigation was in connection with the proposed closing down of this mine which had been for some months carrying out certain development work subsidised by the Government.

After a careful review of the nature of the lode, its grade, distribution of the values, and a close survey of the development work then in progress, Mr. Miles came to the conclusion that further expenditure on a continuation of development work was not warranted.*

A SUPPOSED MANGANESE AND HEMATITE DEPOSIT NEAR WALLANGIE, COOLGARDIE GOLDFIELD.

Accompanied by two well known Kalgoorlie mining men, Messrs. J. Bordoni and S. Stene during 28th-29th October, 1941, Mr. Miles paid a brief visit to the Wallangie district near the north-western boundary of the Coolgardie Goldfield to examine and report on alleged deposits of manganese and iron ore.

The site of the supposed deposit is about six miles north-east of Wallangie Rock and about 7½ miles north of the old Wallangie leases. It proved to be the same deposit as that described by R. C. Wilson in 1921.†

Where exposed the manganese deposits were seen to be small and probably limited in depth so as to be of little commercial value at present. Although considerable quantities of iron ore undoubtedly occur in the jasper bars forming numerous outcrops in this belt of country, nowhere was it seen in sufficient purity or concentrated in sufficient quantity to be of any commercial importance under existing conditions.

GEOLOGICAL NOTES ON BORING IN THE MT. PALMER DISTRICT, YILGARN GOLDFIELD.

During August, 1940, Mr. Miles carried out detailed geological mapping on two temporary reserves (Nos. 1087H and 1088H) at Meier's Find, approximately 2½ miles due south, and at Heaney's Find, approximately 3¼ miles N.N.E., respectively, of Mt. Palmer townsite. This work was done to assist in the selection of sites for boring by Yellowdine Gold Development, Ltd.

Six bore holes were drilled at Heaney's Find and four at Meier's Find. Later the core from all these bores were forwarded to Perth where Mr. Miles was able to examine them and prepare petrographical logs of each. Results of all assays made by the company were also supplied. These bore cores have provided some extremely interesting petrological data regarding the products of high grade metamorphism of Western Australian jasper bars.

The Under Secretary for Mines.

I have the honour to submit for the information of the Honourable the Minister for Mines, my report on the operations of the Geological Survey for the year 1942.

STAFF.

There were no staff changes during the year, and the work of the Branch continued to be carried out by the Government Geologist, three field geologists, a junior clerk, a typiste, and a messenger.

FIELD WORK.

The war has had a disturbing influence on the normal activities of the Geological Survey, and from the primary function of mapping, all the professional officers have been diverted to special investigations urgently called for by the abnormal conditions.

F. G. Forman, B.Sc., Government Geologist:

The greater part of the time spent by me in the field was occupied in short visits of inspection connected with special investigations on the Greenbushes tinfield and the development of a soapstone deposit at Glen Lynn in the Bridgetown district. The investigations at Greenbushes included the possibility of developing an unworked area of tin-bearing material on M.C. 47 and a general re-survey of the whole of the Greenbushes district.

Considerable time was spent in investigating the emery deposits of the Richenda River district in the Kimberley division, and towards the end of the year I commenced, in the company of a representative of the British Phosphate Commission, an investigation of certain of the phosphate deposits of the State. This work was still in progress at the end of the year.

R. A. Hobson, B.Sc. (Hons.), Geologist:

During April Mr. Hobson was engaged in an examination for alunite of some lakes in the vicinity of Baladjie and Mt. Palmer, both in the Yilgarn Goldfield.

From June to December Mr. Hobson was continuously engaged on geological mapping in the Greenbushes tinfield. In addition to co-operating with Mr. Matheson in the production of a geological map of the principal lode bearing area, he prepared a new sketch map of the whole of the mining district.

R. S. Matheson, B.Sc., Geologist:

During February Mr. Matheson investigated, by detailed mapping and sampling, the tin prospects of M.C. 47, Greenbushes.

In March he accompanied Mr. H. R. Hose, of the Aluminium Laboratories Ltd., Canada, on a reconnaissance survey of the more likely bauxite bearing localities in the South-West Division.

During April Mr. Matheson assisted Mr. Hobson with sampling operations at Baladjie and Mt. Palmer.

From June to October Mr. Matheson collaborated with Mr. Hobson in the mapping of the Greenbushes lodes, and supervised the prospecting work carried out by the Mines Department on M.C. 47. Whilst in the district he also examined a soapstone prospect at Meaney's Bridge, six miles north of Greenbushes, and the felspar-beryl deposit at Ferndale, near Balingup.

In December Mr. Matheson accompanied Mr. H. B. Owen, of the Mineral Resources Branch, Department of Supply and Shipping, on an inspection of mica deposits at Yinnietharra, Ajana, Northampton and Mullalyup.

K. R. Miles, D.Sc., Geologist:

In February Dr. Miles examined a beryl prospect situated 18 miles east of Mundaring in the South-West Division.

In July he investigated the availability of antimony ore from the Moonlight Wiluna G.M. at Wiluna, East Murchison Goldfield.

During August and September Dr. Miles reported on a molybdenite prospect at Swan View, in the Darling Ranges east of Perth, and made an inspection and valuation of a limestone quarry in the Fremantle area.

In October he inspected Mr. R. H. Rooke's property about 14 miles south-east of Katanning in search for an alleged deposit of quartz crystals.

During November Dr. Miles was engaged on a tour of investigation of the principal tantalite bearing areas of the Pilbara Goldfield. Localities visited included Wodgina, Tabba Tabba, Strelley, Pilgangoora and Abydos. He was accompanied on this trip by Mr. A. L. Kennedy, late manager of Tantalite, Ltd., and now of the Mineral Resources Branch, Department of Supply and Shipping.

OFFICE AND GENERAL.

Petrological determinations for the public and for departmental purposes were made throughout the year by Dr. Miles. This work was considerably hampered

* Following Mr. Miles' visit, development was continued until the end of August when all work ceased and the mine was closed down.

† Manganese Ore at Mount Walton, Coolgardie Goldfield. Ann. Prog. Rept., G.S.W.A. for 1921, p. 37.

by the lack of a trained assistant, much of Dr. Miles' time being consumed in the mechanical operation of preparing thin sections.

Dr. Miles also took charge of a reorganisation of the rock and mineral collection of the Geological Survey, the registering and indexing of which had fallen some years into arrears. This work was carried out intermittently throughout the year, and was particularly urgent because of the necessity for frequent reference to the collection in dealing with problems connected with strategic minerals.

The professional officers of this branch are to be commended for their efforts in assisting at a three day trial of a small copper smelter in January. Labour for the short period involved was extremely difficult to procure, and the trial was finally made possible by the Geological Survey officers volunteering to provide the labour for one shift each day.

In February it was decided to send all original and unpublished plans to a country centre for safe keeping against the risk of loss through enemy action. All the professional staff were engaged in their collection and disposal.

PUBLICATIONS.

Geological Survey Bulletin 100 was published early in the year. It is in two parts, Part 1, The Blue Asbestos Bearing Banded Iron Formations of the Hamersley Ranges, by Keith R. Miles, B.Sc., (Hons.), Geologist; and Part II., The Blue Asbestos Deposits of the Hamersley Ranges and their Economic Importance, by J. S. Foxall, B.E. (Syd.) M.I.E., Aust., Assistant State Mining Engineer.

In order to conserve paper and printing costs, summaries only of the various reports prepared during the year appear on the following pages. The full text of the reports are available for public information at the office of the Geological Survey, Beaufort street, Perth.

I wish to record my appreciation of the work of all members of the staff, who have worked conscientiously throughout the year, sometimes under very trying circumstances.

F. G. FORMAN,
Government Geologist.

SUMMARIES OF REPORTS.

F. G. FORMAN, B.Sc., Government Geologist.

SOAPSTONE AT GLEN LYNN, SOUTH-WEST DIVISION.

The development of a soapstone deposit on Mr. Mabey's property near Glen Lynn siding, five miles south of Bridgetown was closely watched throughout the the year.

The rock being developed is massive and greenish-grey in colour. It consists of talc, chlorite, rutile and actinolite. Its exact origin is somewhat doubtful. The most recent inspection of the property indicated that the stone was not opening up as well as was originally expected and that much difficulty would be encountered in obtaining blocks large enough from which to cut sizes of 12in. by 12in. by 6in., which size of blocks constitutes a large proportion of an order now being dealt with.

The future of the Glen Lynn deposits would appear to depend on whether the ground soapstone can be used for agricultural purposes.

ALLEGED SCHEELITE DEPOSIT NEAR KUNUNOPPIN.

Following a report from Mr. Barrymore of Greenbushes that scheelite occurred in pegmatite veins cutting through granite at Yarogin Rock, north of Kununoppin, an examination of this locality was made with negative results.

Yarogin Rock is typical of many of the bare granite rocks which occur throughout the wheat belt. The rock is a coarse-grained porphyritic granite and shows a distinct gneissic banding, the lineation almost everywhere following the direction of the outer surface of the rock. The gneiss contains numerous zenoliths of a dark coloured basic rock, which clearly proves its intrusive character. The rock is cut by numerous remarkably straight veins of pegmatite and graphic granite, the minerals present being quartz, microcline and biotite mica. A whole morning spent in the examination of pegmatite veins failed to reveal the presence of any heavy minerals likely to be of economic value.

NEVILLE'S SCHEELITE PROSPECT—MELVILLE, YALGOO, G.F.

In November, 1942, a short visit was paid to a scheelite prospect at Melville being developed by Neville and party.

The scheelite occurs as disseminated grains and scattered lumps in a sheared greenstone close to granitic intrusions. At the time of inspection the scheelite had been located in only three shafts and a few shallow costeans, the work done being totally inadequate to enable an opinion to be formed regarding the prospects of the deposit.

At the conclusion of the examination Australian Mines Management and Secretariate, Ltd., were advised that the securing of an option for prospecting purposes was warranted. It is understood that after the expenditure of a few hundred pounds in trenching and shaft sinking, the option was abandoned as being unlikely to be payable.

COPPER PROSPECTS AT GALENA—NORTHAMPTON MINING DISTRICT.

Following representations by Mr. T. Weir, of Galena, an examination was made of two areas; a prospecting area held in the name of F. Cordingly (late Mining Lease 73) and Mining Lease 205 held in the name of T. Weir.

As a result of the examination the conclusions reached regarding the two areas were that Cordingly's P.A. does not warrant any further work and that any possible body of ore on Lease 205 must be further opened up before an opinion can be formed regarding its value.

EMERY DEPOSITS—RICHENDA RIVER AREA, KIMBERLEY DISTRICT.

Early references to the occurrence of emery near the Richenda River are brief notes in the Annual Report of the Geological Survey for the years 1918 and 1919.

In 1936 Mr. George Wye of Derby, forwarded to the Government Chemical Laboratory a large sample of emery from a deposit near Mt. Broome, and some time later Mr. R. J. Coleman, of Derby, forwarded samples from a deposit near Mt. Rose, both localities being on the Richenda River watershed.

On the visit of inspection covered by the present report, Wye's deposit was located at a point about 4 miles south-west of Mt. Broome. The emery occurs as veins or lenses associated with a shaly band in metamorphosed sediments. The mineral is in the form of a dark, dense, fine-grained rock sprinkled with glassy crystal facets, which sparkle on a freshly broken surface.

A rough estimate of the amount of broken emery lying on the surface at Wye's original discovery is between 50 and 100 tons, the distribution of the lumps indicating the presence of a number of parallel veins or lenses.

At a point between a half and one mile north-west of Wye's discovery detrital emery was also seen, but a short search which was all that was possible in the circumstances, failed to locate the actual outcrop.

From the uniform nature of the country in the vicinity, coupled with reports of detrital emery from various scattered localities, there is little doubt that further search would reveal other deposits of a grade similar to that already found.

R. A. HOBSON, B.Sc. (Hons.).

INVESTIGATIONS IN THE GREENBUSHES TINFIELD.

During the period June to December, 1942, detailed geological mapping and investigations were carried out by Mr. Hobson and his colleague, Mr. R. S. Matheson, in the Greenbushes Tinfield. Mr. Hobson made a detailed examination of the north-west end of the belt of lode-bearing country, which includes the tantalite workings, and also revised the general geology of the district.

The principal contributions to our knowledge of the geology of the Greenbushes Tinfield are that the older alluvium has a wider distribution than was previously recognised, and that the basement complex consists largely of metamorphosed lavas and meta-sediments. More information concerning the geology, and descriptions of the mines is contained in a comprehensive report, which is being prepared.

The prospecting of Paper Bark Swamp is recommended.

SAMPLING OF SOME LAKES NEAR BALADJIE AND MT. PALMER FOR ALUNITE.

In April, 1942, Mr. Hobson with the assistance of Mr. R. S. Matheson, sampled lakes near Baladjie and Mt. Palmer with a view to locating useful deposits of alunite.

Preliminary prospecting indicated that the only deposit of any consequence occurred in a small lake situated about 3½ miles south-south-east of Mt. Palmer. Subsequent systematic sampling of this deposit indicated the probable existence of 290,000 tons of material containing 59% alunite.

BORING ON M.C. 6—GREENBUSHES.

During November, 1942, an unworked portion of the alluvial ground in the upper part of Bunbury Gully, which was reported to contain high values, was tested by boring under Mr. Hobson's supervision. The results obtained from 6 bores indicated that the alluvium was neither as deep nor the values as high as was reported, and that the unworked area was small.

R. S. MATHESON, B.Sc.

INVESTIGATIONS IN THE GREENBUSHES TINFIELD.

During the period June to October, 1942, detailed geological mapping and investigations were carried out by Mr. Matheson at the south-east end of the belt of lode-bearing country, while similar work was done at the north-west end by his colleague, Mr. R. A. Hobson. The area examined by Mr. Matheson includes Mineral Claims 4, 6, 34 and 45 and dredging claim 90, reports on which have been compiled.

During this period Mr. Matheson also made a detailed examination of M.C. 47, and supervised certain prospecting operations being carried out on behalf of the Mines Department.

Mineral Claim 47.—Prospecting operations revealed the existence of several scattered lenses of stanniferous lode material in this area, but their commercial importance cannot be determined until the assay results come to hand.

Mineral Claim 4.—Mining was in progress on the "Vulcan" lode at the time of inspection (August, 1942) but ore reserves were reported to be small and operations were expected to cease at an early date. There is scope for prospecting north-west of the "Vulcan" open cut, in the vicinity of the old "Ironclad" workings and in the unworked belt of newer alluvium along the northern side of Westralian Gully.

Mineral Claim 6.—If the results obtained in bores put down by Greenbushes Tin Ltd., are accepted as correct, there is a large quantity of cassiterite yet to be recovered from lode material and alluvial deposits on M.C. 6. It has been estimated that 740,000 cubic yards of material with an average value of 1·31 lbs. of SnO_2 per cubic yard occur in the area prospected, between the surface and 38 feet vertical depth. The solid laterite capping which occurs over much of the area, and, in the case of the alluvial ground, the occasional cementing together of the "wash," may present mining difficulties.

Mineral Claim 34.—The principal workings included in this mineral claim are those of the old "Kapanga" Mine, but there is no incentive to prospect them at depth. With the present high price of tin (66/- per unit), it may be possible to recover small parcels of ore from the old workings and some prospecting appears to be warranted beyond the south end of the line of workings.

Mineral Claim 45.—This mineral claim includes the workings of the old "Lost and Found" Mine. Much of the cassiterite recovered from the area has been obtained from alluvial deposits, but narrow, irregular pegmatitic lodes, occurring below the alluvium, have also been mined. Further mining on M.C. 45 is dependent on the discovery of unworked patches of oxidised ore in the lode workings, and on the discovery of other concentrations of cassiterite in the alluvial ground.

Dredging Claim 90.—Most of the old alluvial workings in Elliot's Gully are included in the ground now occupied by D.C. 90. Two horizons of stanniferous "wash," occurring in alluvial deposits up to about 50 feet in thickness, appear to have been mined in the area but their full extent is not known. Meagre information concerning the old workings causes difficulties in correlating the two seams of "wash," and it is possible that some of the old workings were discontinued on a false bottom. There is scope for further prospecting in this area.

BAUXITE INVESTIGATIONS.

In the early part of March, 1942, Mr. Matheson accompanied Mr. H. R. Hose, of the Aluminium Laboratories Ltd., Canada, on a reconnaissance survey of the likely bauxite-bearing localities in the South-West Division.

Various deposits of bauxitic laterite overlying several different types of rocks, were sampled and their topographic situation noted. Samples collected in the Toodyay district, from deposits overlying metamorphosed argillaceous sediments gave the best results, but so far as is known the deposits are not extensive. In most of the samples collected in other districts the silica and/or iron oxide content exceeded present permissible limits.

Other areas worthy of investigation include York, Greenhills, Greenhills-Quairading, Chittering and Wooroloo.

INVESTIGATIONS ON THE MICA DEPOSITS IN THE YINNIETHARRA, AJANA, NORTHAMPTON AND MULLALYUP DISTRICTS.

During the period 1st to 19th December, 1942, Mr. Matheson, accompanied Mr. H. B. Owen, of the Mineral Resources Survey Branch, Department of Supply and Shipping, on an inspection of the mica deposits in the above districts. The principal object of the investigations was to locate workable deposits of clear or commercial clear muscovite mica, and consequently a number of deposits in the districts known to contain only stained and spotted muscovite were not visited.

Important deposits of clear and commercial clear sheet muscovite, development of which has since been undertaken, were located in the Yinnietharra district. It is possible that this centre may also be an important source of beryl.

Although small amounts of clear sheet mica could be obtained from some of the deposits in the Ajana, Northampton and Mullalyup districts, it is unlikely that they could be successfully exploited solely for sheet mica, under existing circumstances.

INVESTIGATION OF THE MEANEY'S BRIDGE SOAPSTONE DEPOSIT.

A detailed examination of this deposit, which is situated about six miles north by road from the Greenbushes railway station, was made by Mr. Matheson in July, 1942.

The deposits consists of 17 lenses of soapstone occurring in a complex of quartz-mica gneiss, quartz veins and epidiorite dykes. A few of the lenses consisted of fairly fresh soapstone and the quality was expected to persist if not improve with depth. Subsequent prospecting showed that the soapstone in these particular lenses became decomposed at depth, however, and operations were discontinued. It is therefore suggested that the belts of soapstone are lenticular, vertically as well as horizontally, and that the fresh soapstone occurs as kernels in the more decomposed material.

K. R. MILES, D.Sc.

INSPECTION OF NORRISH AND SELKIRK'S BERYL SHOW, MUNDARING, S.W. DIV.

This show is situated about 18 miles by road south-east of Mundaring township and approximately five miles north-east of Mt. Dale. It was inspected by Dr. Miles on February 11th, 1942, with the object of assessing the commercial possibilities of the deposit. The very small amount of beryl visible in the exposure and shallow workings gave little grounds for the belief that the deposit will prove of any economic importance.

INSPECTION OF MOLYBDENITE SHOW, SWAN VIEW, S.W. DIV.

On August 4th, 1942, Dr. Miles accompanied Messrs. Ives Bros. on an inspection of the workings of an old molybdenite show 1½ miles north-north-east of Swan View Railway Station in what was the old Reward Lease 211H. This show was previously inspected in 1914 by H. W. B. Talbot. Although a little further work had been done since then, there is no evidence to suggest that a workable deposit of molybdenite exists here.

INSPECTION OF AN ALLEGED QUARTZ CRYSTAL DEPOSIT, KATANNING, S.W. DIVISION.

An inspection was made during October 26th-29th of the property of Mr. F. H. Rooke at about 14 miles by road south-east of Katanning, with the object of investigating a claim that quartz crystal suitable for optical or piezo electric purposes occurred there. After a brief inspection it was obvious that the claimants had not appreciated the requirements of crystals to be used in optical munitions, etc., and that no suitable crystal was to be found in this locality.

REPORT ON ANTIMONY IN THE MOONLIGHT LEASES, WILUNA, EAST MURCHISON G.F.

During July, 1942, an inspection of the leases held by the Moonlight Wiluna Gold Mines, Ltd., at Wiluna, was made by Dr. Miles with the object of assessing the available antimony ore on the property and reporting on the possibilities of developing any further deposits not yet exploited. An opportunity was also made to enquire into the antimony production of the Wiluna Gold Mine during Dr. Miles' visit. It was found that the known surface exposures of antimonial ore in the Moonlight leases (four in number) gave little promise of the existence of workable antimony deposits. In the Moonlight Mine itself most of the antimony sulphide (stibnite) ore has now been worked out, the total available antimony reserve at the time of inspection probably amounting to little more than 400 tons, of which about 300 tons metallic antimony would be recoverable.

Surface indications of antimonial ore on the Wiluna G.M. Company's leases are extremely limited, whilst in the mine itself ore reserves at the time of inspection were said to be little more than five months' supply, or 750 tons of recoverable metallic antimony.

BORING AT WHIM CREEK—LOGS OF BORES.

A drilling programme to investigate the downward continuation of portions of the ore body of the Whim Well Copper Mine at Whim Creek, Pilbara district, was carried out between June and August, 1942, by arrangement with the Commonwealth Copper and Bauxite Commission. On completion of the drilling of seven bores (Nos. 12-18) and after the core had been split and samples sent to the Government Mineralogist and Analyst for assay, the remaining core was delivered to the Geological Survey, where Dr. Miles made a careful petrographical and minerographic log of each bore and took representative samples for preservation in the Survey Museum collection.

Details of the bores and their logs have been listed in tabulated form, and the results of the recent assays, together with a complete analysis of a representative bulk sample of sulphide ore from Bore 18, have been added as appendices.

NOTES ON AN INSPECTION OF THE PRINCIPAL TANTALITE-BEARING DISTRICTS OF THE PILBARA GOLDFIELD.

This inspection was made during the period November 13th-24th, 1942, in the company of Mr. A. L. Kennedy, a representative of the Commonwealth Department of Supply and Shipping, late manager of the Tantalite Mine at Wodgina, the world's principal producing centre for tantalite. The centres inspected included Wodgina, about 70 miles due south of Port Hedland, Pilgangoora, about 14 miles east of Wodgina, Tabba Tabba, 40 miles south-east of Port Hedland, and Strelley, about 15 miles north-east of Tabba.

During the course of this tour Dr. Miles was impressed by the possibilities of future systematic development of the tantalite lodes, particularly at Wodgina and Strelley. Some attention was also paid to occurrences of several other minerals for which there is a reported present demand, viz.: beryl, lithium-bearing minerals (spodumene and lepidolite) at the above mentioned centres, and corundum at Abydos, south of Wodgina.

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Division V.

School of Mines of W.A.

The Under Secretary for Mines.

I forward hereunder for the information of the Hon. Minister for Mines, my Annual Report for 1942.

1. KALGOORLIE SCHOOL OF MINES.

Enrolment.

The number of students enrolled was as follows:—

	Class. Enrolments.	Individual. Enrolments.
First Term	562	295
Second Term	409	267
Third Term	334	212

Correspondence Classes Enrolment:—Effective 12, new 3.

Munition Trainees:—Preliminary Training 100, Full-time Training 40.

Compared with 1941, the individual enrolments show an average decrease of 120, which was fully expected as a result of enlistments in all arms of the defence forces and calls-up for military service in the Citizen Military Forces. War service has called away so many of the older students, that henceforward the majority of the students must consist of those under eighteen years of age and those either classed as medically unfit or as being in reserved occupations.

Fees received, exclusive of Metallurgical Laboratory fees and Correspondence Class fees, amounted to £328 17s. 6d.

Staff.

Further changes in Staff, in addition to those quoted in my 1941 Report, have taken place during the year in consequence of enlistments.

Mr. R. W. Fletcher, who had conducted the work of the Department of Mining and Geology, was called up for service with the Royal Australian Air Force at the end of the first term and it was not until towards the end of the second term that it was found possible to fill the vacancy thus created. This vacancy was filled by the appointment of Mr. J. B. A. J. Rane, a French Mining Engineer, who has had many years' experience in Malaya and who has entered into the work energetically and enthusiastically. In the loss of Mr. Fletcher the School was unfortunate as he had given excellent service and his varied practical experience had proved of great value to the students. The school is, however, fortunate in being able at this time to obtain the services of so well qualified a lecturer as Mr. Rane.

Mr. W. H. Cleverly, who had held the position of Science Assistant since the release of Mr. Sivyer for munition work, resigned to enlist in the Australian Imperial Forces and, as it was found impossible to obtain a suitable successor, his duties have been undertaken by Messrs. R. W. Wilson and W. McA. Manson, members of the Staff of the Metallurgical Laboratory.

Mr. G. Stack, who has held the position of Assistant Lecturer in Mathematics since Mr. Edelman took up duty temporarily as Lecturer in Mathematics and Physics in place of Mr. E. H. Illidge who enlisted in the Royal Australian Air Force, has ceased duty to join the Air Force.

Changes in the teaching staff are unfortunate but unavoidable under present conditions and I am pleased to pay a tribute to the value of the work of those members of the Staff who have been released for enlistment and to the way in which other members of the Staff have undertaken extra work pending the appointment of successors to the enlisted officers.

Royal Australian Air Force.

Members of the Staff have again acted as a Recruiting Committee for the R.A.A.F. and also for the Women's Auxiliary and on four occasions the School was made available for use by Recruiting Units of the Air Force for the enlistment of men and women. The office staff have given great assistance in carrying out this war work.

Munition Training.

A further number of students have received appointments in explosives factories in the Eastern States, and Imperial Chemical Industries of Australia and New Zealand are now employing as Shift Superintendents at least twelve students and graduates of this School, all of whom have been reported as having given very satisfactory service.

In the early part of the year a preliminary training class was established under the Commonwealth Technical Training Scheme for the preparation of men to undergo full-time training as fitters or machinists for work in munition factories. This class was under the control of Mr. J. Donovan, an experienced tradesman, who took up the work most enthusiastically. From this preliminary training class the men were drafted into full-time training under Mr. O. Shenstone who had previously conducted classes in fitting and turning at the Norseman School of Mines. Twenty-three men have been passed through this latter class, which is still in operation. As a result of the establishment of this class it is intended to instal additional equipment in the workshop, as follows:—Milling machine and grinder and possibly additional lathe, to provide for the training of these men in all classes of machine work to fit them to carry out efficiently their work when drafted into industry as added tradesmen.

Correspondence Classes.

Correspondence classes have been continued during the year but as was to be expected in consequence of the reduction of activity in the gold mining industry there has been less demand for these courses of instruction than hitherto.

The total new enrolment has been 3, made up as follows:—Metallurgy I., 2; Ore Dressing, 1.

The war in the Pacific has caused the complete cessation of the School's activities in the instruction of students in countries now occupied by the enemy, several of whom were located in New Guinea.

Apprentices' Classes.

With the full approval of the Court of Arbitration, the special afternoon classes for apprentices were discontinued and apprentices were consequently compelled to attend the evening course classes of the School in order to comply with the Apprenticeship Regulations and the Award of the Court of Arbitration.

This action was taken because it was considered that the apprentices would receive better instruction than could be given when an instructor was required to impart instruction in five grades of the same subject simultaneously.

Although the change has met with opposition from some of the apprentices who apparently looked on the afternoon class as a weekly respite from work, it is felt that it will be in the best interests of the apprentices.

Revenue.

The revenue from fees, not including Metallurgical Laboratory and Correspondence Class fees, has been £328 17s. 6d.

Correspondence Class fees amounted to £12 and fees received for investigations conducted in the Metallurgical Laboratory have amounted to £144 16s. The fees received in connection with the Metallurgical Laboratory have been paid into a Trust Account which is used to meet expenditure on maintenance and incidentals in connection with the work of the Laboratory.

Public Assay Department.

The number of free assays and mineral determinations carried out by members of the Staff for prospectors during the year was as follows:—

Assays for gold and other metals	168
Mineral determinations	111

In addition, advice and assistance has been given to prospectors and in some cases where transport arrangements could be made, the Director and members of the Staff have visited mines to inspect operations and give advice on mining, metallurgical, geological, and engineering problems and difficulties met with by the prospectors or operators.

Metallurgical Laboratory.

During the year eleven applications for investigations into the treatment of ores, minerals, and metallurgical products were received, nine of which were either completed or carried to a stage where an informative progress report could be issued. The Commonwealth Council for Scientific and Industrial Research which gives an annual grant to assist the work of the Laboratory, has now decided that the work shall not be restricted to gold ores, but may also be in connection with base metals and non-metallic minerals whose utilisation is necessary for the prosecution of the war. Consequently, in addition to investigations on gold ores and mill products, work has been continued on the application of the Segregation process to the treatment of Whim Creek copper ores and a comprehensive investigation has been carried out to devise a method of recovering the small percentages of scheelite and wolframite from the old and current residues of Edna May Amalgamated at Westonia.

Other investigations, pending or in hand, in the same category are the treatment of copper ores, the recovery of zinc from dross produced in galvanising works, and the concentration of graphite from Munglinup ore.

The Senior Research Metallurgist in the middle of the year carried out an experimental smelting campaign on copper ores in the Marda district which resulted in the acquisition of considerable valuable information regarding the possibilities of the smelting of oxidised copper ores on a small scale in a small blast furnace.

He will shortly initiate similar smelting operations at Ravensthorpe with a small water-jacketed blast furnace supplied by the Mines Department.

In consequence of the urgency of the investigations now being conducted into the recovery of tungsten minerals from Edna May Amalgamated residues and of graphite from Munglinup ores, the Staff of the Laboratory have decided to forego the greater portion of the summer vacation as a contribution to the war effort.

In connection with the work of the Laboratory and the experimental smelting campaigns 692 assays for gold have been carried out as well as 496 chemical analyses and 65 grading analyses, not including routine tests on cyanide solutions, etc.

Two of the investigations carried out during the year have been free investigations for the Mines Department or for the Council of Scientific and Industrial Research.

Extension of the Laboratory is still a pressing need so as to remove all dry-crushing equipment to a separate building and to instal special equipment in more suitable quarters.

Buildings.

No building extensions have been put in hand during the year but the necessity for internal and external painting of the whole of the School should not be lost sight of when conditions are more favourable and money is available for this purpose.

Advisory Committee.

The Advisory Committee has continued to hold regular monthly meetings and the efforts of members of the Committee have resulted in the promise of generous financial assistance being given to the School by the mining companies of the State when conditions brought about by the war improve sufficiently to enable this money to be utilised to the best advantage.

The representative of the Australian Workers' Union, Mr. R. T. McKerlie, resigned on account of enlistment in the R.A.A.F. and Mr. A. Beange was appointed to represent the Union in his stead.

Employment of Students.

Opportunities of placing graduates and students of the School in responsible technical positions within the State and in the other States of the Commonwealth have again been presented but, owing to the present dearth of manpower in Kalgoorlie, it has not always been possible to take advantage of the offers made. That the training given at this School is appreciated is shown by the number of positions offered and by the fact that those who have accepted such positions have filled them with credit to themselves and to the satisfaction of their employers.

Scholarships and Prizes.

The Chamber of Mines and the Students' Association have continued their valuable scholarships but competition for the valuable scholarships offered by the Mines Department could with advantage be much greater than at present especially as these scholarships are all open to candidates under military age.

The holder of the Sverre Stene Scholarship relinquished the Scholarship owing to inability to attend classes during the year and the scholarship has therefore been awarded on the results of the annual examinations this year.

The Institution of Mine Surveyors has again generously presented four prizes, the Critchley Parker prizes have been continued and an annual prize has been donated by Mr. C. A. Hendry, an ex-student of the School.

Examinations.

In the early years of the School's existence examiners consisted of the teaching staff of the School with men eminent in the practice of mining, metallurgy, and engineering as co-examiners. For financial reasons, these co-examiners were subsequently replaced by Lecturers at the Perth Technical College since at that time many of the students of that institution were proceeding to Diplomas of the School of Mines. This condition of affairs no longer exists and it is considered that the value and status of the examinations would be increased by abolishing the existing system and having the annual examinations conducted internally.

Diplomas and Certificates.

Diplomas and Certificates issued during the year have been as follows:—

Diploma in Mining	5
Diploma in Engineering	1
Mine Surveyor's Certificate	5
Assayer's Certificate	1

2. WILUNA SCHOOL OF MINES.

Enrolments.

The enrolments for 1942 were as follows:—

	Individual Enrolments.	Class Enrolments.
First Term	57	96
Second Term	51	86
Third Term	45	70

Classes have been conducted in Arithmetic, Elementary Mathematics, Preparatory Mathematics, Mathematics I., Mining I., Preparatory Mechanical Drawing, Mechanical Drawing I. and II., Internal Combustion Engines, Electrical Engineering I., Fitting and Turning I. and II., Preparatory Chemistry, Preparatory Physics, and Physics I.

Fees collected during the year amounted to £78 1s.

Staff.

In consequence of the departure of Instructors from the district, numerous changes in Staff have been necessary but technical officers of the mines and the Education Department have gladly given their services to keep the classes in operation. My thanks are due to all the instructors who have helped to keep classes in operation and to the management of Wiluna Gold Mines, Ltd., for the continued use of their workshops for the classes in Fitting and Turning and Electrical Engineering.

Examinations.

The number of passes gained at the Annual Examinations was 50.

Advisory Committee.

In consequence of his departure from Wiluna, Mr. K. F. Moylan resigned his position as a representative of the Instructors on the Advisory Committee and Mr. H. Giltrap has been appointed to the Committee in his stead.

Mr. J. H. Terrell, who has been a member of the Committee since the inception of the School and has always taken an active interest in the work of the School, resigned in September because of his early departure from Wiluna.

Both these retiring members of the Advisory Committee have given very valuable assistance to the School and their departure from Wiluna and the severance of their connection with the School of Mines is greatly regretted.

General.

During the year I paid two visits to Wiluna and discussed with the Advisory Committee and the Registrar matters of importance to the School.

Although the attendance at the School has remained practically stationary throughout the year it is probable that there will not be any further serious decrease in enrolments since the mines have been declared a protected industry and therefore the exodus from the district will probably be now checked.

I must express my appreciation of the energy and enthusiasm which the Registrar, Mr. G. M. Hickey, has brought to his work and it is largely due to his enthusiasm that the School has maintained its progress in these difficult times.

3. NORSEMAN SCHOOL OF MINES.

Enrolments.

Enrolments during 1942 have been as follows:—

	Individual Enrolments.	Class Enrolments.
First Term	53	125
Second Term	47	99
Third Term	39	76

The subjects in which classes have been held regularly throughout the year have been Elementary Mathematics, Preparatory Mathematics, Mathematics I., Preparatory Physics, Preparatory Mechanical Drawing, Mechanical Drawing I. and II., Geology, Assaying I., Fitting and Turning I. and II., and Internal Combustion Engines.

Fees received during the year amounted to £50 11s. 6d.

Staff.

As in previous years members of the teaching staff have been technical officers of the mining companies and officers of the Education Department.

During the year two changes in Staff were necessary, Mr. O. Shenstone resigning as Instructor in Fitting and Turning I. owing to removal from Norseman, and Mr. C. J. Piper resigning as Instructor in Preparatory Physics because of pressure of official duties. Both these gentlemen have rendered efficient and valuable service to the School. Their work has been carried on by Messrs. L. Dodd and J. A. Dunn.

Advisory Committee.

The Advisory Committee has held regular meetings during the year, but the School has been unfortunate in losing the valuable services of the Chairman, Mr. K. A. Cameron and Mr. R. T. DeCaen, owing to removal from the district. Both these members have represented the Mining Companies on the Advisory Committee since its inception and it was very largely to their efforts that the erection of the School of Mines buildings at Norseman has been due.

The vacant positions have been filled by the appointment of Messrs. W. L. Dutton and G. H. Jennings both of Central Norseman Gold Corporation, Ltd.

Mr. R. O'Sullivan, representative of the Dundas Road Board on the Advisory Committee, also resigned and his position was filled by the appointment of Mr. L. Dodd.

Examinations.

Students of the Norseman School of Mines have sat for the Annual Examinations of the School of Mines and have gained 36 passes.

General.

During the year I visited Norseman and discussed with the Registrar and members of the Advisory Committee matters pertaining to the School of Mines.

The Registrar, Mr. K. H. Hogg, has carried out his duties enthusiastically and the success of the school is to a great extent due to the energetic manner in which he has carried out the duties of the position of Registrar.

To the members of the teaching staff my thanks are due for their valuable assistance during the year, without which conduct of the classes would not have been possible.

B. H. MOORE,
Director, School of Mines.

SCHOOL OF MINES OF W.A.

Attendances 1942.

Subject.	Effective Enrolment. 1st Term.	2nd Term.	3rd Term.
Elementary Mathematics ..	75	55	46
Preparatory Mathematics ..	42	28	24
Preparatory Mechanical Drawing	51	44	37
Preparatory Chemistry	31	26	21
Preparatory Physics	31	14	8
Preparatory Geology	11	7	4
Mathematics I.	22	17	13
Mathematics II.	11	8	5
Chemistry I.	6	5	5
Engineering Chemistry I. ..	3	3	3
Engineering Chemistry II. ..	2	2	2
Assaying I.	4	5	5
Assaying II.	2	2	2
Metallurgy I.	1	..	..
Metallurgy II.	2	2	1
Geology	6	4	4
Mineralogy	8	7	7
Petrology	4	4	4
Mining and Economic Geology ..	3	..	..
Mining I.	7	3	2
Mining II.	4	2	2
Ore Dressing	2	2	2
Surveying I.	6	4	3
Surveying II.	4	4	4
Mechanical Drawing I.	31	33	33
Mechanical Drawing II.	10	8	6
Applied Mathematics	5	6	6
Applied Mechanics	6	3	3
Building Construction	7	3	3
Physics	15	11	10
Fitting and Turning I.	61	40	28
Fitting and Turning II.	25	24	22
Machine Design	4	2	2
Mechanical Engineering I. ..	4	3	3
Mechanical Engineering II. ..	2	..	..
Electrical Engineering I. ..	5	3	2
Electrical Engineering II. ..	2	1	1
Internal Combustion Engines ..	21	11	10
Indicator	21	11	10
Engine Driving I.	1	..	..
Engine Driving II.	4	2	1
Total Class Enrolments, 1942 ..	562	409	344
Total Class Enrolments, 1941 ..	863	736	556
Individual Students, 1942 ..	295	267	212
Individual Students, 1941 ..	473	352	316

ANNUAL EXAMINATIONS, 1942.

SCHOOL OF MINES OF W.A.

PASS LIST.

(T) Denotes terminal pass only. * Denotes equal.

Names are in order of merit.

ELEMENTARY MATHEMATICS.

All Sections.

Credit—
Patroni, M. A.

Pass—
Barns, R. E.
DePassey, I. R.
Munday, J. R.

Arithmetic Section only.

Credit—
Macdougall, C.
Patroni, M. A.
Valetich, D.
Barns, R.*
Reid, A. C.*
Bruechle, W.*
Gard, V.*
Visentin, A.*

Pass—
Stanley, G.
Boyes, K.
Long, W.
Hinchcliffe, A.*
Ion, C.*
Lamotte, K. A.
Lawson, G.
Bassett, R.
DePassey, I.*

Pass—continued.
Horrocks, R.*
Lonsdale. C.*
Madalena, R.*
Nuttall, L.*
Wilson, J.*
McArthur, R.*
Munday, J. R.*
Hodinott, S.*
Hughes, W.*

Algebra Section only.

Credit—
Visentin, A.
Patroni, M.

Pass—
Barns, R.
Bassett, R.*
DePassey, I.*
Macdougall, C.*
Ion, C.
Hoddinott, S.
Evans, N.
Fyfe, H.
Reid, A. C.
Boyes, K.
Hughes, W.*
Mitchell, J.*
Long, W.*
Munday, R.*

Geometry Section only.

Credit—
Patroni, M. A.
Smith, K. R.

Pass—
Greyson, B. A.
Mitchell, A. J.
Barns, R. E.*
DePassey, I. R.*
Munday, J. R.*
Vuletich, D. R.*
Wallis, F. A.*

PREPARATORY MATHEMATICS.

All Sections.

Credit—
Cox, E. J.

Algebra Section only.

Credit—
Cox, E. J.

Pass—
O'Brien, A.
McEwan, V.
Lambert, R.
Quadrio, D.
Harris, J. E.*
Eaton, R. M.*
Ritchie, W.*

Geometry Section only.

Credit—
Cox, E. J.

Pass—
Scott, W. M.

Trigonometry Section only.

Credit—
Cox, E. J.

Pass—
Harris, J. E.

PREPARATORY GEOLOGY.

Credit—
Cox, E. J.

Pass—
Inman, R. D.
Fowler, R. W.
Scott, W. M.

PREPARATORY PHYSICS.

Credit—
Cox, E. J.

Pass in Practical only—
Jones, K. L.
Macdougall, C. W.

PREPARATORY CHEMISTRY.

Credit—
Cox, E. J.

Pass—
Fisher, E. W.
Dainton, R.
Turner-Watters, Miss J.
Chapman, G. M.*
Martin, Miss E.*
Macdougall, E. W.

Pass in Practical only—
Coleman, R.
Jones, K. L.
Manners, M.
Smith, K. R.

PREPARATORY MECHANICAL DRAWING.

Credit—
Cox, E. J.
Rose, D. C.
Madin, R. J.
Rochfort, A. M.
Haynes, M. G.

Pass—
Manners, M. D.
Simpson, R. T. (T)
Toms, A. J.
McDonald, K. J. (T)
Patroni, M. A.
Mitchell, A. J.
Vuletich, D. R.
Barns, R. E.
Melville, R. J.
Sanders, L. A. (T)
Ion, C. E.
Sexton, G. J. (T)
McGarry, A. J.
Myers, C. F.
Thorns, K. A. (T)

MATHEMATICS I.

All Sections.

Pass—
Weedon, R. P.

Algebra Section only.

Credit—
Fisher, E. W.

Pass—
Hogg, J. M.
Weedon, R. P.
Boyd, J. P.

Geometry Section only.

Pass—
Fisher, E. W.
Hogg, J. M.
Weedon, R. P.
Boyd, J. P.
Dainton, R.
Tamblyn, L. F.

Trigonometry Section only.

Pass—
Ewing, D. A.
Weedon, R. P.

PHYSICS I.

Credit—
Weedon, R. P.

Pass—
Sweet, F. B.
Turner, J. L.
Boyd, J. P.

Pass in Theory only—
Credit—
Ewing, D. A. (T)

Pass in Practical only—
Lambert, R. C.
Tamblyn, L. F.

CHEMISTRY I.

Credit—
Horseman, R. G.

Pass—
Ewing, D. A.
Weedon, R. P.
Martin, J. D.
Turner, J. L.

ASSAYING I.

Credit—
Bray, R. G.
Crocos, A. J.

Pass—
Epis, M.
Angelini, F.

ASSAYING II.

Credit—
Slade, L. J.
Clauson, A. O.

ENGINEERING CHEMISTRY I.

Credit—
Slade, L. J.

Pass—
Crocos, A. J.
Hayes, J. A.

ENGINEERING CHEMISTRY II.

Pass—
Clauson, A. O.
Leach, J. R.

METALLURGY I.

Pass—
Brabazon, W.

METALLURGY II.

Provisional, pending Thesis.

Pass—
Hewitt, M. H.

MATHEMATICS II.

Pass—
Clarke, L. D.
Sweet, F. B.

GEOLOGY.

Pass—
Clauson, A. O.
Cockram, C.
Coleman, A.
Ryder, K. N.

PETROLOGY.

Credit—
Slade, L. J.
Horseman, R. G.
Clauson, A. O.

Pass in Practical only—
Chapman, J.

MINERALOGY.

Credit—
Clauson, A. O.

Pass—
Coleman, A.
Lee, G. S.
Cackett, W. S.
Sweet, F. B.
Osborne, B.

Pass in Practical only—
Ryder, K. N.
Chapman, G. M.

MINING AND ECONOMIC GEOLOGY.

Theses Accepted—
Elvey, L. E. (written exam., 1932).
Kennedy, H. L. (written exam., 1936).
Wreford, P. M. (written exam., 1939).
Horseman, R. G. (written exam., 1941).

MINING I.

Credit—
Cockram, C.

Pass—
Smith, A. E.

MINING II.

Pass—
McMahon, W. F.
Chapman, G. M.

MINE SAMPLING.

Pass—
Coleman, A. E.
McMahon, W. F.
Chapman, G. M.

ORE DRESSING.

Credit—
Leach, J. R.

Pass—
Chapman, G. M.*
Brabazon, W.*
McMahon, W. F.

SURVEYING I.

Pass—
Hayes, J. A.
Cackett, W. S.
Hogg, J. M.

SURVEYING II.

Provisional, pending Plan.

Credit—
Cockram, C.

Pass—
Ryder, K. N.
Gobbart, W. C.

Plans Accepted—
Watson, A. (written exam., 1936).
Crocos, A. J. (written exam., 1940).
Clarke, L. D. (written exam., 1940).
Sweet, F. B. (written exam., 1941).
Coleman, A. E. (written exam., 1941).
Cockram, C. (written exam., 1942).
Osborne, B. (written exam., 1939).

MECHANICAL DRAWING I.

Credit—
Laffer, G. A.
Inman, R. D.
Thompson, A. W.
Smith, K. R.

Pass—
Leach, J. R.
Wellman, J. A. (T)
Fisher, E. W.
Hearn, R. T.
Coombs, A.
Hogg, J. M.
Waddell, W. J.
Dainton, R.
Hastings, R. W.
Henderson, P. B.
Jones, K. L.
Ebsary, N. S.
Gard, V. J.
Pearce, C.
Dunstan, R. E.
Weedon, R. P.

MECHANICAL DRAWING II.

Credit—
Slade, L. J.
Wallis, F. A. (T).

Pass—
Cain, J. M.
Williams, R. H.
Fyfe, H.
Cadlolo, R. J.

APPLIED MATHEMATICS.

Credit—
Cockram, C.

Pass—
Lee, G. S. (T).
Gobbart, W. G.

APPLIED MECHANICS.

Credit—
Hayes, J. A.

Pass—
Manson, W. M.

BUILDING CONSTRUCTION.

Pass—
Hayes, J. A.
Manson, W. M.
Pegler, R.

FITTING AND TURNING I.

Credit—
Crough, K. S.
Wellman, J. A. (T)
Henderson, P. B.
McCrae, L. (T)
De Passey, I. R.*
Dainton, R.*

Pass—
Munday, J. R.*
McDonald, K. J.*
Pearce, C.
Weedon, R. P.
Pearson, D.
Jones, K. D.
Lawson, G. C. (T)
Browner, H. R. (T)
MacGregor, P. J. (T)
Garlick, A. J.* (T)
Softley, A. E.*

Pass in Theory only—
Bassett, R.
Boyes, K.
Myers, R.

Pass in Practical only—
Dunstan, R.
Dalton, E.
Currie, W.

FITTING AND TURNING II.

Credit—
Andrijasevich, A.

Pass—
Thornton, F. H.
Lindsay, L. S.
Ridgwell, D. R.
Bennett, W. J.*
Coombs, A.*
Dunstan, D. W.
Woo, B. V. (T)
Yurisich, T.
Evans, N. G.
Reid, A. C.
Criddle, R. L.*
Leary, K. F.* (T)

Pass in Theory only—
Marsland, G.
Bonny, K. M.

Pass in Practical only—
Ashe, C.

MECHANICAL ENGINEERING I.

Credit—
Horseman, R. G. (T)
Manson, W. M.

Pass—
Coombs, G. F.

ELECTRICAL ENGINEERING I.

Pass—
Bray, R. G.

ELECTRICAL ENGINEERING II.

Provisional pending Thesis.

Pass—
Pegler, R. A.

Thesis Accepted—
McQuoid, G. A. (written exam., 1940).

MACHINE DESIGN.

Pass—
Pegler, R. A.
Hayes, J. A.

Theses Accepted—
McQuoid, G. A. (written exam., 1939).
Turner, R. A. (written exam., 1941).

INTERNAL COMBUSTION ENGINES.

Credit—
Gard, L. A.
Ebsary, N. S.
Andrijasevich, A.

Pass—
McNally, J. E.
Hearn, R. T.*
Patterson, H. R.*
Waddell, W. J.

INDICATOR.

Credit—
Gard, L. A.

Pass—
Andrijasevich, A.
Ebsary, N. S.
Hearn, R. T.

ENGINE DRIVING II.

Credit—
Cain, J. M.

SUPPLEMENTARY EXAMINATIONS, 1942.

PREPARATORY MATHEMATICS.

Geometry Section.

Coleman, R.

Algebra Section.

Erbe, W.
Rochfort, A.
Coleman, R.

MATHEMATICS I.

Geometry Section.

Turner, J. L.
Chapman, J.

Trigonometry Section.

Ryder, K. N.

CHEMISTRY I.

McMullan, W. R.

MECHANICAL ENGINEERING II.

Burnett, W. H.

BUILDING CONSTRUCTION.

Morphet, J.

ENGINEERING CHEMISTRY I.

Crutchett, I. A.

PETROLOGY.

Laffer, G. A.
Watson, A.

SURVEYING I.

Cockram, C.
Chapman, J.
Faichney, J. M.

SURVEYING II.

Lernon, F.
Hellstrom, G.

YEAR'S FEE SCHOLARSHIPS.

ELEMENTARY MATHEMATICS.

Patroni, M. A.

PREPARATORY MATHEMATICS.

Cox, E. J.

PREPARATORY GEOLOGY.

Cox, E. J.

PREPARATORY PHYSICS.

Cox, E. J.

PREPARATORY CHEMISTRY.

Cox, E. J.

PREPARATORY DRAWING.

Cox, E. J.

PHYSICS I.

Weedon, R. P.

CHEMISTRY I.

Horseman, R. G.

ASSAYING I.

Bray, R. G.

ASSAYING II.

Slade, L. J.

ENGINEERING CHEMISTRY I.

Slade, L. J.

PETROLOGY.

Slade, L. J.

MINERALOGY.

Clauson, A. O.

MINING I.

Cockram, C.

ORE DRESSING.

Leach, J. R.

SURVEYING II.

Cockram, C.

MECHANICAL DRAWING I.

Laffer, G. A.

MECHANICAL DRAWING II.

Slade, L. J.

APPLIED MATHEMATICS.

Cockram, C.

APPLIED MECHANICS.

Hayes, J. A.

FITTING AND TURNING I.

Crough, K. S.

FITTING AND TURNING II.

Andrajasevich, A.

MECHANICAL ENGINEERING I.

Horseman, R. G.

INTERNAL COMBUSTION ENGINES AND INDICATOR.

Gard, L. A.

ENGINE DRIVING II.

Cain, J. M.

SCHOLARSHIPS, PRIZES, ETC.

The following have been recommended :—

JUNIOR SCHOLARSHIP (£40 per annum).

Greenwood, J. J.

ENTRANCE SCHOLARSHIP (£60 per annum).

Cox, E. J.

CHAMBER OF MINES SCHOLARSHIP (£15 per annum).

Metallurgy.

Sweet, F. B.

CHAMBER OF MINES SCHOLARSHIP (£20 per annum).

Mining.

Weedon, R. P. J.

W.A. SCHOOL OF MINES STUDENTS' ASSOCIATION SCHOLARSHIP (£15 per annum).

Slade, L. J.

SVERRE STENE SCHOLARSHIP (£15 per annum).

Horseman, R. G.

INSTITUTE OF MINING SURVEYORS PRIZES.

Surveying—
Hayes, J. A.
Cockram, C.

Mining—
Chapman, G. M.
Coleman, A. E.

C. A. HENDRY PRIZE.

Manson, W. M.

CRITCHLEY PARKER PRIZES.

Clauson, A. O.
Crocos, A. J.

WILUNA SCHOOL OF MINES CANDIDATES.

ELEMENTARY MATHEMATICS.

All Sections.

Credit—
Coleman, W. P.
Stacey. A. T.

Arithmetic Section.

Credit—
Coleman, W. P.
Stacey, A. T.
Hughes, H.

Pass—
Campbell, H.
Goodsell, J. G. (T)
Werndley, V. C.

Algebra Section.

Credit—
Coleman, W. P.
Hope, G. B.
Stacey, A. T.

Geometry Section.

Credit—
Stacey, A. T.
Coleman, W. P.

Pass—
Campbell, H.

PREPARATORY MATHEMATICS.

Algebra Section.

Pass—
Ramsay, I. G. (T)
Carroll, J. H. (T)

Geometry Section.

Pass—
Garrett, N. (T)

Trigonometry Section.

Pass—
Garrett, N. (T)

PREPARATORY CHEMISTRY.

Pass—
Garrett, N.
Hille, W. C.

ELECTRICAL ENGINEERING I.

Pass—
Smith, L. E.

PREPARATORY PHYSICS.

Pass—
Hille, W. C.
Carroll, J. H.
Mulligan, T. E.

MINING I.

Pass—
Hille, R. W.
Browne, G.
Whalley, R. B. (T)
Madison, J. M.
Bourne, W. U.
Jermyn, E. M.

ASSAYING II.

Credit—
Sims, A. J.

PREPARATORY MECHANICAL DRAWING.

Pass—
Goodsell, J. G.
Hughes, H.
Mulligan, T. E.
Carroll, J. H.
Hope, G. B.
Williams, A. C.

MECHANICAL DRAWING I.

Pass—
Hille, W. C.
Norfor, H. A.

MECHANICAL DRAWING II.

Pass—
Kealley, T.

FITTING AND TURNING I.

Credit—
Toop, F. W.

Pass—
Agnew, R.
Norfor, H. A.
Browne, J. C.

Pass in Practical only—
Hope, G. B.

FITTING AND TURNING II.

Pass—
Reed, A. J.
Jones, J. R.
Laughlin, E.

INTERNAL COMBUSTION ENGINES.

Pass—
Hackshaw, C. J.
Clinch, W. H.

INDICATOR.

Pass—
Hackshaw, C. J.
Clinch, W. H.

SUPPLEMENTARY EXAMINATIONS, 1942.

PREPARATORY MATHEMATICS.

Algebra Section.

Pass—
Hille, W. C.

YEAR'S FEE SCHOLARSHIPS.

ELEMENTARY MATHEMATICS.

Coleman, W.

FITTING AND TURNING I.

Toop, F. W.

NORSEMAN SCHOOL OF MINES CANDIDATES.

ELEMENTARY MATHEMATICS.

All Sections.

Pass—
Dodd, L. C (T)
Whitfield, D. (T)

Arithmetic Section.

Pass—
Kerr, A.
Dodd, L. C.
Whitfield, D.
Bennetts, J. A. (T)

Algebra Section.

Pass—
Whitfield, D.
Dodd, L. C.
Bennetts, J. A.* (T)
Swain, W. T.* (T)

Geometry Section.

Pass—
Whitfield, D.
Dodd, L. C.

PREPARATORY MATHEMATICS.

Algebra Section.

Pass—
Clark, L. (T)
Spillman, J.

Geometry Section.

No passes

Trigonometry Section.

Pass—
Carey, L. J.

ASSAYING I.

Pass—
Cox, J. A.

PREPARATORY MECHANICAL DRAWING.

Credit—
Ellix, F. W.

Pass—
Hooper, S. C.
Trotter, E. J.
Swain, W. T.
Winner, E. G.
Dodd, L. C.
Pugh, D. (T)

MECHANICAL DRAWING I.

Pass—
Bach, D. J.
Radosevich, J. D.

PREPARATORY PHYSICS.

(Theory only)

Pass—
Baker, Ivor
Forgan, F.
Whitfield, D.

MECHANICAL DRAWING II.

Credit—
Dodd, K. C.

FITTING AND TURNING I.

Pass—
Dodd, K. C.
Scholey, J. W.
Thompson, J. W.
Dehring, R. T.
Kerr, A. A.
Pearson, E.
Radosevich, J. D.
Winner, E. G.
Butler, E. J.

Pass in Theory only—
Trew, J. R.

Pass in Practical only—
Harvey, J. W.
Bennetts, L. W.

YEAR'S FEE SCHOLARSHIPS.

PREPARATORY MECHANICAL DRAWING.

Ellix, F.

MECHANICAL DRAWING II.

Dodd, K. C.

Division VI.

Annual Report of Inspection of Machinery Branch of the Mines Department for the Year 1942.

OPERATIONS UNDER THE INSPECTION OF MACHINERY ACT, 1921, ANNUAL REPORT OF THE CHIEF INSPECTOR OF MACHINERY AND CHAIRMAN OF THE BOARD OF EXAMINERS FOR ENGINE-DRIVERS, FOR THE YEAR ENDED 31st DECEMBER, 1942, WITH STATISTICS.

Under Secretary for Mines.

For the information of the Hon. Minister for Mines, I submit the report of the Deputy Chief Inspector of Machinery on the administration of the Inspection of Machinery Act, 1921, for the year ended 31st December, 1942.

The returns show a decrease as compared with 1941 in the number of boiler inspections and groups of machinery inspected, due chiefly to the closing down of gold mines, motor garages and other industries, and also to some machinery inspections being overdue at the end of the year. The bulk of the machinery used in the making of munitions was not completed and therefore not inspected before the end of 1942. There were 44 accidents to persons, including two fatal, compared with the average of 28, including 3·2 fatal, for the preceding 10 years. This increase was no doubt due to the replacement of skilled workers by those who had little or no experience in operating machinery. For the first year since 1928, the expenditure exceeded the revenue, leaving a debit balance of £128 5s. 8d.

R. C. WILSON,
Chief Inspector of Machinery.

13th July, 1943.

SECTION I.

Inspection of Boilers, New Construction, Maintenance, etc.

The total number of registered boilers (including various types of unfired pressure vessels, such as steam jacketed pans, sterilisers, digesters, vulcanisers, air and gas receivers, montejus, etc.), which were recorded as fit for use on 31st December, 1942, was 4,851, an increase of 101 over the previous year.

The number of boilers added to the register during 1942, was 132, or 21 more than during 1941. Return No. 1 shows the type and country of origin of all boilers, etc., which were registered during the year.

The number of boilers removed from the register during 1942 was 31, being 15 less than the previous year. Of these, 24 were permanently condemned or scrapped, four were sent out of this State, and three transferred to other departments in this State.

The number of thorough inspections was 161 less than for the year 1941, but it was 405 more than for the year 1932, making an increase of 27·6% in ten years. Inspections of boilers under working conditions, reports of which were submitted, numbered 233, being 12 less than for the previous year.

The number of useful boilers out of use shown on Return No. 2 is misleading, because a large percentage of these 2,928 boilers has been out of use for many years, and although they were still fit for use or could have been repaired and made serviceable at the time when they were discarded, very few are ever likely to be put into use again, owing to the original low working pressure, cost of repairs, damage done by long exposure to weather, or lack of transport facilities. Many of these boilers have not been seen by an inspector for over 30 years owing to being situated in isolated places. Some have been cut up for plates, converted to tanks, scrub rollers, etc., but unfortunately this office was not notified. Actually, there are very few serviceable boilers, of types for which there is a demand which are now out of use.

Return No. 1.—Showing Classification of Types, and Country of Origin of New Boiler Registrations for Year ended 31st December, 1942.

Type.	Country of Origin.				Total.
	United Kingdom.	Eastern States.	Western Australia.	Unknown Sources.	
Vertical Stationary	....	....	1	....	1
Vertical Portable	....	....	3	....	3
Return Multi. Stat. Underfired	....	1	14	....	15
Water Tube	....	4	1	....	5
Saddle Back	....	4	....	....	4
Digester	....	....	8	....	8
Vulcaniser	1	7	3	1	12
Steam Jacketed Vessel	....	8	3	3	14
Steriliser	1	3	22	10	36
Air Receiver	8	4	12	3	27
Sectional Cast Iron	....	3	....	....	3
Total	10	34	67	17	128

Return No. 2.—Showing Classification of Various Types of Useful Boilers in Proclaimed Districts on 31st December, 1942.

Types of Boilers.	Districts worked from Perth.	Districts worked from Kalgoorlie.	Unproclaimed Areas.	Totals.	
				1942.	1941.
Lancashire	40	60	....	100	100
Cornish	98	481	....	579	583
Semi-Cornish	11	37	....	48	48
Vert. Stat.	287	355	....	642	643
,, Port.	65	15	....	80	77
,, Mult. Stat.	39	25	....	64	65
,, ,, Port.	16	3	....	19	20
,, Pat. Tubular	49	....	....	49	49
Loco. Rect. Firebox Stat.	78	65	....	143	144
,, ,, ,, Port.	243	70	....	313	315
,, Circ. ,, ,,	137	9	....	146	147
Locomotive	74	43	....	117	117
Water Tube	199	125	....	324	322
Return Mult. Underfired Stat.	161	60	....	221	208
Return Mult. Underfired Stat.	....	8	....	8	8
Return Mult. Int. Fired Stat.	37	13	....	50	51
Return Mult. Int. Fired Port.	2	....	....	2	2
Egg-ended and other types not elsewhere specified	197	25	60	282	242
Digesters	116	6	....	122	116
Air Receivers	487	445	....	932	905
Gas Receivers	7	....	....	7	7
Vulcanisers	289	11	....	300	289
Steam Jacketed Vessels	292	11	....	303	292
Total Registrations useful boilers	2,924	1,867	60	4,851	4,750
Total boilers out of use, 31st December, 1942	1,498	1,430	....	2,928	2,668

Return No. 3.—Showing Operations in Proclaimed Districts During Year ended 31st December, 1942.

(BOILERS ONLY.)

——	Districts worked from Perth.	Districts worked from Kalgoorlie.	Unproclaimed Areas.	Totals.	
				1942.	1941.
Total number of useful boilers registered	2,924	1,867	60	4,851	4,750
New boilers registered during year	125	3	....	128	105
Boilers reinstated	1	....	....	1	1
„ converted	....	....	....	....	....
Boilers inspected—					
Thorough	1,504	368	....	1,872	2,033
Working	233	....	....	233	245
Boilers condemned during year—					
Temporarily	20	....	....	20	25
Permanently	24	....	....	24	40
Boilers sent to other States during year	4	....	....	4	6
Boilers sent from other States during year	1	....	....	1	....
Transferred to other Departments	3	....	....	3	....
Transferred from other Departments	2	....	....	2	5
Number of Notices for Repairs issued during year	497	5	....	502	535
Number of Certificates issued, including those issued under Section 30, during the year	1,494	369	....	1,863	2,022

New Construction.

Of the 128 new boilers registered during the year, only 28 were steam generators, the majority of which were of small size.

Maintenance.

Shortage of skilled labour and suitable materials make it increasingly difficult to keep boilers in an efficient state of repair.

SECTION II.

Explosions and Interesting Defects.

There were no steam boiler explosions, nor were any defects of special interest found in any steam boiler during the year, but a hot water boiler which was not subject to the provisions of the Act, exploded owing to being lighted up when both the inlet and outlet valves were either shut or choked with mud and scale. This accident draws attention to the necessity of fitting safety valves to this type of boiler, especially those fitted with shut off valves on the inlet and outlet pipes.

SECTION III.

Inspection of Machinery.

Returns Nos. 4 and 5 show that the number of groups of machinery on the register at the end of 1942 was 620 less than for the previous year. An amendment of the Act in 1941 exempted from the provisions of the Act 525 groups previously registered.

The number of groups inspected was 952 less than during 1941. The closing down of several mines on the Goldfields accounted for 540 of the reduction in the number of groups inspected, and the remainder is more than accounted for by the fact that the inspection of a number of machines used in connection with the bulk handling of wheat was postponed for a year to save petrol and tyres, as these machines are only used for a few months each year. The number of groups inspected was 4,954 more than in 1932, an increase of nearly 68.5% in ten years.

Only two permits to erect lifts were issued during the year, one for a goods lift which was not completed before the end of the year, and one for a service lift which was completed and registered. This was the only new lift. The only other alteration was to reclassify as a service lift, one which had been wrongly classified as a goods lift.

Return No. 4.—Showing Classification according to Motive Power of Groups of Machinery in use or likely to be used in Proclaimed Districts and which were on the Register during the Year ended 31st December, 1942.*

Classification.	Districts worked from Perth.	Districts worked from Kalgoorlie.	Totals.	
			1942.	1941.
No. of Groups driven by steam engines	439	527	966	1,090
No. of Groups driven by oil engines	1,232	795	2,027	2,829
No. of Groups driven by gas engines	64	188	252	285
No. of Groups driven by compressed air	....	60	60	62
No. of Groups driven by electric motors	9,624	3,572	13,196	12,854
No. of Groups driven by hydraulic pressure	4	....	4	5
	11,363	5,142	16,505	17,125

Return No. 5.—Showing Operations in Proclaimed Districts during Year ended 31st December, 1942.

(MACHINERY ONLY.)

——	Districts worked from Perth.	Districts worked from Kalgoorlie.	Totals.	
			1942.	1941.
Total registrations useful machinery	11,363	5,142	16,505	17,125
Total inspections made	9,278	2,911	12,189	13,141
Certificates (bearing fees)	3,502	462	3,964	4,660
Certificates (Steam without fees)	55	3	58	81
No. of extension certificates issued under section 42 of Act	....	....	....	....
Notices issued (Machinery Dangerous)	436	5	441	518

Return No. 6.—Showing Classification of Lifts on 31st December, 1942.

Types.	How Driven.	Totals.	
		1942.	1941.
Passenger	Electrically-driven	189	189
	Hydraulically-driven	1	1
Goods	Electrically-driven	94	95
	Hydraulically-driven	3	3
	Belt-driven	4	4
Service	Electrically-driven	29	27
		320	319

Accidents to Machinery.

There were no accidents to machinery of particular interest.

SECTION IV.

Prosecutions under the Act.

There were no prosecutions during the year.

SECTION V.

Accidents to Persons.

Return No. 7 includes only those accidents caused by moving machinery which is subject to the provisions of the Act, which prevented injured persons from following their ordinary occupation for a period of two weeks or more, but does not include accidents on timber mills or timber holdings which are subject to the provisions of the Timber Industry Regulation Act, 1928.

The three accidents, including one fatal, which are recorded for the districts controlled from Kalgoorlie office, occurred on gold mines and are also recorded in the report of the State Mining Engineer on the mining industry.

There were two fatal accidents as compared with none the previous year, and 15 more serious accidents.

One fatal was caused through a circular saw bursting when cutting a bent and hollow log. The bench was well constructed and the saw was running at normal or perhaps slightly over normal speed. The fracture of the saw was probably caused by a piece of the hollow log breaking away and jambing the saw. One portion of the saw was found at a distance of 170 yards. The unfortunate victim had the left side of his head sheared off by a piece of the fractured saw and died some six hours after the accident occurred.

Three accidents were caused by de-seeding rolls used to recover flax seed. These accidents occurred soon after the plant was started, and were due to inexperience. There have been no further accidents due to this type of plant, although a very large tonnage of flax has since been treated.

One accident which might easily have had fatal results would not have occurred if wilful damage to a lift enclosure door had been promptly reported and repaired. After work ceased on the evening of the 1st September, two soldiers wandered on to the premises and apparently wanted to use the lift, but did not know how to operate the enclosure door which was of the vertically sliding type. They forced one of the door panels out and climbed into the lift, went up to the top floor and climbed on to the roof to obtain a view of Perth by night. The caretaker located them on the roof and they then left the premises. It was not until after they had left that the caretaker noticed that the ground floor enclosure door was damaged.

On the morning of the 3rd September, two female employees called the lift to the ground floor and while the car was descending, one of them put her head through the opening in the door left by the missing panel. The descending car jambed her head, causing a splintered jaw and contused wounds to the back of her head.

As this was a goods lift, employees should not have travelled in it.

Return No. 7.—Showing Persons Killed or Injured by Boiler and Machinery Accidents in Proclaimed Districts during the Year ended 31st December, 1942.

Numbers within brackets denote fatal accidents.

Class of Machinery.	Districts worked from Perth.	Districts worked from Kalgoorlie.	Total.
Metalworking—			
Emery Wheel	1	....	1
Guillotine	1	....	1
Sawmilling and Woodworking—			
Circular Saw	5 (1)	....	5 (1)
Shaping Machine	1	....	1
General—			
Lozenge Machine	1	....	1
Bottle-making Machine	3	....	3
Pulley Wheels	1	....	1
Mincing Machine	2	....	2
De-seeding Rolls	3	....	3
Stapling Machine	2	....	2
Bread Panning Machine	1	....	1
Belting	1	1	2
Conveyor	2	1	3
Toffee Cutter	1	....	1
Bean Cutter	1	....	1
Scalding (Boiler)	1	....	1
Ice Saw	1	....	1
Shafting	2	....	2
Stuff Cutting Press	1	....	1
Electric Furnace	1	....	1
Dough Divider	1	....	1
Dicing Machine	1	....	1
Case-nailing Machine	1	....	1
Heine Press	2	....	2
Electric Crane	2	....	2
Oliver Filter	....	1 (1)	1 (1)
Envelope Machine	1	....	1
Goods Lift	1	....	1
	41 (1)	3 (1)	44 (2)

Return No. 7A.—Showing a Classification of Serious and Fatal Accidents into Nature of Injuries Received for the Year ended 1942.

——	Area.		Remarks.
	Districts Worked from Perth.	Districts Worked from Kalgoorlie.	
Serious—			
Hand	1	....	There were 6 amputations in finger accidents and 1 in leg accidents.
Finger	26	....	
Arm	3	1	
Leg	3	....	
Toe	1	....	
Chest	....	....	
Back	....	....	
Stomach	....	....	
Head	1	1	
Other Major	5	....	
Total	40	2	
Total, Serious	42		
Fatal—			
Head	1	....	
Other Major	....	1	
Total	1	1	
Total, Fatal	2		

SECTION VI.

Engine-drivers' Examinations.

Return No. 8 shows that there were 125 fewer certificates granted than in 1941.

Examinations were held as follows:—Perth, 4; Kalgoorlie, 4; Leonora, 1; and Bunbury, 1. Examinations were held at all the advertised centres except Cue.

The Board was engaged for ten days conducting examinations, 14 days travelling and 25 days correcting papers, dealing with applications and other matters connected with engine-drivers' certificates.

Return No. 8.—Showing Total Number of Engine Drivers' and Boiler Attendants' Certificates (all Classes) Granted in 1942, compared with 1941.

——	Number Granted.	
	1942.	1941.
Winding Competency, including certificates issued under Regulation 40 and Section 60 of the Act	5	30
First Class Competency, including certificates issued under Regulations 40 and 45 and Sections 60 and 63 of the Act	5	4
Second Class Competency, including certificates issued under Regulation 40 and Section 60 of the Act	13	16
Third Class Competency, including certificates issued under Regulations 40 and 45 and Sections 60 and 63 of the Act	26	35
Locomotive Competency, including certificates issued under Regulation 40 and Section 60 of the Act	3	6
Traction Competency, including certificates issued under Regulation 40 and Section 60 of the Act	....	....
Internal Combustion Competency, including certificates issued under Regulation 40 and Section 60 of the Act	49	79
Crane and Hoist Competency, including certificates issued under Regulation 40 and Section 60 of the Act	6	12
Boiler Attendant Competency, including certificates issued under Regulation 40 and Section 60 of the Act	60	106
Interim	1	....
Copies	4	7
Transfer	....	2
	172	297

SECTION VII.

General, Staff, Revenue and Expenditure, Mileage, etc.

General.—In order to conserve petrol, five motor cars which are used for long tours, were converted to use suction gas, two cars on the Goldfields have one trailer unit for use of either car when required, and three other cars used by inspectors who have their headquarters at Perth were each provided with a trailer producer. This has made a pronounced reduction in petrol consumption, but it has increased the difficulty of tyre replacement and maintenance, necessitating the re-arrangement of all tours in an endeavour to curtail the mileage travelled to the absolute minimum consistent with ensuring that every working boiler is inspected at least once per year as required by the Act.

Staff.—Two junior clerks obtained leave to join the Army and Air Force respectively, and were replaced by females; also one inspector obtained a commission in the Air Force, leaving the service on 2nd November, 1942.

Return No. 9.—Showing Revenue and Expenditure for Year ending 31st December, 1942.

REVENUE.

——	1942.	1941.
	£ s. d.	£ s. d.
Fees for Boiler Inspections	2,489 5 8	2,773 17 0
Fees for Machinery Inspections	5,630 8 0	6,005 11 4
Engine Drivers' Fees	211 12 6	313 5 6
Incidentals	37 6 0	49 11 0
Decrease—£773 12s. 8d.	8,368 12 2	9,142 4 10

EXPENDITURE.

——	1942.	1941.
	£ s. d.	£ s. d.
Salaries	6,587 19 8	6,738 2 4
Incidentals	1,890 8 0	1,432 13 6
Engine Drivers	72 10 2	50 3 5
Increase—£329 18s. 7d.	8,550 17 10	8,220 19 3

Loss—£182 5s. 8d.

Revenue and Expenditure.—The revenue decreased by £773 12s. 8d. and the expenditure increased by £329 18s. 7d., causing a debit balance of £182 5s. 8d. This is the first time since 1928 that a loss has been shown. The increase in expenditure of £329 18s. 7d. was more than accounted for by the increased cost of motor car running expenses which was £379 14s. 3d. greater than for the year 1941.

Mileage.—Return No. 10 shows that the number of miles travelled by road was 4,095 less than during 1941. This is the third year that the miles travelled by road have decreased. The miles travelled in 1942 by road were 9,833 less than in 1940 and 16,262 less than in 1939. The miles travelled by rail are greater than in any year since 1928, which is due to the fact that special journeys which would normally be done by car, were done by train, to save petrol and tyres.

I wish to thank all those who helped in carrying out the work of this branch, and to place on record my appreciation of the co-operation received from other Government officers both in this State, the other States, and the Commonwealth. In particular, I desire to thank all the officers of this branch for good work they have done, and the staff of the Mines Department for their unfailing courtesy and assistance.

G. MOORE,
Deputy Chief Inspector of Machinery.

Return No. 10.—*Showing Distances Travelled, Number of Inspections made and Average Miles Travelled per Inspection for Year ended* 31*st December*, 1942.

Areas Traversed.	Rail Miles.			Road Miles.			Water Miles.			Total Miles.			Total Number of Inspections.			Average Miles per Inspection.		
	1942.	As compared with 1941.		1942.	As compared with 1941.		1942.	As compared with 1941.		1942.	As compared with 1941.		1942.	As compared with 1941.		1942.	As compared with 1941.	
		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.		Increase.	Decrease.
Districts worked from Perth	2,685	1,168	...	38,695	982	...	...	...	20	41,380	2,130	...	11,015	...	468	3·75	·34	...
Districts worked from Kalgoorlie	3,457	3,217	...	15,179	...	5,077	...	...	...	18,636	...	1,860	3,279	...	657	5·68	·48	...
Totals	6,142	4,385	...	53,874	982	5,077	...	...	20	60,016	2,130	1,860	14,294	...	1.125	4·19	= Average all Districts, 1942.	
																3·87	= Average all Districts, 1941	
Increases or Decreases	...	Increase 4,385		...	Decrease 4,095		...	Decrease 20		...	Increase 270		...	Decrease 1,125		...	= Average Increase .32 miles per inspection.	

Division VII.

Annual Reports of the Government Mineralogist and Analyst for the Years 1941 and 1942.

REPORT FOR THE YEAR 1941.

The Under Secretary for Mines.

I have the honour to present for the information of the Hon. the Minister my report on the operations of the Government Chemical Laboratory for the year ended 31st December, 1941.

STAFF.

Several changes were made in the staff during the year.

I have to record with very deep regret the loss sustained by the death of Mr. Francis John Malloch, B.E.M., A.M.T.C., A.A.C.I., on 8th October, 1941. Mr. Malloch joined the Mines Department on 17th April, 1909, as analyst attached to the Government Analysts Branch and at the time of his death occupied the position of Chemist (1st Class) in the Foods, Drugs, and Toxicology Section of this Laboratory.

In 1916 Mr. Malloch was granted leave of absence to proceed to England as a Munitions Chemist. For his service in connection with the war he was awarded, on 7th July, 1920, the Medal of the Most Excellent Order of the British Empire (now known as the British Empire Medal B.E.M.) "for great courage in continuing to work in a poisonous atmosphere, although repeatedly burned and gassed."

Mr. H. P. Rowledge, A.W.A.S.M., A.A.C.I., was promoted to the position of Chemist (1st Class) in the Mineral Section on 16th January, 1941.

The position rendered vacant by Mr. Malloch's death was filled by the promotion on 1st November, 1941, of Mr. J. C. Hood, B.E.M., A.A.C.I.

Other vacancies on the staff were filled by the permanent appointments on the 1st March, 1941, of Messrs. J. D. Hayton, B.Sc., A.A.C.I., and B. W. Stenhouse, B.Sc., A.O.S.M., A.A.C.I., as Chemists (2nd Class) to the Mineral and Agricultural Sections respectively.

Mr. N. R. Houghton, B.Sc., was transferred from the Agricultural Section to the Food and Drug Section.

Mr. H. R. Limb, B.Sc., as appointed temporary Chemist on Iron Ore Survey investigations in January, which position he held until 19th December when he was seconded to the State Engineering Works.

Mr. A. G. Henderson, Clerk in charge of the office, was transferred in December to the Records Branch his duties being taken over by Miss D. E. Henderson.

ACCOMMODATION.

A start was made during the year on the construction of the new Chemical Laboratories in Adelaide-terrace. The ceremony of laying the foundation stone was performed on 2nd September, 1941, by the Hon. the Premier (Mr. J. C. Willcock) in the presence of a gathering representative of Parliament, the Public Service and Municipal, Professorial and other bodies.

The plans provide for a well equipped modern laboratory, special attention being paid to minimising the health hazards and improving working conditions in the laboratories by adopting a system of mechanical ventilation designed to remove the toxic gases present in the laboratory atmosphere and making provision for the removal of the dust from the outside air entering the the laboratories.

APPARATUS.

The vibration emanating from the adjacent hospital laundry has been responsible for damaging additional fine instruments and precision apparatus during the year. It is anticipated that great difficulty will be experienced in replacing some of the equipment under war conditions.

OFFICIAL COMMITTEES.

In addition to attending meetings of the Committees referred to in my annual report for last year I attended as representative of the Government a conference in Melbourne on 18th July, 1941, called by the Prime Minister to consider the location and management of distilleries and other cognate matters in connection with the establishment of plants in Australia for the production of power alcohol from wheat.

REVENUE.

The revenue earned for the year amounted to £332 9d. 4d.

Table showing Sources and Allocation of Samples Registered during the Year

Source, Department, etc.	Section 1. Foods, Drugs, and Toxicology.	Section 2. Mineralogy, Mineral Technology, and Geo-chemistry.	Section 3. Agriculture, Water Supply, and Sewerage.
Mines—			
Chemical Laboratory	38	85	7
Explosives	4	1	....
State Batteries	25	919	3
State Mining Engineer	5	23	....
Government Geologist	3	112	....
Under Secretary for Mines	....	4	....
Health—			
Commissioner of Public Health	123	....	5
Hospitals	50	....	1
Treasury—			
Government Stores and Tender Board	33	....	....
Police—			
Criminal Investigation Branch	32	....	....
Coroner's Inquests	80	....	....
Liquor Inspection Branch	8	....	....
Agriculture	113	32	766
Industrial Development	2	40	2
Works and Labour and Mechanical Engineer and Engineer for North-West	566	12	231
Factories	2	....	....
State Insurance	8	....	....
Metropolitan Water Supply	158	1	1,693
Forests	9	19	173
Railways	16	....	....
Chief Secretary—State Hotels	5	....	....
State Brickworks	....	1	....
Arbitration Court	20	....	....
Education	1	....	....
Local Governing Bodies	1	....	11
University	27	....	....
Employment	....	....	1
Commissioner of Native Affairs	....	....	1
Agricultural Bank	....	....	1
Main Roads Department	....	....	3
Fisheries	....	....	7
Minister for North-West	....	6	....
Commonwealth—			
Works Department	....	....	2
Department of Army	99	....	844
Department of Air	14	....	2
Council for Scientific and Industrial Research	1	....	....
Iron Ore Survey	....	222	....
Public Pay	9	62	360
Public Free	5	354	3
Total	1,457	1,893	4,116
GRAND TOTAL	7,466		

FOODS, DRUGS AND TOXICOLOGY.

Foods:	
Acid Phosphate (baking chemical)	6
Butter	51
Bread	4
Biscuits	1
Curry Powder	1
Coffee	2
Cocoa	1
Custard Powder	1
Essences	2
Flour	4
Fruit (tinned)	10
Fish (tinned)	1
Gelatine	1
Jelly Crystals	5
Jam	11
Kapok Seed Oil	1
Limejuice	2
Margarine	15
Minced Meat	2
Meat (tinned)	8
Meat and fish pastes	20
Milk	35
Milk (condensed and powdered)	3
Prunes	2
Patent Food	1
Sausages	4
Sauces and Pickles	11
Salt	1
Tomatoes (tinned soup and pulp)	7
Tea	2
Vegetables (fresh)	2
Vegetables (tinned)	3
Vinegar	9
Wine	4
	233
Drugs and Medicines:	
Ethyl chloride	1
Ether	57
Alleged drug	1
Epsom salts	1
Medicines	2
Heroin	2
Liquid Paraffin	1
Melon	1
	66
Toxicology—Criminal:	
Animal poisoning specimens	20
Coroner's exhibits	80
Flour	1
Urine	1
	102
Toxicology—Industrial:	
Air	18
Dust	5
Faeces	1
Hair and nails	5
Tea	1
Rock phosphate	2
Urine	41
Water	14
	87
Police Exhibits:	22
Gas Producer Investigation:	
Carbon deposits	4
Condensates	9
Filter paper	31
Lubricating oils	200
Piston rings	358
	602
Miscellaneous:	
Bitumen	3
Cattle Dip	30
Calculus	1
Effluent	2
Gypsum	1
Gunpowder	3
Hydrometers and thermometers for testing	9
Insecticides and flysprays	9
Lime	25
Lake water and deposits	22
Lubricating oils	8
Milk (human)	22
Mercury	1
Polishes (floor and metal)	4
Paints	13
Phenyle	6
Rock	1
Soap	15
Supposed poison plant	2
Supposed petroleum oil	2
Sewer gas	137
Test tubes	2
Water	25
Wool scouring waste	2
	345
Total Number of Samples	**1,457**

MINERALOGY AND MINERAL TECHNOLOGY.

Amalgam	1
Asbestos	10
Assay weights and riders	13
Alunite (from experiments)	28
Bismuth ores	2
Bismuth sands	7
Barite	3
Beryl	1
Copper ores	33
Clay	14
Calcite	2
Charcoal	22
Copper sheeting	8
Cast Iron	2
Diatomaceous earth	27
Flotation cones	2
Flue dusts	3
French chalk	1
Gold ores (including tailings and Umpires)	1,047
Gypsum	3
Graphite	5
Garnet	1
Honey	2
Iron Ores	249
Iron sulphide ores	16
Ilmenite	1
Jarosite	3
Lead ore	9
Lithium ore	1
Laterites and bauxites	21
Limestone	6
Lime sand	4
Minerals miscellaneous	136
Magnesite	5
Mica	9
Meteorite	2
Manganese	1
Marcasite	1
Matte	3
Miscellaneous	18
Niobium ore	1
Ochres and pigments	1
Phosphatic rock	56
Pyrite	4
Quartz	2
Rutile	1
Rocks	39
Sands miscellaneous	5
Soils	30
Spinel (ceylonite)	1
Sillimanite	3
Tin ores	1
Talc	4
Tourmaline	9
Tungsten	1
Vanadium	4
Zinc shavings	2
Total number of samples	1,893

AGRICULTURE, WATERS, SEWAGE.

Apple Bark	9
Apple Leaves	22
Chaff	3
Deposit or limestone	1
Earthenware pipe	2
Fertilisers	24
Firewood	3
Flour	6
Grapes	2
Grape vine leaves	14
Limestone	3
Linseed	2
Meatmeal	2
Pasture grasses	347
Pollard	1
Potatoes	66
Potato leaves	2
Poultry food	1
Sawdust	3
Sewage	1,299
Sewer gas	83
Soils	474
Swamp land crust	6
Tomatoes	20
Trade effluent	1
Waters	1,719
Wheat	1
Total number of samples	4,116

NATURE OF WORK DONE.

The work of the laboratory continued to be performed under difficult and trying conditions during the year on account of the unsuitable accommodation available. Much valuable time is wasted owing to the inability to perform many important operations when required owing to the unstable conditions appertaining at the time.

During the year 7,466 samples were registered for examination, this is a decrease of 1,658 on the previous year. The decrease is mainly due to the completion of the assay work in connection with the Iron Ore Survey carried out at the request of the Commonwealth Government and to a falling off in the number of gold assays for the State Batteries Branch.

The samples received are classified in the tables shown above.

Foods.—The number of samples examined was 233. Ninety-seven (97) of these were submitted by the Commonwealth Department of the Army, for testing as to compliance with the Food and Drug Regulations. Forty-six (46) samples of butter and 15 samples of margarine were submitted by the Agricultural Department, the former in connection with the Australian Butter Survey for the Council for Scientific and Industrial Research. Sixty-two (62) samples of foods were examined for the Public Health Department. Twenty of these were meat and fish pastes on the local market which were submitted at the request of this branch for examination as to composition. Tables showing the analytical figures obtained are given in Appendix I. The results showed no evidence of excessive use of starchy fillers or unwholesome materials in any of the samples. If fish paste is included under the heading of meat paste in the Food and Drug Regulations, then 14 samples complied with the requirement as to statement of the names of the meats and their approximate proportions in the label, and six did not. The calculated ingredients were found to be in good agreement with the quantities when stated in the labels.

Of 25 samples of milk examined 18 complied and seven did not comply with the Food and Drug Regulations. One sample did not comply with the reductase test, two had slightly higher freezing points than permitted and showed a strong suspicion of watering, and one was definitely watered.

A sample of kapok oil was examined as to its suitability for use as an edible oil. The sample, said to be of Japanese origin, was found to be genuine kapok seed oil. Its free fatty acid content, however (2·68%) was above the limit of one per cent. imposed by the Food and Drug Regulations.

Drugs and Medicines.—Sixty-six (66) samples were examined. Fifty-seven of these were samples of ether tested as to compliance with the British Pharmacopoeia requirements, particularly as regards peroxides. Of a total of 44 samples tested for the Perth Hospital 14 did not comply with the limit test for peroxides. Thirteen samples were submitted in connection with deaths under anaesthetic. Two of these showed considerable amounts of peroxide, 20 and 32 parts per million respectively, calculated as ether peroxide. It has been found that 2 to 4 parts per million is sufficient to cause an ether to fail in the B.P. test. During recent years there has been a growing doubt in scientific circles as to peroxides, at least the small quantities frequently found in anaesthetic ether, being the cause of the fatalities which occur from time to time under this anaesthetic. Very little systematic work has been done, however. All ether which is suspected of producing harmful effects should be examined without delay, and if possible tests should be made on animals, so that in time sufficient evidence will be available on which to base conclusions. This is being done in this State and in the meantime certain laboratory investigations are being made.

The remaining drugs examined consisted of a liniment, said to be a native remedy, efficacious for external application in muscular trouble, and found to be a methylated spirit solution of kino resin, epsom salts tablets, ethyl chloride, heroin hydrochloride solution, liquid paraffin and an alleged drug.

Toxicology and Industrial Hygiene.—In all 199 samples were examined in connection with the various branches of toxicology. Eighty of these were exhibits connected with real or supposed human poisoning cases, mostly for coroners' inquests. In 32 cases the poisons found were as follows:—Lysol or cresylic disinfectants 6 cases, strychnine 5, cyanide 3, nicotine 2, white spirit (''mineral turpentine''), flyspray and phenobarbitone 1 each. The number of negative cases was 13.

Industrial toxicology accounted for eighty-seven samples and specimens. These included urines examined for lead or arsenic 41, waters for arsenic or lead 14, hair, nails and faeces for arsenic or lead, tea for lead, dusts 5, phosphatic rock 2 and air 18. The samples of air were tested for cyanide concentration in a ship's hold, in connection with a claim for extra pay by waterside workers on account of the alleged harmful atmosphere. Some of the drums in a large cargo of sodium cyanide had become damaged, resulting in spillage and the liberation of small quantities of cyanide in the atmosphere of the hold. When tested the concentration was of the order of 1 part in 75,000 of air. The maximum allowable safe limit adopted in England is 1 part in 50,000.

Twenty (20) samples of stomach contents, food, etc., were examined in connection with real or imaginary cases of animal poisoning. Out of 12 cases poison was detected in four, the poisons used being arsenic, strychnine, and phosphorus.

Criminal Investigations.—Twenty-two articles and materials were examined in connection with police investigations. These included clothing, grease, paint and oils in connection with road accidents, clothing examined for stains, exhibits in connection with a supposed arson case, native tobacco mixture containing strychnine, and poisoned chocolates.

Honey.—Experiments were carried out in conjunction with the Government Apiculturist in an attempt to remove the colour from dark Western Australian honey and burnt honey obtained in processing. The decolorising agents used were fuller's earth, diatomaceous earth and activated carbon. The first two clarified the honey but did not decolorise it to any appreciable extent. The carbon decolorised the honey but owing to the poor filtration obtained by the apparatus available at this laboratory the results were not very satisfactory. Before further experimental work can be done it will be necessary to have air pressure up to 60 lbs. per square inch and a small laboratory outfit consisting of a mixer, heating coil and filter press.

Charcoal.—22 samples of charcoal were received for analysis, 19 of which were from the Forests Department. This work was done to assist in the utilisation of jarrah and other millwaste for the production of charcoal for mobile gas producer units.

Proximate analyses of three charcoals from different timbers are:—

	Jarrah.	Salmon Gum.	Wandoo.
Moisture	5·1	6·4	6·0
Volatile hydrocarbon	14·6	21·6	16·4
Fixed carbon (by difference)	80·1	70·5	77·1
Ash	·2	1·5	·5
	100·0	100·0	100·0

Tomatoes.—Tomatoes grown in the Geraldton district were sent in by the Research Section of the Department of Agriculture. It had been stated by growers that a shortage of potash fertilisers reduced the carrying capacity of the tomatoes and officers of the department carried out an experiment to obtain information about the effects of:—(a) variation in the rates of application of potash; (b) replacement of the usual sulphate of potash with muriate of potash in equivalent quantities; (c) the use of crude calcined alunite supplying potash in an amount equivalent to that used in the standard mixture. The samples, which were dried whole and then analysed for ash, N, Ca, Mg, K, P and chloride, represented the first and last pickings from two different properties on which five different fertiliser experiments had been carried out. No differences in the tomatoes could be detected here or in Melbourne, where their carrying capacity, ripening and general appearance were examined by the Horticultural Division of the Department of Agriculture.

Potatoes.—In connection with fertiliser experiments with minor elements and various fertiliser mixtures carried out by the Department of Agriculture at Lake Sadie west of Albany, 33 samples of potato pulp and peel were analysed for ash, P_2O_5, K_2O, CaO, MgO, N, and starch in addition Cu, Mn, and Zn were determined. In 31 samples of potatoes which had received special fertilisers the moisture varied from 77.2-83.5%. Two samples of potato leaves from Denmark were analysed for ash, Fe, Al, and Mn; one of these was from a normal plant and the other from a plant showing signs of cockle leaf. The normal plants contained more ash, less Fe and Al, and an equal amount of Mn, when compared with the suspected plant.

Subterranean Clover, Fodder Grasses, etc.—A number of samples (about 300) of pasture and subterranean clover were analysed for the Department of Agriculture in connection with fertiliser and minor element experiments carried out in various parts of the State with a view to increasing the quality and quantity of the pastures for stock feeding.

Grapes.—Two samples of grapes were analysed for copper content. The grapes had been packed in (a) copper-treated cotton hulls; and (b) cork dust. No differences in copper content could be detected, but the samples had been sent in by the Horticultural section of the Department of Agriculture because it was thought that the packing might raise the copper content which would be disadvantageous for human consumption.

Wheat, Pollard and Flour—8 Samples.—These samples were submitted by the Wheat Branch of the Agricultural Department. The only sample of wheat received was the West Australian f.a.q. for the 1940/41 season, the composition of which is:—

Moisture (1 hour at 130° C.)	9·94 per cent.
Ash *	1·24 ,,
Protein (N x 5·83) *	10·22 ,,
Pelshenke Time Factor	42 minutes.
Specific protein quality	4·1 per cent.

* Expressed on standard moisture basis of 13·5 per cent.

The pollard sample was sent in following on complaints by poultry farmers, regarding the quality of the material being supplied by the storekeepers. The sample did not comply with the standards set down under the Feeding Stuffs Act 1928.

Six samples (6) of flour were received. Two of these being flour milled from the f.a.q. wheat 1940/41 season. These flours had been milled on two experimental mills. A Brabender mill at the Agricultural Department and the other owned by one of the local Flour Milling Companies.

Samples of flour milled from the f.a.q. wheat samples 1940/41 season by different mills.

——	Brabender Sample.	Mill Sample.
	%	%
Moisture	12·17	11·96
Ash *	·50	·53
Protein (N x 5·7) *	8·84	9·06
Gluten *—		
Wet	27·60	28·90
Dry	9·00	9·30
Maltose K. J. *	1·77	1·46
Flour colour	4·50	†4·00
Pekar	4·50	4·50
	4·00	4·00

* Results expressed at 13·15% moisture.
† Bran specks showing in 1995/41 Pekar Colour Test.

The remaining samples were local milled flours in which ash and phosphoric oxide (P_2O_5) were determined:—

——	766/41.	767.	768.	769.
	%	%	%	%
Ash	·44	·43	·44	·50
Phosphoric oxide (P_2O_5)	·16	·19	·15	·19
Moisture (one hour at 130° C.)	13·18	13·27	13·71	12·43

Sawdust—

The moisture content of three samples of sawdust was determined for the Health Department which was investigating the possibility of using sawdust in the boiler-house for the new Perth Hospital. The figures obtained for sawdust from the Holyoake dump are:—

——	Moisture as received.	Calc. on dry basis.	Calorific value (dry basis B.T.U.).
	%	%	%
4149/41—Surface sample	48·2	93·0	....
4150 —2 ft. 6 in. deep	56·0	127·3	....
4151 —Perfectly fresh	41·8	71·8	8801

Poultry Food and Meatmeal—Three Samples.

Two of these were meatmeals as sold on the local market and were examined for proteins. The other sample was dried crayfish offal produced by the canneries at Geraldton and submitted by the Department of Industrial Development. The offal was examined for its feeding value, as a possible rich protein concentrate for poultry. An analyses showed:—

	Per cent.
Moisture	9·30
Petrol ether extract	2·09
Nitrogen (total)	6·44
Protein (N x 6·25)	40·25
Calcium oxide (CaO)	10·20
Phosphorus (as P_2O_5)	2·89
Ash	35·80

Sewage and Sewer Gas.—1382 Samples.

Control samples of supernatant liquors and sludges from the digesters at Subiaco and Swanbourne treatment plants for the Metropolitan Water Supply and Sewerage Department totalled 1295 and were examined for reaction (pH) and solids in suspension. Hydrogen sulphide determinations in sewer gas totalled 83. One sample of effluent from a military camp and three from the Kalgoorlie treatment plant, comprised the balance of the samples.

As mentioned under Water, 48 samples of ocean water collected on December 1st, in the vicinity of the effluent outfall sewer, from the Subiaco and Swanbourne treatment plants, were examined and showed no chemical evidence of pollution along the beaches.

Waters.—One thousand seven hundred and nineteen samples of water were examined during the year. The sources of the samples are as follows:—

No. of Samples.	Source.	Remarks.
48	Metropolitan Water Supply	Ocean waters near outfall sewer at Swanbourne.
79	do. do.	Reservoirs supplying the Metropolitan Area.
47	do. do.	Seepage water from Canning Dam.
136	do. do.	Water used to supply Troopships.
2*	do. do.	Miscellaneous.
85	Department of Works and Labour	Country towns water supply.
53	do. do.	Streams, rivers, and brooks survey.
16	Goldfields Water Supply	Quarterly samples from Mundaring and Mt. Charlotte Reservoirs and from Kalgoorlie.
836	Department of the Army	For supply to troopships, etc.
8	do. do.	From various parts of the State for drinking purposes.
18	Department of Agriculture	Different parts of the State for irrigation purposes.
357	Farmers, graziers, market gardeners	Examined for suitability for stock, irrigation, and domestic use.
40	Various departments of State and Commonwealth	Examination for domestic purposes or as boiler waters.

* One of these was water from the Fremantle Harbour collected because of suspected pollution by waste liquors from the Fremantle Gas Works.

Soils.—The soils examined during the year included 224 for the Plant Nutrition Officer, Department of Agriculture. Forty-six of these were from a survey of the tobacco soils at Manjimup and were examined particularly for moisture and nitrogen. One hundred and eight soils came from the acid swamps west of Albany and from near Mt. Many Peaks. The acidity is caused by the oxidation of marcasite following

Lab. No.	Locality.	pH.	Sulphides (mainly Marcasite).
2081/41	Denmark	5·81	T
2082/41	Gledhow	4·12	T
2083/41	Many Peaks	5·60	T
2084/41	Bornholm	5·29	T
2086/41	Cuthbert	2·83	T
2088/41	do.	4·03	T
2091/41	do.	4·36	T
2092/41	do.	2·56	T
2093/41	Ewart's Swamp, Grasmere	3·26	T
2095/41	do. do.	4·10	S
2098/41	do. do.	2·27	S
2099/41	do. do.	3·10	P
2101/41	Torbay Inlet	6·32	T
2102/41	do. do.	7·07	S
2103/41	Jackama Creek	5·95	S
2104/41	do. do.	3·26	VA
2105/41	do. do.	3·13	S
2106/41	do. do.	5·13	A
2107/41	do. do.	2·80	P
2108/41	do. do.	5·70	S

VA approximately 10–20%
A approximately 1–10%
P approximately ·1 – 1%
S approximately ·01–·1%
T less than ·01%

drainage and has been responsible for forcing vegetable growers to vacate their holdings, whereas the reason for draining this land was to increase the acreage available for settlement. The pH of the soils varied from 2.31 to 6.66. The results of this examination are shown on page 69.

Twenty-five soils from Cranbrook collected in connection with the stalling of clover were analysed for total P_2O_5 and available P_2O_5 by the Dyer and Truog methods. Twenty-six soils from the proposed experimental orchard site at "Bundinup," Wokalup were analysed, but the variability of these soils, revealed both by field observation and the results of analytical work showed that the site selected was not suitable for an experimental orchard. The Forests Department submitted 167 samples for partial chemical analysis in connection with the planting of pines in the plantations at Mundaring, Greystones, Applecross, Boranup, and Ludlow.

Soils collected by Mr. B. L. Southern in conjunction with the District Engineer for the Goldfields Water Supply along the proposed alteration in route of the Totadgin Water Supply were examined for pH and water soluble salts with a view to advising on corrosion of the concrete or fibrolite pipes to be used. Some of the country is typical salt-lake and the pipes would have to be set above the ground. The figures obtained for three soils are:—

Lab. No.	Sample.	pH*.	Water Soluble Salts (1–5 Extract).							
			CO_3.	Cl.	NO_3.	SO_4.	Ca.	Mg.	Na.	K.
			%	%	%	%	%	%	%	%
2852/41	5	6·83	·0225	0·4238	n.d.	0·0843	0·0178	0·0171	0·2825	n.d.
2854/41	7	3·71	*Nil*	1·6212	0·0018	0·1630	0·0155	·1464	·8353	n.d.
2858/41	11	3·85	*Nil*	0·1272	n.d.	0·0226	0·0035	·0050	·1272	n.d.

* 1–2½ (quinhydrone). Figures returned as percentage in air dried soil.

The combined salts in 2854/41 (No. 7) were calculated to be:—

	Per cent.
$CaSO_4$	0·0526
$MgSO_4$	·1577
$NaNO_3$	·0025
$MgCl_2$	·4491
NaCl	2·1216
Total	2·7835

Fertilisers—24 *Samples*: The Inspector of Fertilisers forwarded 20 official samples for check analysis; of these 16 complied with the regulations under the Fertiliser Act. The balance of the samples (4) failed to comply in respect to fineness (3) and potash (1). Four (4) samples were received from private sources, one being a superphosphate and copper mixture, for Cu determination, the balance being fertilisers or supposed fertilisers received from private sources. These samples did not have any commercial value.

Copper Ores: Three hundred and thirty-nine samples were assayed for copper, 290 being gold tailings from the State Batteries; 26 ores were assayed for copper, gold and silver under the free assay regulations.

Gold Ores: One thousand and ninety-seven samples were assayed for gold. Of these 785 were gold tailings for the State Batteries and 116 were umpire gold tailings for the same branch. One hundred and twenty-three gold ores were registered, 90 of these for free assays, five public pay assays and 16 for the Geological Survey. Twenty-two samples of gold tailings were public pay assays.

Bulk Samples from Dandaragan Lower Phosphate Beds.

——	Hole in the Wall—Locs. 1109, 1110, M524, and Midland Railway Cos' Land.	Caves—Midland Railway Cos' Land.	Wedge's 1127—Midland Railway Cos' Land.
	Bulk Sample A.	Bulk Sample B.	Bulk Sample C.
	5499/41	5500/41	5501/41
	%	%	%
Total phosphoric oxide	11·23	6·55	6·37
Phosphoric oxide soluble in 2E nitric acid	5·41	2·31	3·85
Phosphoric oxide insoluble in 2E nitric acid, soluble in HCl	5·78	4·19	2·49
Phosphoric oxide insoluble in 2E HNO_3 and hydrochloric acid	·04	·05	·03
Potash soluble in hydrochloric acid	1·69	·85	·83
Carbon dioxide	·03	·02	·05

Phosphate Deposits: Owing to restriction of rock phosphate supplies by enemy action it has been necessary to investigate local supplies. The Geological Survey sampled and surveyed the phosphate beds in the Cretaceous sediments of the Dandaragan district and analytical work done on 56 samples in this laboratory.

Figures for three group samples appear in the table on the bottom of previous column.

Sulphide.—The superphosphate industry in the State has depended upon supplies of imported American and Japanese sulphur for the manufacture of the sulphuric acid requirements. The cutting out of these supplies has directed attention to the possibility of substituting local pyrite. Under normal conditions at least eighty thousand tones of pyrite with a minimum content of 40% sulphur would be required. Nineteen samples of sulphide ores and concentrates were made with a view to locating suitable sulphide supplies. Complete analyses were made of flotation concentrates from the Croesus Proprietary G.M. and the Lake View and Star G.M. at Kalgoorlie.

——	Lake View and Star G.M. Concentrates.	Croesus Proprietary G.M. Flotation Concentrates.
	%	%
SiO_2	13·25	14·82
Al_2O_3	2·73	3·31
FeO—Calculated Fe_2O_3	1·54	·65
FeO	1·32	....
MnO	·06	·06
MgO	1·14	1·21
CaO	1·95	1·83
Na_2O	·37	·68
K_2O	·53	·64
H_2O—	·08	·05
H_2O+	·47	·52
CO_2	2·87	2·70
TiO_2	1·26	·43
P_2O_5	*nil*	·05
BaO	*nil*	*nil*
V_2O_3	·03	·02
Cr_2O_3	·08	trace
Fe	33·35	34·17
Cu	·06	·10
S	38·31	39·24
SO_3	·18	·13
As	·25	·01
Sb	·04	·03
Te	*nil*	·02
C	·09	·03
Au	·009	·007
Ag	·004	·007
Pb, Bi, Ni, Co, Se CO	·10	*nil*
Se	trace	....
	100·07	100·71
	Analyst, C. R. Le Mesurier.	Analyst, H. P. Rowledge.

Clay.—14 samples were registered as clays. Five were submitted to clay test to determine their value in the ceramic industry. A very fine grained ball clay from 5 miles east of Pinjarra when burnt at 1150°C was steel hard and of a light cream colour. This clay is highly plastic and could be used in a clay mixture for cream coloured ware to improve the working qualities and the air dried strength of the moulded articles.

Mechanical Analysis of Pinjarra Clay.

	%
Clay substance	95·32
Grit under 90 mesh	4·56
Grit under 60 mesh	·08
Grit under 30 mesh	·04
Grit over 30 mesh	*nil*

Vanadium.—Samples of ash from Collie coal used at the East Perth Powerhouse were analysed for vanadium, the highest figure obtained was 0.021% V, the average being 0.011%. It was thought that this coal ash might be a valuable source of vanadium, as vanadium-bearing minerals which could be used as an ore of vanadium are very scarce in Australia.

Manganese Ore.—Two samples of manganese ore from near Wallangie in the Coolgardie Goldfield gave the following analyses:—

——	6222/41	6223/41
	%	%
MnO_2	51·44	63·42
MnO	6·34	7·80
Fe_2O_3	10·84	7·28
SiO_2	17·26	8·55
P_2O_5	0·09	0·09
CaO	*nil*	*nil*
Equal to—		
Mn	37·42	46·12
Fe	7·58	5·09
P	0·04	0·04

Limesands and Limestone.—In connection with the use of local limestone and limesands in iron smelting 4 sands from Boranup, near Karridale, and 1 limestone from Margaret River were analysed.

——	Limesands. Boranup; about 1 mile south of Arumvale Siding.				Limestone. Golgotha Cave, Margaret River.
	3127/41	3128	3129	3130	3185
	%	%	%	%	%
SiO_2	11·59	9·00	12·97	12·91	0·91
Fe_2O_3	0·56	0·37	0·51	0·28	0·10
Al_2O_3	1·14	1·24	1·19	1·23	0·10
P_2O_5	0·08	0·07	0·09	0·08	0·06
CaO	43·33	44·85	42·69	42·93	54·69
MgO	3·20	3·05	2·92	3·04	0·42
CO_2	37·10	38·20	36·90	36·70	43·55
H_2O total	1·67	n.d.	1·78	n.d.	....
TiO_2	0·09	0·08	0·09	0·04	0·01
Undetermined	1·24	3·14	0·86	2·79	....
	100·00	100·00	100·00	100·00	99·84
Equal to—					
$CaCO_3$	77·33	80·04	76·19	76·62	97·61
$MgCO_3$	6·69	6·38	6·10	6·36	0·88

Small amounts of garnet, zircon, hornblende, felspar and ilmenite were present in the insoluble in acid portion of the sands.

Iron Ores.—Partial analyses were made of four samples of limonitic ore from near Warriup, 33 miles north-east of Albany for the Government Geologist.

Depth of Sample.	4489/41. Surface.	4490. Three feet.	4491. Five feet.	4492. Seven feet.
	%	%	%	%
Fe	55·75	54·16	47·65	40·20
SiO_2	2·90	5·42	14·28	16·05
Al_2O_3	1·94	2·48	3·82	10·64
TiO_2	0·05	0·09	0·12	0·29
P	0·72	0·24	0·24	0·13
S	0·09	0·11	0·12	0·11
H_2O+	11·43	11·10	10·39	11·06
H_2O-	1·89	1·99	2·15	3·48

Commonwealth Iron Ore Survey.—Further analytical work was carried out on samples from Koolan Island and Koolyanobbing. In 187 samples iron was determined, 24 group samples were partially analysed and complete analysis of 6 group samples from Koolan Island, Yampi Sound were made.

Analyses of Iron Ore, Koolan Island, Yampi Sound.

——	931/41. No. 1 Bore, Main Ore-body.	932. No. 2 Cove, Adit.	933. No. 5 Adit, Main Ore-body.	934. No. 5 Adit.	935. Out-crop, Main Ore-body.	936. Out-crop, Main Ore-body.
	%	%	%	%	%	%
Fe_2O_3	98·04	95·31	97·11	81·87	92·89	96·04
FeO	0·21	0·32	0·35	0·56	n.d.	n.d.
SiO_2	0·64	2·79	1·07	5·03	1·11	0·73
Al_2O_3	0·45	1·12	1·14	7·90	2·56	1·50
MgO	*nil*	*nil*	0·03	*nil*	0·06	*nil*
CaO	0·03	*nil*	*nil*	*nil*	*nil*	*nil*
Na_2O	0·07	*nil*	*nil*	0·17	*nil*	*nil*
K_2O	0·03	*nil*	*nil*	0·13	*nil*	*nil*
H_2O+	0·21	0·39	0·31	3·28	2·45	1·22
H_2O-	0·03	0·02	0·03	0·10	0·39	0·22
TiO_2	0·14	0·13	0·10	0·66	0·21	0·14
P_2O_5	0·03	0·04	0·04	0·18	0·31	0·13
MnO	*nil*	*nil*	*nil*	*nil*	*nil*	*nil*
CO_2	0·01	*nil*	*nil*	0·02	0·02	0·01
Cl	trace	trace	0·02	trace	0·01	0·02
Cr_2O_3	*nil*	*nil*	*nil*	*nil*	*nil*	*nil*
V_2O_3	*nil*	*nil*	*nil*	*nil*	*nil*	*nil*
(Ni, Co) O....	*nil*	*nil*	*nil*	*nil*	*nil*	*nil*
BaO	*nil*	*nil*	*nil*	*nil*	*nil*	*nil*
ZnO	*nil*	*nil*	*nil*	*nil*	*nil*	*nil*
PbO	*nil*	*nil*	*nil*	*nil*	*nil*	*nil*
CuO	*nil*	*nil*	*nil*	*nil*	*nil*	*nil*
As	*nil*	*nil*	*nil*	*nil*	*nil*	*nil*
Sb	*nil*	*nil*	*nil*	*nil*	*nil*	*nil*
Sn	*nil*	*nil*	*nil*	*nil*	*nil*	*nil*
C	0·02	0·02	0·02	0·01	0·09	0·05
S	*nil*	*nil*	*nil*	0·05	*nil*	trace
ZrO_2	....	....	....	trace*	....	....
B_2O_3	....	....	....	trace*	....	....
F	....	....	....	trace*	....	....
Total	99·91	100·14	100·22	99·96	100·10	100·06

* Microscopic traces of tourmaline, zircon, and sericite.

Analyst: J. D. Hayton.

Londonderry Minerals.—Mr. C. R. LeMesurier spent several days examining the pegmatite veins at Londonderry. These pegmatites contain lithium-bearing minerals in addition to the microcline, which is quarried by the Australian Glass Manufacturers. An account of the minerals at Londonderry appears in Appendix II.

Diatomaceous Earth.—27 samples were registered for examination, 22 of these being from Albany and surrounding districts where diatomite occurs in swamps similar to those in Wanneroo district. One sample composed mainly of diatom and sponge spicules on calcination contained 93.8% silica. Filtration tests were carried out on local calcined diatomaceous earths with a view to the substitution of local diatomite for imported material sold under the trade name of "Hyflo-supercel," a high grade manufactured product.

Local diatomites were found to possess a much slower rate of filtration than the imported ones and were therefore unsatisfactory. The local diatoms are considerably smaller in size than those in "Hyflo-supercel," which are salt water oceanic types, whereas the local diatoms are fresh water types resembling those in similar deposits in Florida. The oceanic types give the best filtration rate.

Laterite and Bauxite.—20 samples were registered for examination. One sample from near Dinninup was of unusual appearance. It consisted of a number of small fragments, some pieces being nearly white in colour, and composed largely of gibbsite with small black patches of limonite and psilomelane, and scattered quartz grains.

Thirteen samples were examined from Boyup Brook and Werribee districts, 2 from Kojonup, and 1 each from Albany, Narrogin, and Gooseberry Hill. Analytical data is given below of those samples containing more than 40% alumina soluble in 5% NaOH.

Location	Boyup Brook.	Werribee.	Kojonup.
No.	10	W. 1	2
	%	%	%
Silica—			
Total	8·86	16·54	9·24
Combined	6·56	1·44	3·14
Free	2·30	15·10	6·10
Alumina—			
Total	46·39	49·95	46·78
Acid soluble	45·98	49·93	46·40
5% NaOH soluble	43·28	44·86	44·70
Ferric Oxide—			
Total	13·18	5·85	13·74
Acid soluble	13·17	5·83	13·74
Titanium Dioxide—			
Total	3·98	·49	2·95
Acid soluble	3·75	·48	2·86
Water .... {	23·65	22·85	24·73
	1·65	1·45	1·22
Insoluble in Acid—			
Total	9·54	16·68	9·78
Not silica	·68	·14	·54

Melanterite.—A fine specimen of pale greenish-blue melanterite occurring in a solid mass of silky parallel fibres about 2 inches long came from the Evanston G.M. This melanterite caused trouble in cyaniding some of the ore from this mine.

Meteorites.—Two meteorites were examined during the year.

Mr. T. Gaffney found fragments of a very unusual meteorite about "12 miles from Mt. Egerton" near the upper part of the Gascoyne River. The four fragments received consist of nickel-iron, mainly kamacite, embedded in large crystals of enstatite, one crystal of which measures 8.5 cm. x 5 cm. x 2.8 cm. The metallic iron contains 6.38% of nickel. Schreibersite, triolite and possibly oldhamite are also present.

The second meteorite was a fine-grained siderolite stated to have come from 6 miles south of Dalgety Downs, also in the Gascoyne district, but the exact locality has not been definitely fixed.

Minyulite.—This mineral a hydrous potassium aluminium fluophosphate was first described by Simpson and LeMesurier in 1933. A further specimen was found as rosettes of colourless needles in the phosphatic nodule bed at Dandaragan.

Pucherite.—This mineral was recorded for the first time at Londonderry where it was found by Mr. C. R. LeMesurier (see appendix II) as a staining on albite and columbite in the felspar quarry.

Garnet Sand.—The sand at Ellensbrook, west of Margaret River contains 36% of a almandine garnet which has weathered out of the Pre-cambrian gneisses. The associated minerals in the sand are ilmenite, magnetite, hornblende, zircon and quartz.

Zircon Sand.—A zircon-bearing residue from tin concentrating at Greenbushes was found to have the following mineral composition:—Zircon, 60%; ilmenite, 14%; cassiterite, 6%; rutile, less than 1%.

The zircon content compares favourably with that of the sand worked for zircon and rutile at Byron Bay, N.S.W.

"Minerals of Western Australia."—When the late Dr. E. S. Simpson died in 1939 he had been working for some time on a manuscript of a book on the minerals found in Western Australia. It was half finished at the time of his death and it had been left to Professor E. de C. Clarke and myself to complete. This was impossible because of the uninterrupted time required and in May it was arranged that Dr. Dorothy Carroll be seconded from the University of Western Australia to undertake this work, the cost being borne by the Western Australian Government and the Commonwealth Council for Scientific and Industrial Research.

Publications.—The following scientific paper was published:—

C. R. LeMesurier: Beraunite from Dandaragan, Western Australia. Journal of the Royal Society of Western Australia. XXVII.

The assistance rendered by Messrs. H. E. Hill, A. J. Hoare, J. N. A. Grace and Dr. Dorothy Carroll in the preparation of this report is duly acknowledged.

H. BOWLEY, F.A.C.I.,
Government Mineralogist and Analyst.

Perth, October, 1943.

REPORT FOR THE YEAR 1942.

The Under Secretary for Mines.

I have the honour to present for the information of the Hon. the Minister my report on the operations of the Government Chemical Laboratory for the year ended 31st December, 1942.

STAFF.

Dr. Dorothy Carroll, B.A. B.Sc. (Hons.), Ph.D., D.I.C., was appointed as a temporary mineralogist in July to take charge of Soil Mineralogy.

Mr. H. R. Limb, B.Sc., resumed duty at the laboratory on 9th November, 1942, after having been seconded for work at the State Engineering Works from 19th December, 1941.

Mr. N. R. Houghton, B.Sc., A.A.C.I., was appointed as a chemist on the permanent staff on 1st March, 1942, after serving since 4th January, 1939, on the temporary staff.

Mr. C. E. S. Davis, B.Sc. (Hons.), was appointed as a temporary chemist on 14th April, 1942.

ACCOMMODATION.

During the year progress was made in the construction of the new laboratories but by the end of December the buildings were still incomplete, but sufficient had been done to enable the Mineral Section to move in on 29th December. £2,500 was made available for essential new equipment for the laboratories but considerable difficulties were experienced in obtaining this equipment.

LOCAL INDUSTRIES.

Potash.—Early in the year the Government decided to finance the erection of a plant to produce potash from Campion alunite and the Director of Industrial Development (Mr. N. Fernie), the Under Treasurer (Mr. A. J. Reid) and I were appointed to the board of management.

Alumina.—I visited the Eastern States during the year following my appointment as observer to watch this State's interest in the investigations being carried out by the Council for Industrial and Scientific Research in connection with the respective merits of recovering alumina from bauxites and Campion alunite potash residue.

Charcoal-Iron.—Acting on a recommendation from the Iron and Steel Panel the Government appointed a committee to investigate the possibility of establishing a plant for the production of charcoal-iron in this State. This committee consisted of the Director of Industrial Development (Mr. N. Fernie), the State Mining Engineer (Mr. R. C. Wilson), the Under Treasurer (Mr. A. J. Reid), and myself. This committee agreed that it would be advisable for Mr. Fernie and myself to visit the Broken Hill Pty. iron and steel works at Newcastle for the purpose of consulting with experts attached to that organisation from whom much invaluable information was obtained. As a result of these investigations and the information obtained from other sources together with experimental work carried out in this laboratory on the destructive distillation of local timbers and a survey of the brown iron ore deposits in the forest areas east of Perth, a recommendation to establish the industry was submitted to the Government.

Revenue.—The revenue earned for the year amounted to £1,202 16s. 10d.

Table showing Sources and Allocation of Samples for 1942.

Source, Department, etc.	Section 1. Foods, Drugs, and Toxicology.	Section 2. Mineralogy and Geochemistry.	Section 3. Agriculture, Sewage, and Water Supply.
Mines—			
Chemical Laboratories	13	11	5
State Batteries	10	403	....
State Mining Engineer	....	318	....
Under Secretary, Mines	....	14	....
Government Geologist	....	255	....
Health	197	....	2
Hospitals	28	....	....
Agriculture	279	2	554
Police	93	....	....
Government Stores and Tender Board	98	....	....
Metropolitan Water Supply	....	....	2,437
Works and Labour	1	....	191
Industrial Development	33	186	8
Forests	9	....	4
Lands and Surveys	1	....	....
Arbitration Court	1	....	....
Postmaster General	2	....	....
Chief Secretary's Department—			
Registrar General	1	....	....
Gaols	....	....	2
Emergency Reserve Stock Committee	2	....	....
Minister for North-West	1	....	
Education	....	....	7
Fisheries	....	....	4
Free	11	307	3
State Engineering Works	....	42	....
Department of the Army	2	....	60
University	....	7	....
Pay—			
Aeronautical Inspection Directorate	....	55	....
R.A.A.F.	11	....	5
Department of the Navy	7	....	1
Department of the Army	25	....	30
Public	7	236	119
United States Defence Forces	66	9	213
State Engineering Works	....	107	....
State Insurance	12	....	....
Commonwealth Works Department	....	....	1
Railways	23	....	....
Department of Munitions	107	....	1
University	1	....	....
Supply and Development	1	....	....
State Saw Mills	2	....	....
Local Governing Bodies	....	....	2
Total	1,044	1,952	3,649
GRAND TOTAL	6,645		

Foods.—During the year the Australian Butter Survey instituted by the Council for Scientific and Industrial Research was completed. This investigation continued for two years commencing in January, 1940. The samples were collected by the Department of Agriculture and the results of the analyses were forwarded by that department to the Commonwealth Government. The analyses for the completed investigation in this State are given in Appendix III.

The total number of samples examined under this heading was 202.

Jam.—A number of samples of jams manufactured in Western Australia were submitted for complete analysis.

One brand showed considerably less than 68% total sugar content which is considered by authorities to be essential for a first or second class jam. The lack of sugar was also shown by the jam turning mouldy on opening.

Exhaustive analyses were also made with the view of detecting apple juice, the addition of which has been stated to be common practice with some manufacturers. The detection is difficult in the case of fruits which also contain malic acid, the characteristic acid of apples.

Aerated Waters.—A survey of local brands of aerated waters was made for arsenic, lead and other heavy metals.

Four samples had slightly more lead than the maximum permitted under the Food and Drug Regulations whilst two samples had traces of copper which was considered too large for safety.

Coffee Substitutes.—During the year the restricted imports of coffee resulted in a demand for substitutes. Seven samples of coffee substitutes in all were examined and found to consist essentially of cereals or carbohydrate material which had been roasted or otherwise heat-treated to develop a coffee-like flavour. In the majority of cases the original cereal could be recognised.

Salt.—Owing to the curtailment of shipping space affecting the importation of salt, a number of analyses of Esperance salts and imported salts were made for the purpose of comparison for such purposes as bacon curing, sausage casings and butter manufacture.

For natural salts the Esperance salts compare very favourably with imported refined salts as regards soluble impurities, the main disability being extraneous matter, uneven and hard crystals.

Dried Apples.—A number of samples (81) were examined in connection with preliminary investigations on apple dehydration at the Greenmount Dehydrator. The analyses were for the purpose of determining moisture variability and sulphur dioxide content.

Miscellaneous.—One sample of interest examined was a crystal found in a tin of crab, which being of Japanese origin, was erroneously assumed to be glass intentionally added to the tin. Examination proved this to be magnesium ammonium phosphate, probably struvite, which has been demonstrated to occur in the flesh of Japanese or Pacific Coast Crab.

Drugs and Medicines—239 *samples.*—A number of deaths under anaesthesia during the year again focussed the attention on the purity of ether supplies in Western Australia.

Of the total 152 samples which were examined for Perth Hospital and the Government Stores, 20 samples failed to comply with the British Pharmacopoeia tests for peroxides and aldehydes, indicating in some a slight and in other, quite appreciable degree of deterioration. It has not been proven that these impurities are the specific cause of trouble under anaesthesia but when present in appreciable quantities may serve as an indicator of other unknown toxic products of deterioration.

It is hoped to continue to collect information from samples sent for analysis in connection with operations in which death was thought to be due to anaesthetic.

The efficiency of copper to inhibit the formation of peroxides has been demonstrated in 112 1lb. bottles of ether submitted to periodical tests. The ether so preserved has been forwarded for expression of opinion by anaesthetists at Perth Hospital.

Medicines and Medicinal Preparations.—Four samples were examined as a check on the dispensing and for compliance with the requirements of the British Pharmacopoeia.

Eight preparations were submitted by the Police Department which were suspected to contain physiological drugs administered for the purpose of evading military service. None of the preparations, for which exorbitant prices were reputedly paid, would have had any pronounced physiological effect.

Toxicology and Industrial Hygiene.—In all 120 samples were examined under the headings of several branches of toxicology. Exhibits and specimens in connection with human poisoning cases numbered 62. The number of cases was 32.

In eleven (11) cases negative results were obtained. The poisons found were as follows:—Phenolic disinfectants—five cases, strychnine 2, barbiturates 2, phosphorus rat poison 1, arsenic weevil paint 1, quinine 1.

Most of these analyses were in connection with coroner's inquests and evidence was given in court in a number of cases by Mr. H. E. Hill or Mr. J. C. Hood.

A fatality occurred resulting in the death of the driver of the second engine of a double header goods train which got out of control after stalling in the Swan View Tunnel. Death was undoubtedly due to carbon monoxide. The blood was saturated with carbon monoxide to the extent of 60-65%.

The fireman on the same engine who had also become unconscious as the result of carbon monoxide subsequently recovered, his blood the next day showing only a slight degree of saturation with carbon monoxide, probably not more than 5%.

To ascertain the degree of saturation obtained in a passage through the tunnel the two doctors who had attended the scene of the accident made a trial turn through the tunnel in an engine pulling a relatively light load. The passage through the tunnel took 2½ minutes.

Blood examined after the transit showed in all cases (including driver and fireman) absorption of carbon monoxide, the amount being probably in the region of 10% above each one's normal.

Melon Poisoning.—A half-caste native child died after convulsions induced, it was thought, by drinking the juice obtained from a species of wild melon.

Two types of melons were submitted for analysis, the larger described as pig melon was identified as *Citrullus vulgaris* and which is known to contain the active principles of colocynth. The smaller kind of melon is known as *Curcumis myriacarpus.*

A number of extracts were made and a resinous substance isolated. These and some of the fruits were subjected to experiments on rats by the Pathologist, Department of Public Health (Dr. Kingsbury) who found the fruits to be poisonous both when eaten and by injection of extracts.

Industrial Toxicology: Account for 44 samples.—Most of these (33 samples) were urines which were examined to support diagnosis of workers exposed to industrial lead hazard or periodic examinations to check response to remedial treatment.

An investigation into a complaint of men being "gassed" while filling second-hand bags with lime was reported as being similar to gassing by ammonia fumes.

The ammonia was liberated from nitrogenous residues in the bags by hot lime and the solution lay in washing or shaking the bags from the adhering nitrogenous matter.

Fourteen specimens of stomach contents, viscera, etc., were received in connection with cases of real or supposed animal poisoning.

Liquors.—12 samples of liquors were analysed for the Liquor Inspection Branch, Police Department, they included a number of spirits for complete analysis for alleged false trade description. Wines were also examined for addition of artificial sweetening substances.

Linseed, Safflower, Tung Oil.—56 samples of linseed were examined for oil content. Extraction with solvent gave quantities ranging from 33.3% to 44.22% by weight of oil.

Two samples of safflower seeds examined contained 21.5% and 19.1% respectively of an oil with properties somewhat similar to linseed. The drying time in the A.C.E.S.A. test was 4½ days (raw linseed oil not more than 3½ days).

Two samples of tung oil grown at Hamstead Hills and Kelmscott showed oil to the extent of 31.0% and 34.5% of the whole seed.

Lupin Seeds.—43 samples of lupin seeds from the Wongan Hills and Merredin Agricultural Research Stations were examined for alkaloids in connection with the attempts by the Department of Agriculture to breed lupins for fodder which are harmless to stock. The variety known as Sweet Yellow lupin grown at Wongan Hills and Lupinus Luteus Yellow flower (sweet) show the lowest alkaloid content, namely 0.15%.

Latex.—The situation induced by the shortage of supplies of rubber resulted in a number of native plants being examined for possibilities of commercial latex production.

Nine samples were examined, none of which offered much promise of commercial exploitation.

Rotting of Superphosphate Bags.—36 samples of superphosphate were analysed in connection with an investigation made by Mr. H. E. Hill in collaboration with Dr. Teakle, Plant Nutrition Officer, into the causes of rotting of jute bags used for the transport of superphosphate made from various sources of phosphate rock.

With high grade Nauru and Ocean Island rocks used for the manufacture of superphosphate before the war little trouble was experienced with bag rotting unless transport was unduly delayed in hot weather.

Owing to the loss of these islands, a low grade of rock phosphate had to be imported from Egypt. The superphosphate manufactured from this source caused considerable damage to jute bags and railway tarpaulins.

The analysis of Egyptian rock showed small but appreciable amounts of water soluble chlorides which would form free hydrochloric acid after conversion to superphosphate.

It was considered that it was this hydrochloric acid which was responsible for the excessive deterioration of the jute fibres.

A joint report was submitted and certain recommendations suggested to reduce damage to superphosphate bags to a minimum.

Lubricating and Fuel Oils.—46 samples were analysed, the sources being the Australian Naval and Military Services and the United States Naval and Air Services. Analyses were made for the purpose of checking supplies to rigid specifications also for problems associated with corrosion and carbon formation.

Gun Ammunition Factory.—Pending the establishment of their own works laboratory varied analyses were made for the Gun Ammunition Factory. 104 samples of lead wire were analysed for antimony content. Two samples of reagents used for cartridge tests were analysed for stability and composition.

Wood Distillation.—An Iron and Steel Panel was set up by the Department of Industrial Development to consider proposals for the manufacture of charcoal iron in Western Australia.

The success of such a venture depends on having available adequate supplies of charcoal of suitable quality at low cost which it was proposed should be produced by destructive distillation of certain W.A. hardwoods.

The economy of production of charcoal on a large scale is contingent to some extent on the amount and prices which could be obtained for the byproducts of the distillation. Little information was available on the yields of charcoal, wood naphtha, acetone acetic acid which might be expected from the commonly occurring Eucalypts and an investigation was undertaken to establish these facts.

Messrs. N. A. Hanley, B.Sc. and J. F. Pearse, B.Sc., two graduates of the Western Australian University proceeding for Honors, were appointed to undertake the work under the supervision of Mr. H. E. Hill.

A small scale retort capable of taking from 76-100 lbs. of oven dry wood blocks 3 in. x 2 in. x 1½ in. surrounded by an oil jacket filled with high flash point mineral oil was installed. Pyrometers enabled temperature to be measured at points near the outside and at the centre of the retort. The whole retort was lagged with slag wool and heat was obtained from two strip gas burners. A condenser, separator and gas tank completed the equipment.

Four woods were investigated:—Jarrah, Karri, Wandoo and Marri.

A comprehensive report was made covering the yields of charcoal, wood gas, methyl alcohol and acetic acid and the analyses of the several products.

Waters.—The following table shows the source and number of samples of water examined during the year:

No. of Samples.	Source.	Remarks.
93	Metropolitan Water Supply	Ocean waters near outfall sewer at Swanbourne.
105	do. do.	Reservoirs supplying the Metropolitan Area.
95	Department of Works and Labour	Country towns water supplies.
67	do. do.	Streams, rivers, and brooks survey.
28	Goldfields Water Supply	Quarterly samples from Mundaring and Mt. Charlotte Reservoirs and from Kalgoorlie.
86	Department of the Army	Drinking purposes.
5	R.A.A.F.	do. do.
12	U.S. Army	do. do.
59	U.S. Navy	Battery waters, etc.
28	Various Departments of State and Commonwealth	Examination for domestic purposes or as boiler waters.
112	Farmers, graziers, market gardeners, etc.	Examined for suitability for stock, irrigation, and domestic uses.

Electrolytes.—A number of battery electrolyte solutions from Allied submarines were examined for ammonia, chloride, iron, copper, nickel, and suspended matter.

Soils.—A number of soils were analysed for the Department of Agriculture.

Four soils from plots on the Plantagenet-peaty sand at the Denmark Research Station were examined for organic matter, lime requirement and pH. Two of these soils had received applications of farmyard manure. Soils from Merredin and Wongan Hills were examined for available calcium and pH in connection with experiments conducted to show the effect of soil type on the resistance of wheat to Flag Smut. The available calcium in the Merredin soils was found to be:—0.111, 0.048, and 0.740%; and in the Wongan Hills soil, 0.025%. Soils from potato fertiliser experimental plots and from stalling of subterranean clover experimental plots at Avondale Research Station, Narrogin School of Agriculture, and Kojonup were analysed. Thirty-six soils from pasture experimental plots at the Institute of Agriculture, Crawley, were analysed for organic carbon to supplement the moisture and labile nitrogen studies already carried out. A number of type soils from the tobacco experimental block at Manjimup were analysed. This work has now been completed. Four samples of soil from two profiles in a vegetable garden at Rottnest in which peas and beans were unthrifty and yellow, contained a normal amount of salt and had a faintly alkaline reaction.

Fruit Tree Leaves.—A number of samples of leaves were examined for the Department of Agriculture. Leaves suggestive of manganese deficiency from orchards at Boyup Brook and Donnybrook were found to contain from 6-8 ppm. In an investigation on "Die-back" and mineral deficiencies in fruit trees a number of leaves from various types of trees which had been treated by injection or by addition to the soil of manganese, copper or zinc compounds, together with leaves from control trees were analysed for copper and manganese. Some figures for manganese obtained are:—

Untreated.	Treated
Mn. ppm.	Mn. ppm.
20, 9, 2, 15, 21, 14, 26, 30, 12, 12, 6, 5.	62, 103, 259, 184, 131, 249, 419, 783, 218.

Leaves from experimental apple trees at Kendenup, Bridgetown and Mullalyup were analysed for potash and nitrogen in order to ascertain the necessity of using potassic and nitrogenous fertilisers.

Cauliflower Leaves.—A number of leaves at different stages of growth obtained from an investigation of nutritional disorders by the Department of Agriculture were analysed for calcium, magnesium, phosphate and potash with the following results:—

Lab. No.	Description.	Ca	Mg	K	P
		%	%	%	%
3399/42	Oldest outer leaves	5·22	·368	2·21	·541
3400/42	Healthy mature leaves	1·94	·205	2·48	·703
3401/42	New inner leaves	·78	·233	2·66	·883
3402/42	Outer leaves (bottom)	3·27	·261	1·67	·701
3403/42	Outer middle leaves	1·10	·169	2·59	·681
3405/42	Centre immature leaves	·40	·195	2·54	·758

Results on moisture free basis.

Tobacco.—The nicotine content of tobacco leaves and stems grown at Manjimup was found to be 2.02%. This analysis was made to find out whether waste leaves from the tobacco plantations could be used to produce nicotine for sprays for horticultural purposes.

Lupins and Peas.—Samples of tops and roots of inoculated lupins were analysed to estimate their fertiliser value as cover crops for ploughing in before planting other crops. Inoculated lupins and peas were analysed for nitrogen and dry weight so that the increased green yield due to inoculation could be determined.

Pastures, Clovers.—A large number of samples of subterranean clover collected by the Plant Nutrition Officer, Department of Agriculture were analysed for copper in some cases for zinc, iron, phosphorous, nitrogen, calcium and manganese. The samples were from different parts of the south-west and are part of a survey of the copper status of clovers. The results will be written up by Dr. L. J. H. Teakle and Mr. A. G. Turton for publication in the Journal of Agriculture. Samples of pasture grasses and subterranean clover from fertiliser experiments and pasture deterioration trial plots were also analysed, and potatoes from fertiliser plots were analysed for copper, manganese, zinc, nitrogen, phosphate, and potash. Samples of native plants, *Kochia Brevifolia* and *Atriplex semi-baccatum* cut at different times of the year at the Merredin Research Station were examined for their nutritive value as stock foods. (*See table at bottom of page.*)

Cereals and Flour.—The f.a.q. wheat for the 1941-42 season gave the following analysis:—

	%
Moisture	10·18
Protein*	9·60
Ash*	1·30

* Calculated to 13·5% moisture basis.

Three samples of flour had the following composition:—

	A.	B.	C.
Moisture	% 11·02	% 11·25	% 11·00
Calculated to 13·5% moisture basis.			
Ash	0·50	0·52	0·56
Protein	8·57	8·64	8·77
Gluten (wet)	25·7	24·8	25·8
Gluten (dry)	8·56	8·26	8·45
Maltose (Kent-Jones)	1·72	1·59	1·41

A. Composite of Brabender millings from 10 Chamber of Commerce samples.
B. Brabender milled bulk.
C. Bulk milled at a local mill.

Fertilisers.—No official samples were received from the Inspector of Fertilisers. The composition of superphosphates as supplied to the State Agricultural Research Stations was checked and analyses were made of supers in connection with the investigation of the causes of jute bag deterioration. Various odd fertilisers were examined during the year and included "Poultry Humoss," goat manure, lime and some artificial fertiliser, flue dust, and a guano from Edward Island, Moore River. The latter contained 23.20% P_2O_5 and 1.12% N.

	Moisture.	On moisture free basis.				
		Crude protein.	Ether extract.	Crude fibre.	N-free extract.	Ash.
	%	%	%	%	%	%
Kochia brevifolia ungrazed, Nov. cut. ...	5·08	22·45	1·31	11·34	35·41	29·49
Kochia brevifolia regrowth of grazed plants Nov. cut.	6·60	29·85	1·94	13·19	33·93	21·09
Atriplex semi-baccatum	6·80	17·53	1·26	22·51	37·20	21·50

Sewage and Sewer Cases.—Routine control samples from the digestors at the treatment plants at Subiaco and Swanbourne were collected and examined. Samples of influent and effluent from treatment plants at Subiaco, Swanbourne, Fremantle and the Old Men's Home, Claremont, were collected and analysed as a check on the efficiency of the various plants. In connection with the deterioration of concrete sewers by hydrogen sulphide a travelling laboratory was used to collect samples, day and night, for several days from different parts of the sewerage system. No chemical evidence of pollution along the beaches between Robb's Jetty and North Beach and near the outfall sewer was found in the samples of water collected.

Trade Effluent.—An effluent from the processing of citrus fruits was found to contain a large quantity of suspended solids and it was not considered advisable for it to be discharged into the sewers without previous treatment.

Miscellaneous samples.—Among the miscellaneous samples examined, river shell when taken from a barge at Rivervale was found to consist of: $CaCO_3$, 98·36; insoluble in acid, 0·54%. The washed shell contained 0·140% NaCl. The shell was analysed as a possible source of lime for smelting works, but its form was considered unsuitable.

Gold.—There was a considerable falling off in gold assays made when compared with 1941.

About 50 umpire assays of tailings samples were made for the State Batteries Branch and owing to pressure of other work some 300 check tailing samples had to be carried over to 1943.

Copper.—Ninety-six samples of tailings from the State Batteries Branch were assayed for copper in connection with the treatment of gold ores by cyanidation. Two parcels of ore were treated in a small blast furnace which has recently been erected and samples of the slags were assayed for gold and copper.

Whim Well Copper Mine, Whim Creek.—The Zinc Corporation of Broken Hill tested the copper lode at depth by diamond drilling and some 60 samples of core were received for analysis of copper and gold, and iron and sulphur were determined in the cores rich in sulphides. A complete analysis of the richest section of the ore core showed:—

	3918/42, D.D. 18 144′—165′
	%
SiO_2	37·41
Al_2O_3	5·37
FeO	14·19
MnO	0·27
MgO	3·10
CaO	0·06
Na_2O	0·07
K_2O	0·20
H_2O—	0·03
H_2O+	2·08
TiO_2	0·27
CO_2	6·32
P_2O_5	0·18
SO_3	0·05
S	13·02
As	0·03
Fe	10·08
Pb	0·76
Cu	2·97
Zn	2·44
Ni	*nil*
Co	0·26
C	0·52
Ag	0·002
Au	*nil*
	99·68

Analyst, H. P. Rowledge.

Other departments sent in over 30 samples to be assayed for copper. These came from various localities including Kundip, Marda, Thanunda, Kathleen Valley and Murrin.

Iron Ores.—In connection with the proposed production of charcoal-iron in the hills east of Perth the Mines Department and the Department of Industrial Development systematically sampled iron ores at Clackline, Coate's Siding and Wundowie. Nearly 300 samples of ore were analysed for iron, phosphorus and insoluble, and further work on some samples included titania, alumina and silica. This work was still in progress at the end of the year. Analyses of average ore from Coate's Siding, which is of a residual lateritic origin, show:—

Shaft.	Depth.	Iron.	Phosphorus.	Insoluble.
		%	%	%
1100·00	0— 9′	28·08	·09	43·22
1000·100W	0—10′	45·24	·17	10·97
1000·00	0— 5′	41·79	·15	15·45
900·400W	0— 6′ 6″	45·38	·155	13·34
900·200W	0—12′	45·41	·146	11·13
900·100W	0—11′ 1″	41·67	·25	12·42
900·00	0—10′	41·52	·20	13·38
800·400W	1— 6′ 6″	49·03	·16	6·6
800·00	0—12′	43·36	·54	10·86
800·100E	0—12′	47·67	·54	7·20
800·300E	0—10′	25·63	·07	30·40
700·400W	0—10′	46·19	·266	7·30
700·200W	0—11′ (0—5′, dirt)	44·33	·20	8·35
700·100W	0—14′	36·34	·19	16·67
	2—10′	40·38	·19	13·31
700·00	0—12′	39·70	·40	19·75
600·500W	1— 8′ 6″	44·12	·217	11·41
600·400W	1— 8′ 9″	46·51	·33	7·00
600·200W	0—10′ 9″	32·83	·106	12·76
600·00	0—14′	38·45	·37	19·17
	2—14′	39·20	·38	18·61
	4—14′	39·83	....	....

Sulphides.—Nearly 70 samples from the sulphide lode of the Great Victoria G.M. at Burbidge were assayed for sulphur and gold. The sulphide lode consists of pyrrhotite and pyrite.

The sulphur contents varied from 1.6 to 36.4%, the main lode occurring between 434 feet and 584 feet. The following figures give the sulphur content of various parts of the core examined:—

Depth.	S. %
433 ft. 1 in.—441 ft. 6 in.	35·75
444 ft. 11 in.–451 ft. 2 in.	36·34
451 ft. 2 in.—456 ft. 6 in.	23·71
458 ft. 6 in.—491 ft. 6 in.	29·94
491 ft. 6 in.—510 ft. 0 in.	27·76
510 ft. 0 in.—530 ft. 0 in.	30·83
530 ft. 0 in.—543 ft. 10 in.	29·17
543 ft. 10 in.–548 ft. 5 in.	20·89
548 ft. 5 in.—565 ft. 0 in.	23·35
565 ft. 0 in.—583 ft. 0 in.	29·58
583 ft. 0 in.—588 ft. 0 in.	7·92

The approximate composition of three samples will be found in table at bottom of page.

It was found that the gold in 742/42 was associated with the pyrrhotite (90%) and pyrite (10%).

Sulphide ore from the Iron King mine at Norseman which is being worked to supply local acid and fertiliser plants consists of solid finely crystalline pyrite. Two analyses show:—

	S. %	P. %
4833/42	50.29	0.03
4834/42	48.47	0.02

Tin.—About 30 samples were assayed for tin; 25 of these were sent in by the Geological Survey from Greenbushes. Other samples came from Smithfield, Mt. Dockrell. A black sand from three miles south of Wagin, consisting mainly of magnetite (93%), contained about ½% of cassiterite.

Depth.	Pyrrhotite.	Pyrite.	Magnetite Ilmenite.	Gangue.	S.	Au.
	%	%	%	%	%	%
733/42—448 ft. 0 in.	75·6	13·7	9·0	1·6	36·4	10 grs.
742/42—482 ft.–486 ft. 9 in.	47·0	24·0	17·0	12·0	30·9	2 : 11 : 12
788/42—539 ft. 4 in.–543 ft. 4 in.	52·0	20·0	27·0	1·0	33·8	5 grs.

ANALYSES OF LATERITES.

	876/42.	1173.	1175.	1176.	1181.	1182.	1189.	1191.	1192.	1195.	1197.	1199.
	%	%	%	%	%	%	%	%	%	%	%	%
Al_2O_3—												
Acid solution	45·15	47·50	46·56	44·59	39·93	40·62	41·86	44·82	46·71	40·84	38·30	42·48
5% NaOH soluble ...	39·33	37·88	38·68	40·10	30·52	32·38	39·07	31·43	28·29	34·80	19·73	39·90
Total	45·43	48·28	46·74	44·82	40·30	41·39	42·02	45·16	48·44	41·15	40·20	42·76
Fe_2O_3, total	17·50	17·34	18·64	14·07	22·17	28·36	24·18	19·09	22·52	26·09	24·93	10·27
Insoluble, total	11·76	8·10	5·96	14·63	7·18	12·04	3·14	13·84	9·77	5·90	22·43	21·38
H_2O+	22·34	20·69	22·39	21·72	17·77	18·92	23·39	18·00	17·02	20·84	10·87	22·44
H_2O—	1·89	1·45	2·09	2·03	2·17	1·66	1·98	1·72	1·94	1·88	1·90	1·58
TiO_2, total	1·25	4·32	2·84	2·04	1·49	2·36	4·76	1·90	1·22	3·64	1·55	1·40

876/42—65½ miles from Perth on Perth-Geraldton road.
1173/42—Laterite scarp about ¼-mile west of Hillsdale G.M., Toodyay District.
1175/42—Laterite scarp south of Hillsdale G.M., Toodyay District.
1176/42 Toodyay Rifle Range.
1181/42—Near east boundary loc. 1911., between Ringa and Hoddy's Well.
1182/42—About 4½ miles from Dewar's Pool, Bindoon road.
1189/42—Overlying tin lode on M.C. 44, Greenbushes.
1191/42—East side Armadale-Williams road, 67 miles from Perth.
1192/42—Armadale-Williams road, 47 miles from Perth.
1195/42—West end of Mt. Harris Range, about 3 miles north north-east of Darkan on Williams road.
1197/42—Roelands-Collie road, 106–7 miles from Perth.
1199/42—Roelands-Collie road, 109 miles from Perth.

Tantalum.—Several parcels of tantalite for export were analysed for tantalum, niobium and tin. Tantalite and columbite were also sent in from west of Coolgardie, Ravensthorpe, Greenbushes and Wodgina.

The composition is shown by the following analyses:

—	26 miles West of Coolgardie.	14 miles West of Ravensthorpe.	Greenbushes.		Wodgina.
			A.	B.	
	%	%	%	%	%
Ta_2O_5	37·66	21·0	70·6	77·9	68·3
Nb_2O_5	39·84	59·0	14·1	7·5	3·9
SnO_2	....	....	....	....	7·3

A. From about 10 chains north-west of State Battery.
B. From about half a mile from Tantalite, Ltd., leases.

Tungsten.—Over 60 samples were assayed for tungsten as a result of increased prospecting following the Japanese invasion of Malaya and part of China.

Bauxite.—Analyses were made of 29 samples of bauxite and laterites for the Geological Survey. These came from a number of different localities. A number of these containing over 40% total Al_2O_3 are given in the table at top of page.

Steel.—Fifty samples of special steels were analysed for molybdenum, nickel, chromium, silicon and carbon for the Aeronautical Inspection Directorate to show whether they conformed to the specifications.

Bronze.—About 130 samples of phosphor bronze to be used in aeroplane replacement parts were analysed for copper, tin and phosphorus. The allowable limits for impurities such as lead, iron and zinc are given in a specification which states that zinc should be nil. Since it is practically impossible to produce bronze which would not contain sufficient zinc to give a spectroscopic reaction, it was finally agreed to modify this requirement by limiting the maximum allowable amount of zinc to 0·02%. A sample of manganese bronze was also analysed.

Antifriction or Babbit Metals.—Nine samples of bearing metals varying from high tin to high lead alloys of antimony were analysed for the United States Navy.

Cast Iron.—During the year the State Engineering Works began to manufacture malleable cast iron. The composition of the cast iron, known as "white cast iron," has to be carefully controlled so that a suitable cast iron is produced by annealing. Over 150 samples were analysed for some or all of the following constituents: total carbon, silicon, manganese, sulphur and phosphorus.

Mica.—Samples of sheet mica from Ajana, Mullalyup, Napier Range and Yinnietharra were tested for loss of water at temperatures ranging from 100° to 800°C. Each sample showed practically no loss below 600°C. Determination of the loss of water is important when mica is used for electrical insulation purposes. The results of this test will be seen in the table below.

Laboratory No.	3413/42	3414/42	3415/42	3416/42	3417/42	3418/42	3419/42	3420/42
Mark	1	2	3	4	5	6	7	8
Temperature.	Total Loss.	Total Loss.	Total Loss.	Total Loss.	Total Loss.	Total Loss.	Total Loss.	Total Loss.
	%	%	%	%	%	%	%	%
100°C.	*nil*	*nil*	*nil*	*nil*	*nil*	*nil*	*nil*	*nil*
200°C.	,,	,,	,,	,,	,,	,,	,,	,,
300°C.	,,	,,	,,	,,	,,	,,	,,	,,
400°C.	,,	,,	,,	,,	,,	,,	,,	,,
500°C.	,,	,,	,,	,,	,,	,,	,,	,,
600°C.	0·09	0·08	0·11	0·07	0·08	0·06	0·05	0·06
700°C.	0·49	0·36	0·71	0·45	0·26	0·52	0·30	0·31
800°C.	3·52	4·12	4·42	4·32	4·52	4·36	4·20	4·21

1. Yinnietharra, slightly spotted.
2. Yinnietharra, heavily spotted.
3. Yinnietharra, slightly stained.
4. Ajana, clear.
5. Yinnietharra, medium spotted.
6. Napier Range, clear.
7. Mullalyup, spotted.
8. Mullalyup, clear.

Alunite.—About 45 samples obtained by the University Chemistry Department as a result of investigations of the alunite at Chandler Lake, Campion, as a source of potash and alumina were analysed. The samples were from a pilot plant at the University and were forwarded by the Department of Industrial Development.

A number of samples of lake deposits thought to contain alunite were analysed for the Geological Survey. The alunite content of a number of these lake deposits is:—

	Average alunite content.
Loc. 660, vicinity of Mt. Palmer ..	6·47
East of Meier's Find, loc. 677 ..	0·77
East of north-east corner G.M.L. 3676, near Mt. Palmer	0·37
Lake Koorkoordine, about half a mile north-east of crossing on main Bullfinch road	1·47
North of 1 mile post on east boundary Jilbadji loc. 661, near Mt. Palmer	57·5
South-east corner Jilbadji loc. 662, near Mt. Palmer	63·33

Ochres and Oxides.—Ten samples of natural ochres and oxides were examined for their commercial value and use as paint pigments. The two most promising samples were a red ochre from Nannup and a brown ochre from Bindoon. Both were required for use in camouflaging paints.

Limestones.—Two samples of limestones for possible use in smelters were analysed and showed:—

	3919/42 Cap limestone, Coogee.	Limestone 3713/42 Mons Cupri road Whim Creek.
SiO_2	7·18	10·14
Al_2O_3	0·44	2·52
Fe_2O_3	0·76	0·41
FeO	....	0·69
MnO	....	*nil*
MgO	0·96	17·19
CaO	46·13	27·89
Na_2O	....	0·07
K_2O	....	0·67
H_2O+	....	1·32
$H_2O—$	....	0·48
CO_2	36·81	38·90
SO_3	....	0·04
Cl	....	*nil*
TiO_2	....	0·14
P_2O_5	0·012 (P)	0·04
		100·50

Loss on Ignition, 44·12.

3713/42 is a magnesian limestone carrying appreciable amounts of chlorite, quartz, and microcline, and traces of hornblende, albite, biotite and ilmenite.

MINERAL NOTES.

Fluorite.—Samples of fluorite from about 100 miles south of Wyndham and from one mile west of Jarrahdale. The former consisted of large masses of nearly pure fluorite weighing several pounds: the associated minerals were small quantities of limonite, quartz and galena. The latter sample was a mixture of galena and fluorite.

Kyanite.—Two small boulders of kyanite from 18 miles south of Bridgetown near Ross' Swamp were found to consist of about 95% kyanite with a little quartz and limonite.

Quartz Crystals.—In search for quartz crystal suitable for piezoelectrical and optical purposes material was examined from Buntine, the Orchid Mine at Payne's Find, Yalgoo, and Norseman. None of this quartz was suitable.

Chromite.—Chromite from the "Little Wonder" mine at Nullagine contained 51% Cr_2O_3.

Pegmatite.—Three samples of pegmatite from half a mile south of Holleton showed a striking variation in mineral content. The first consisted of felspar and quartz with a little cassiterite, the second carried bunches of small yellow scales of phengite (a magnesium-bearing muscovite) and the third contained garnet and black patches of asbolite.

Stilbite.—Muscovite from Mt. Palmer had stilbite and a little calcite between the leaves of the mica.

Siderite.—A rock from the Stockton mine at Collie was found to consist mainly of siderite with some coaly matter and about ½% of pyrite. An analysis shows:—

SiO_2	0·20
Al_2O_3	*Nil*
Fe_2O_3	n.d.
FeO	54·15
MnO	0·98
MgO	0·39
CaO	0·15
Na_2O	*Nil*
K_2O	*Nil*
H_2O+	n.d.
$H_2O—$	1·30
TiO_2	*Nil*
CO_2	33·56
FeS_2	0·56
P_2O_5	0·05
Total C = coal	8·93
TOTAL	100·27

Titaniferous Iron-ore.—When examining the area to the north of the Coate's Siding ore deposits iron-ore was found outcropping on a ridge running north from the north boundary of location 3718. A small shaft was sunk on what appeared to be massive ore at about 20 chains north of the north-west peg of location 3718. E. de C. Clarke and R. T. Prider, who examined this area, stated that the northern end of the shaft was in very compact brownish-black ore which is somewhat magnetic. Analyses were made of a number of samples.

Lab. No.	Field No.	Description.	Fe.	TiO_2.	P.
5708/42	3	North wall from surface to 2 ft.	37·29	35·65	*Nil*
5709/42	4	North wall, 2 ft.–4 ft.	40·76	30·82	*Nil*
5710/42	5	North wall, 4 ft.–6 ft. 6 in.	37·67	27·49	*Nil*
5711/42	6	South end, east wall surface to 2 ft.	38·94	16·43	*Nil*
5712/42	7	South end, 2 ft.–4 ft.	39·03	13·22	*Nil*
5713/42	8	South end, 4 ft.–6 ft. 6 in.	37·65	15·16	*Nil*

In thin section, Dr. Prider reports, the titanium-rich ore is seen to consist of two constituents, a reddish-brown translucent isotropic mineral and a black opaque mineral, that it is not ilmenite and that it is either pseudobrookite (Fe_2O_3. TiO_2) or arizonite (Fe_2O_3. $3TiO_2$).

PUBLICATION.

H. E. Hill (with L. W. Mahaffey): A Contribution to the Toxicology of Sodium Nitroprusside. A Journal of the Australian Chemical Institute, Vol. 9, No. 4, 1942.

The assistance rendered by Messrs. J. C. Hood, A. J. Hoare, J. N. A. Grace, and Dr. Dorothy Carroll in the preparation of this report is duly acknowledged.

H. BOWLEY,
Government Mineralogist and Analyst.
Perth, October, 1943.

APPENDIX I.

ANALYSES OF FISH AND MEAT PASTES PURCHASED IN PERTH.

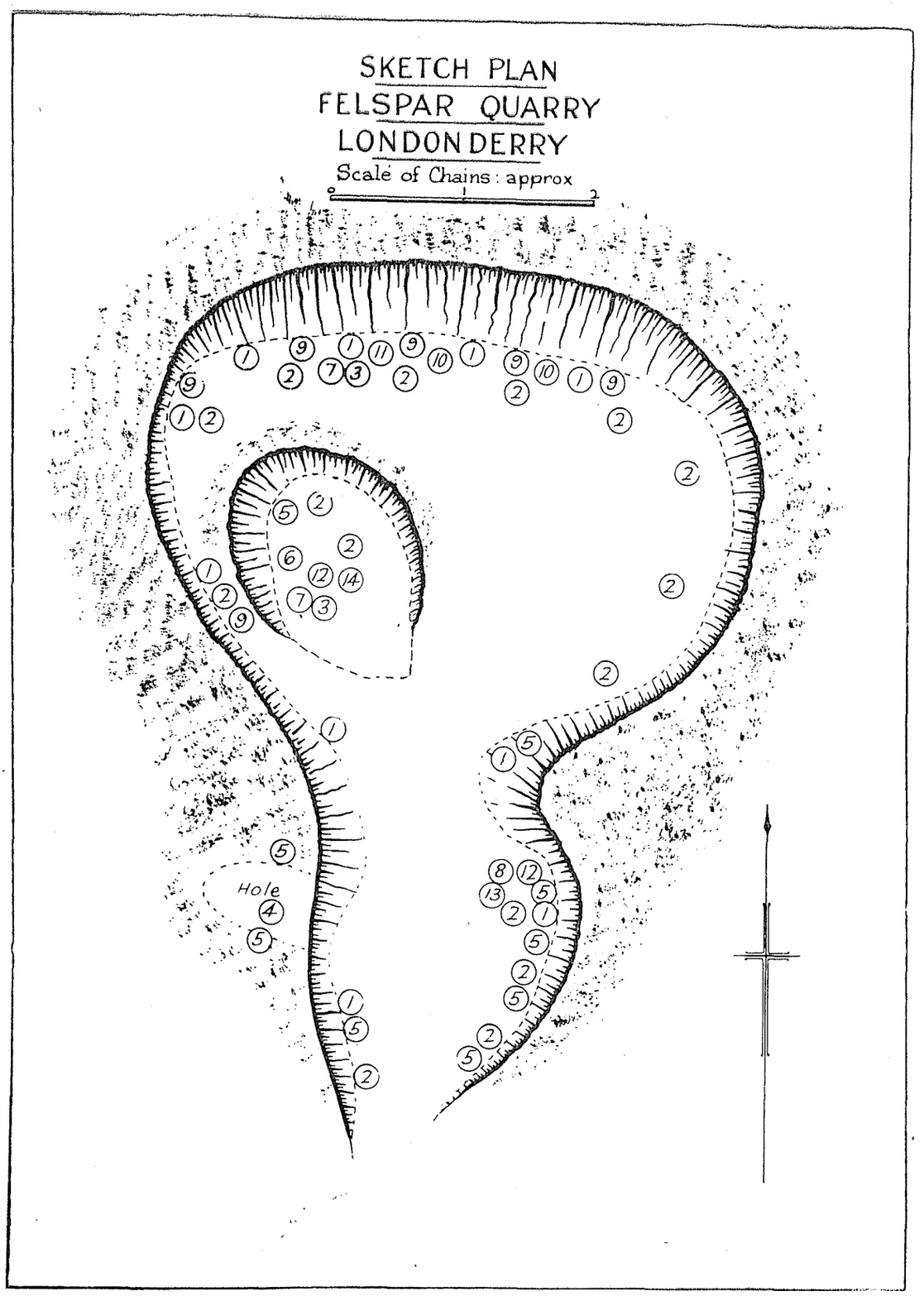
Lab. No.	741	742	743	744	745	746	747	748	749	750
Name or Variety	Hampate.	Prawn and Tomato.	Creme of Anchovy.	Lobster.	Shrimp.	Bloater.	Relish.	Anchovy.	Anchovy.	Salmon and Shrimp.
Price	1½ oz. tin—2d.	1 oz. tin—2d.	1 oz. tin—2d.	1 oz. tin—2d.	1 oz. tin—2d.	3oz. glass jar-1s. 4d.	3oz. glass jar-1s. 1d.	3⅝ oz. jar—1s.	3⅝ oz. jar—1s. 7d.	2¼ oz. jar—11d.
Analysis.	%	%	%	%	%	%	%	%	%	%
Water	60·3	68·4	63·6	67·9	68·5	33·8	64·0	40·1	41·3	58·7
Fat or Oil (Ether Extract)	17·6	3·2	2·4	2·9	3·4	27·5	8·4	10·8	2·8	11·7
Protein (N x 6·25)	14·0	17·0	18·5	17·8	16·9	22·9	18·8	21·4	19·6	23·1
Ash	1·4	4·3	9·1	4·8	4·0	14·5	5·8	27·5	35·8	6·5
Nitrogen-free Extract (by difference)	6·7	7·1	6·4	6·6	7·2	1·3	3·0	0·2	0·5	....
	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
Starch	6·2	4·0	5·3	5·7	7·0	*Nil*	2·2	*Nil*	*Nil*	*Nil*
Sodium Chloride (Salt)	1·1	2·8	7·3	3·3	2·7	12·8	4·3	25·2	33·2	4·6
Colouring Matter	*Nil*	Present (declared)	Declared but none detected	Present (declared)	Present (declared)	*Nil*	Present (declared)	Present (declared)	*Nil*	Declared but not detected
Sulphur Dioxide	Absent	Absent	Absent	Absent	Absent	*Nil*	*Nil*	*Nil*	*Nil*	*Nil*
Approximate Composition (determined by calculation)	%		%	%	%	%	%	%	%	%
	Meat 81	Calculated hypothetical mixtures indicate not less than 66 per cent. fish	Partially defatted fish 76	Fish 84	Fish 73	Partially dried	Fish 86	Partially dried	Partially dried and defatted anchovy (equivalent to 94% fresh anchovy).... 72	Partially dried fish.... 95
	Bread 11		Bread 9	Bread 11	Bread 12	bloater 77	Bread 4	anchovy 79		Added fat ....
	Added water (by diff.).... 8		Added water 10	Added water 5	Added water 13	Added fat 11	Added water 6	Added fat 2	Added salt 27	Added salt 4
			Added salt 6	Added salt 3	Added salt 2	Added salt 12	Added salt 3	Added salt 18		
	100		101	103	100	100	99	99	99	101
						Ratio of partially dried bloater to fresh fish—1 : 1·55		Ratio of partially dried anchovy to fresh fish—1 : 1·3		Ratio of partially dried fish to fresh fish—1 : 1·14 (assumed other fish to be Shrimp for calculation)

APPENDIX I.—continued.

ANALYSES OF FISH AND MEAT PASTES PURCHASED IN PERTH—*continued.*

Lab. No.	751	1767	1768	1769	1770	1771	1772	1773	1774	1775
Name or Variety	Anchovette.	Veal and Bacon.	Veal and Tongue.	Crab and Salmon.	Devilled Ham.	Fish Paste.	Salmon, Lobster, and Pilchard.	Crab, Salmon, and Lobster.	Bloater Paste.	Sardine and Tomato.
Price	2¼ oz. jar—11d.	3 oz. tin—5d.	3 oz. tin—5d.	3 oz. tin—5d.	3 oz. tin—5d.	3 oz. tin—5d.	5 oz. jar.—11½d.	5 oz. jar—11½d.	5 oz. jar—11½d.	3 oz. jar—5d.
Analysis.	%	%	%	%	%	%	%	%	%	%
Water	59·5	67·0	70·5	67·5	68·5	69·4	65·7	66·0	63·7	66·5
Fat or Oil (Ether Extract)	12·8	12·9	10·3	4·6	11·2	4·7	5·6	5·9	5·8	8·9
Protein (N x 6·25)	22·4	15·3	14·9	19·0	14·8	18·4	19·5	19·3	18·7	16·0
Ash	5·3	2·1	2·1	4·6	2·6	3·5	4·2	4·5	5·3	4·0
Nitrogen-free Extract (by difference)	....	2·7	2·2	4·3	2·9	4·0	5·0	4·3	6·5	4·6
	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
Starch	*Nil*	1·7	2·0	0·8	2·2	2·7	2·2	2·3	5·0	2·0
Sodium Chloride (Salt)	3·5	1·6	1·7	3·2	2·2	2·3	2·9	3·0	4·2	2·4
Colouring Matter	*Nil*	*Nil*	*Nil*	Present	*Nil*	Present (declared)	Present (declared)	Present (declared)	Present (declared)	Declared but not detected
Sulphur Dioxide	*Nil*	*Nil*	*Nil*	*Nil*	*Nil*	*Nil*	*Nil*	*Nil*	*Nil*	*Nil*
Approximate Composition (determined by calculation)	%	%	%	%	%	%	%	%	%	%
	Partially dried fish.... 94	Meat 82	Meat 79	Fish 87	Meat 78	Fish 85	Fish 93	Fish 88	Fish 83	Fish 79
	Added fat 3	Bread 3	Bread 4	Bread 2	Bread 4	Bread 5	Bread 4	Bread 5	Bread 10	Bread 4
	Added salt 3	Added water, etc. (by difference) 15	Added water, etc. (by difference) 17	Added salt 3	Added water, etc. (by difference) 18	Added water, etc. (by difference) 10	Added salt 3	Added salt 3	Added water, etc. (by difference) 7	Added tomato, water (by difference) 17
				Added water, etc. (by difference) 8				Added water, etc. (by difference) 4		
	100	100	100	100	100	100	100	100	100	100
	Ratio of partially dried fish to fresh fish—1 : 1·1 (assumed other fish to be Shrimp for calculation)			Calculated from a hypothetical mixture of fish : 40% Salmon, 50% Crab, 10% Lobster						

In some cases the composition was declared in the label by the makers. In these samples the approximate total fish or meat content, as determined by analysis and calculation, was in good agreement (usually within two per cent.) with that stated by the manufacturers.



KEY.

1. Quartz
2. Microcline
3. Albite
4. Petalite
5. Altered Petalite
6. Beryl
7. Lepidolite
8. Zinnwaldite
9. Muscovite
10. Eastonite
11. Spessartite
12. Mangano-Columbite
13. Topaz
14. Pucherite

APPENDIX II.

MINERALS OCCURRING IN FELSPAR DEPOSIT, LONDONDERRY, AND IN VICINITY OF TANTALITE HILL.

By C. R. LEMESURIER, A.W.A.S.M., A.A.C.I.

The quarry was inspected in November, 1941, three and a half days being spent in a detailed examination of the quarry and pegmatite outcrops in the country north of the main deposit.

The main deposit which is worked by the Australian Glass Manufacturers Ltd., is situated 13½ miles southerly by road from Coolgardie, and 4½ miles southwesterly from Londonderry railway siding on the Coolgardie-Esperance railway.

Specimens of the following minerals were collected and are listed in order of their abundance.

Quartz.—Constitutes the main portion of the mullock, about 3½ tons being mined for each ton of microcline. Its transparency varies from almost crystal clear to nearly opaque milky white. In almost all specimens examined evidence of strong strain was seen giving an appearance of pseudo cleavage which increases the difficulty of distinguishing it from beryl. One piece of rock crystal, too opaque to be of value was collected. In places it occurs as graphic intergrowth with microcline.

Microcline (potash felspar).—This is the principal mineral quarried. It occurs in large lenses remarkably free from contaminating minerals and a very pure product is readily obtained by hand-picking.

In the northern end of the quarry the microcline has been quarried over an area of approximately 240 ft. by 160 ft. to a depth of 50 ft., while in a lower bench of the quarry recently opened up, high grade microcline is being taken out to a depth of 15 ft. with signs of continuance in depth. In No. 2 quarry, to the N.E. of No. 1 a quantity of pure white microcline, resembling in the hand-specimen albite more than microcline has been quarried, but here there is more penetration of muscovite bearing albite.

Albite (soda felspar).—This mineral is of sporadic occurrence and is usually associated with beryl, muscovite and spessartite.

Petalite.—Lithium Aluminium silicate, containing approximately 4% Li_2O with a milky white, grey or lilac alteration product occurs abundantly on both walls of the older portion of the quarry, and in the walls of the lower bench. Specimens were also collected from shallow pits on Tantalite Hill.

The purest mineral is water white and perfectly transparent up to 1 cm or more, with perfect basal cleavage. Masses weighing as much as 1 cwt. have been taken out. Several tons are at grass, but little unaltered petalite is showing in the walls of the quarry.

Beryl.—Silicate of beryllium and aluminium, occurs sporadically and in insufficient quantity to be mined except as a by-product. Fresh beryl from the lower bench No. 1 quarry is milk-white to very pale greenish, subtranslucent in mass and shows few crystal faces bu some specimens showing well developed prism faces were collected from No. 1 spoil dump. In these the outer surface was opaque and comparatively soft indicating progressive kaolinisation from the surface. An analysis of the outer portion gave the following result:—

Lab. No. 6742/41—

SiO_2	Al_2O_3	BeO	MgO	CaO	Li_2O	Na_2O	K_2O	Loss on Ign.	Total.
%	%	%	%	%	%	%	%	%	%
63·40	21·28	9·56	·16	·20	·72	1·24	·16	2·57	99·29

Specimens of a clear glassy beryl showing appreciable fire were collected from detrital material marking an acid dyke running in a general N.E. and S.W. direction about half a mile east of the workings at Tantalite Hill. The glassy material shows strong strain lamination and grades into the common semi-opaque type with occasional prism faces.

An analysis of the glassy material gave the following result:—

Lab. No. 6749/41—

SiO_2	Al_2O_3	BeO	MgO	CaO	Li_2O	Na_2O	K_2O	Loss on Ign.	Total.
%	%	%	%	%	%	%	%	%	%
63·88	18·40	13·86	*Nil*	*Nil*	·86	·90	·26	2·29	100·45

Sp. gr.—2·78 ; Refractive Index—Ng. 1·585, Np 1·579.

Muscovite.—Potash Mica, is abundant in the north face of No. 1 quarry where it occurs in a large quartz vein in large books though not of marketable size. A band of the dense, massive form, agalmatolite, was detected in beryl from No. 1 spoil dump.

Lepidolite.—Lithia-bearing mica, occurs sporadically with albite in branching columnar forms of pinkish colour. A massive granular type of lepidolite occurs as a dyke east of the Tantalite Hill workings and outcrops over a length of about 100 ft. with a width of 8-10 ft.

Zinnwaldite.—Iron-lithia mica, occurs as a dyke cutting the east wall of the quarry entrance. In the hand specimen the mineral occurs as rosettes of dark brown to black appearance with pearly lustre.

Partial anlysis of three lithia bearing micas gave the following results:—

——	1.	2.	3.
	%	%	%
Li_2O	4·26	2·88	2·00
Na_2O	·60	·76	1·12
K_2O	10·92	9·62	10·48
FeO	....	*Nil*	2·32
Fe_2O_3	....	·28	·56
Refractive Index—Ng	1·57	1·57	> 1·57 < 1·58

1. Type dyke material from lepidolite dyke east of Tantalite Hill. Lab. No. 6750/41.

2. Lepidolite from No. 1 quarry. Lab. No. 6740/41.

3. Zinnwaldite, No. 1 quarry Lab. No. 6731/41.

Spessartite (Manganese-aluminium garnet).—Segregations of massive spessartite in albite have recently been exposed in the north face of No. 1 quarry but appear to be of localised occurrence.

Mangano-columbite (nobiate and tantalate of manganese and iron).—Small pockets of mangano-columbite have been exposed in albite in the lower bench of No. 1 quarry but the occurrence does not appear to be of any extent.

Sp. gr. 6·18, equal to Ta_2O_5, 39·90%; Nb_2O_5, 42·24%.

Pucherite (bismuth vanadate).—Specimens of albite and mangano-columbite with greenish yellow patches of pucherite were collected from lower bench No. 1 quarry. This is the first recorded finding of this mineral at Londonderry.

Cassiterite (oxide of tin).—Two fragments were detected in loam from gutters S.E. of No. 1 quarry.

Eastonite (iron free biotite).—Specimens containing this mineral associated with albite, microcline, quartz, spessartite and muscovite were collected from the north end of No. 1 quarry.

Topaz.—Aluminium-fluo-silicate, occurs as finely divided prismatic fragments in the zinnwaldite dyke material.

Acknowledgment is made to the management of Australian Glass Manufacturers, Ltd., W.A., for their courtesy in providing transport to and accommodation while at the quarry, and to their foreman for much valuable assistance in collecting specimens.

APPENDIX III.

ANALYSES OF WESTERN AUSTRALIAN BUTTERS.

	General Analysis.								Analysis of Fat.									
	Water. %		Salt. %		Curd. %		Fat. %		Diacetyl p.p.m.		Iodine value.		Saponif. value.		Reichert value.		Softening Point °C.	
	1940.	1941.	1940.	1941.	1940.	1941.	1940.	1941.	1940.	1941.	1940.	1941.	1940.	1941.	1940.	1941.	1940.	1941.
Factory 906																		
January	15·87	15·33	1·02	1·51	1·28	1·08	81·33	82·08	....	0·11	35·1	34·7	228·0	222·0	29·2	28·2	34·4	....
February	....	15·46	....	1·34	....	0·94	....	82·26	....	0·06	....	34·6	....	228·0	....	27·9	....	....
March	15·08	15·45	1·48	1·72	0·75	1·14	82·69	81·65	....	0·06	36·1	37·2	226·8	224·0	27·3	28·3	33·4	....
April	15·02	15·29	1·34	1·42	0·89	1·07	82·75	82·22	....	0·07	36·2	38·5	225·1	227·0	27·9	28·8	34·3	....
May	15·00	15·33	1·06	1·17	0·81	0·87	83·13	82·63	....	0·04	39·0	39·0	226·0	230·0	29·1	30·9	33·2	....
June	....	15·17	....	1·19	....	1·00	....	82·64	....	0·05	....	37·8	....	229·0	....	30·5	....	....
July	14·88	15·09	1·54	1·45	0·96	1·18	82·62	82·28	....	0·01	39·6	37·7	224·9	229·0	30·0	30·4	33·2	....
August	15·08	15·66	1·39	1·23	1·08	1·10	82·45	82·01	....	0·15	38·9	38·0	227·8	230·0	31·5	32·1	32·4	....
September	15·10	15·81	1·18	0·99	1·13	1·02	82·59	82·18	....	0·15	38·2	37·2	231·0	231·3	32·5	32·7	32·5	....
October	....	15·28	....	0·99	....	1·07	....	82·66	....	0·08	....	35·0	....	233·0	....	32·5	....	....
November	15·36	15·42	1·60	1·51	1·05	1·02	81·99	82·05	0·12	0·03	33·6	32·8	233·4	233·0	32·5	32·7	32·9	....
December	15·82	14·73	1·31	1·14	1·23	0·92	81·64	83·21	0·03	0·12	35·1	34·5	230·4	230·0	30·2	30·5	....	....
Factory 913																		
January	15·31	15·61	1·16	1·00	1·06	1·00	82·47	82·39	....	0·04	33·6	33·6	227·5	228·2	27·3	26·7	34·3	....
February	15·58	15·43	1·15	1·11	0·95	1·04	82·32	82·42	....	0·08	34·6	34·9	228·0	227·0	27·4	27·5	....	....
March	15·7	15·06	1·22	1·10	0·74	0·90	82·34	82·94	....	0·13	34·4	33·9	227·8	230·0	27·8	27·2	33·3	....
April	14·94	14·90	1·12	1·10	0·90	0·87	83·04	83·13	....	0·06	34·9	37·8	227·2	236·0	28·6	27·4	34·2	....
May	15·05	14·95	1·35	0·88	0·77	0·99	82·83	83·18	....	0·04	36·3	38·7	225·8	228·0	29·2	29·4	33·4	....
June	15·38	14·83	1·20	1·17	0·72	0·99	82·70	83·01	....	0·14	37·8	37·5	225·2	229·0	28·6	30·3	33·1	....
July	15·47	15·09	1·20	0·92	0·82	1·18	82·51	82·81	....	0·02	37·9	37·4	228·2	228·0	30·6	30·4	32·7	....
August	15·02	15·21	1·31	0·96	0·91	0·94	82·76	82·89	....	0·12	38·0	37·3	230·2	229·1	31·0	31·2	32·6	....
September ...	....	14·48	....	0·97	....	1·00	....	83·55	....	0·02	....	36·1	....	230·7	....	32·1	....	....
October	15·38	15·21	0·97	1·12	0·76	0·99	82·89	82·68	0·02	0·01	36·0	34·4	232·4	232·0	30·6	31·4	33·5	....
November	15·42	15·47	0·94	0·97	1·10	1·12	82·54	82·44	0·02	0·03	33·0	34·1	232·2	230·0	30·7	29·9	33·5	....
December	15·65	15·27	1·15	0·85	0·89	0·85	82·31	83·03	0·05	0·07	34·1	35·1	227·9	226·0	27·7	27·3	34·3	....
Factory 914																		
January	15·56	15·21	1·47	1·34	1·08	0·99	81·89	82·46	....	0·07	36·1	35·9	225·5	224·3	26·3	26·1	35·2	....
February	15·54	15·18	1·30	1·22	0·79	0·84	82·37	82·76	....	0·17	38·0	34·1	224·3	224·0	25·5	25·4	....	....
March	15·42	15·08	1·30	1·14	0·83	0·73	82·45	83·05	....	0·20	36·9	39·0	225·3	221·0	26·8	24·2	33·9	....
April	15·01	14·98	1·44	1·30	0·91	0·81	82·64	82·91	....	0·20	37·0	38·8	224·3	230·0	26·4	27·9	34·7	....
May	15·51	15·29	1·45	1·40	0·70	0·89	82·34	82·42	....	0·15	39·2	41·6	224·1	228·0	28·2	30·1	33·5	....
June	15·29	15·56	1·24	1·25	0·79	0·98	82·68	82·21	....	0·11	38·8	36·5	225·8	231·0	30·1	31·5	33·2	....
July	....	15·42	....	1·67	....	0·89	....	82·02	....	0·13	....	36·5	....	230·0	....	32·1	....	....
August	14·94	....	1·09	....	0·91	....	82·06	....	....	....	39·7	....	228·0	....	31·6	....	32·7	....
September	15·39	....	1·16	....	0·94	....	82·51	....	....	....	38·5	....	230·4	....	31·7	....	33·1	....
October	14·94	15·23	0·78	1·27	1·07	1·07	83·21	82·43	0·08	0·03	34·0	34·7	231·9	233·0	30·6	31·9	33·6	....
November	15·22	15·26	1·24	1·07	1·13	1·12	82·41	82·55	0·11	0·12	33·9	34·8	229·6	229·0	30·0	29·6	34·3	....
December	14·81	15·40	2·01	1·83	0·86	0·98	82·32	81·79	0·20	0·10	36·2	36·2	227·4	223·0	29·1	26·1	34·5	....
Factory 915																		
January	15·56	14·60	1·37	1·07	1·14	0·82	81·93	83·51	....	0·15	34·7	33·2	227·2	228·9	27·5	27·6	34·8	....
February	15·24	....	1·36	....	0·67	....	82·73	....	....	....	35·8	....	225·4	....	25·7	....	....	....
March	15·05	15·45	1·42	1·13	0·57	0·68	82·96	82·74	....	0·14	36·2	35·3	225·1	224·0	25·7	26·2	34·6	....
April	15·20	15·01	1·50	1·48	0·81	0·78	82·49	82·73	....	0·04	35·9	37·8	225·2	230·0	27·0	28·8	34·6	....
May	14·82	15·59	1·43	1·12	0·63	0·79	83·10	82·50	....	0·11	37·3	38·2	224·0	230·0	27·9	30·5	33·8	....
June	14·62	15·58	1·70	1·13	0·66	1·01	83·02	82·28	....	0·17	40·7	37·8	224·3	229·0	28·8	30·4	32·5	....
July	....	15·77	....	0·97	....	0·86	....	82·40	....	0·02	....	38·0	....	231·0	....	31·7	....	....
August	14·49	16·14	1·36	1·08	0·71	1·06	83·44	81·72	....	0·13	39·7	38·0	227·8	230·0	31·5	32·2	33·0	....
September	15·02	15·86	0·86	1·10	0·77	0·91	83·35	82·13	....	0·03	38·1	35·6	232·0	232·7	33·0	33·1	32·1	....
October	14·97	15·44	0·83	1·29	0·78	1·01	83·42	82·26	0·25	0·04	35·7	32·8	232·6	326·0	32·2	32·3	33·2	....
November	15·04	15·72	1·03	1·23	1·11	1·11	82·82	81·94	0·20	0·12	31·5	33·2	232·2	232·0	31·1	31·7	34·2	....
December	14·86	15·28	0·84	1·02	0·86	0·86	83·44	82·84	0·06	0·16	32·5	33·3	230·5	230·0	30·3	30·3	35·0	....

Division VIII.

Annual Report of the Chief Inspector of Explosives for the Year 1942.

The Under Secretary for Mines:

I have the honour to submit for the information of the Honourable Minister for Mines, in compliance with Section 45 of the Explosives Act, 1895, my report on the working of the Branch for the year 1942.

The quantity of explosives imported into the State during the year is shown in Table No. 1, and Table No. 2 gives a comparison of the quantities imported during the past 5 years.

The quantity of explosives imported into the State is considerably less than the last five years, due to the fact that a number of mines have closed down for the war period.

TABLE No. 1.

Importation of Explosives into Western Australia during 1942.

	lbs.
Gelignite	2,219,900
Gelatine Dynamite	60,750
Permitted Explosives	115,500
Blasting Powder	23,950
Total	2,420,100
Detonators: Number	1,740,000
Fuse: Yards	2,822,400

The quantity of explosives used in the different classes of industry during the years 1941 and 1942 is given hereunder:—

	1941. lbs. used.	1942. lbs. used
Gold mining	5,538,750	3,295,150
Agricultural and land clearing	12,300	3,850
Government Departments	72,350	24,300
Quarrying	94,800	52,700
Coal Mining	80,400	89,850
Lead and other base metals	8,250	3,700
Miscellaneous	19,550	3,900
	5,826,400	3,474,450

The following tests were made during the year for the purpose of determining the suitability for use and the chemical stability of explosives:

Explosives	977
Fuse	270

These tests showed that the explosives on arrival and during storage were stable and there was no evidence of chemical deterioration.

TABLE No. 2.

Explosives.	1938. lbs.	1939. lbs.	1940. lbs.	1941. lbs.	1942. lbs.
Gelignite	1,907,600	2,307,750	5,236,050	5,131,650	2,219,900
Gelatine Dynamite	2,748,950	2,651,850	1,720,150	902,540	60,750
Permitted Explosives	267,400	145,950	250,050	239,800	115,500
Powder (Blasting and Pellet)	319,250	112,550	92,300	32,450	23,950
Detonators: Number	4,872,000	4,417,000	3,203,200	2,970,000	1,740,000
Fuse: Yards	7,346,000	8,952,000	8,815,200	7,044,000	2,822,400

The following table shows the number of licenses issued during the year:—

Magazines on Government Reserves	16
Magazines used by Government Departments and on private property	84
Store Licenses, Mode A	80
Store Licenses, Mode B	1
Fireworks Licenses	1
Importation	2

Wherever possible inspections were made of licensed premises and enquiries made with a view to ascertaining whether the requirements of the Act and Regulations were being complied with. As a result of these inspections and enquiries it was not found necessary to take proceedings against any holders of Licenses, but the following explosives were destroyed:

Date.	Place.	Kind.	Reason for Destruction.
14-1-42	Fremantle	110 lbs. of Gelignite	Owing to chemical deterioration.
21-4-43	Kalgoorlie	150 lbs. do.	do. do.
10-6-42	Fremantle	95 lbs. do.	do. do.
7-8-42	do.	50 lbs. do.	do. do.
28-10-42	Mundaring	20 lbs. do.	do. do.
28-10-42	do.	5 lbs. do.	do. do.
1-10-42	Broad Arrow	5 lbs. do.	do. do.

A lot of my time is taken up on work other than the administration of the Explosives Act which necessitates my being away from the office a great deal, and the way Mr. Wood has risen to the occasion to assist me is very highly appreciated.

T. N. KIRTON,
Chief Inspector of Explosives.

4th May, 1943.

Division IX.

Report of the Chairman, Miners' Phthisis Board and Superintendent Mine Workers' Relief Act.

The Under Secretary for Mines.

I have the honour to submit for the information of the Hon. Minister for Mines, my report on this branch of the Mines Department for the year 1942.

Under arrangements similar to previous years the Commonwealth Health Department continued the periodical examinations of mine workers. The work being continuously carried on by the Health Laboratory at Kalgoorlie and by a mobile laboratory which visits the mining centres in the various goldfields. The goldfields not visited by this unit during 1942 were the Ashburton, Gascoyne, Kimberley, Phillips River, West Kimberley, Pilbara and West Pilbara, which are all remote and with the exception of Pilbara, contain few mine workers.

MINE WORKERS' RELIEF ACT.

Examinations under the Mine Workers' Relief Act, during the year totalled 5824, compared with 7141 for the previous year; the falling off being due to mine workers being called up for military service.

The results of the examinations for 1942, together with those for previous years, are shown in the tables annexed hereto, a graph is also attached illustrating the trend of the examinations since their inception. In explanation of these figures, I desire to make the following comments:—

Normals, Etc.—These number 93.90 per cent. of the men examined and include men having first class lives, or suffering from pneumoconiosis only—the figure for 1941 was 95.785 per cent.

Early Silicosis.—These increased to 325 during the year, of which 61 were new cases and 264 had previously been reported, the figures for 1941 being 32 and 280 respectively. Early silicotics represent 5.563 per cent. of the men examined, compared with 3.921 per cent. for 1941.

Advanced Silicosis.—Of the 25 cases reported, 20 were men who advanced from early silicosis during the year, the other five having been reported in previous years, but who nevertheless are still sufficiently robust to continue in their employment. The number (25) represents 0.429 per cent. of the men examined compared with 0.196 per cent. for 1941.

Silicosis Plus Tuberculosis.—Two cases were reported, compared with nil for the previous year.

Tuberculosis Only.—Three cases were reported compared with seven in 1941. This is not an industrial disease although sufferers are compensated under the Act. These men are always prohibited from employment in the mines, in order to prevent the spread of the infection.

General.—It will be noted that the percentages of both early and advanced silicotics show a considerable increase over the previous year. This can be attributed to the fact that many of the younger mine workers have joined or been called up for service with the Military Forces, those remaining being of middle age, who have been in contact with the industry for many years and are more or less dusted.

The mobile X-ray unit continued to function as well as could be expected considering its age and condition and as reported previously, its entire replacement by an up-to-date plant must sooner or later be faced.

MINES REGULATION ACT.

Examinations conducted under the Mines Regulation Act totalled 1,360. This was in addition to the 5,824 men examined under the Mine Workers' Relief Act. These examinations showed a considerable falling off, when compared with 1941, when 2,918 men were examined.

The 1,360 men comprised 822 new applicants for the initial certificate and 538 re-examinees for the initial certificate. Particulars of these examinations are as follows:—

NEW APPLICANTS.

Normal	731
Pneumoconiosis	51
Silicosis early	4
Silicosis advanced	—
Query tuberculosis	17
Tuberculosis	—
Pneumoconiosis plus query tuberculosis	8
Pneumoconiosis plus tuberculosis	—
Silicosis early plus query tuberculosis	—
Silicosis early plus tuberculosis	—
Silicosis advanced plus query tuberculosis	—
Silicosis advanced plus tuberculosis	—
Other conditions	11
	822

Of the above applications for admission to the industry, 731 received the initial certificate (Form No. 2), 29 received re-admission certificates (Form No. 6), and 62 received special certificates (Form No. 9). Thus of 822 applicants 731 were eligible for employment anywhere on a mine and 91 were eligible for surface employment. There is, however, no information as to how many of these new applicants actually entered the industry.

RE-EXAMINATIONS.

Normal	257
Pneumoconiosis	192
Silicosis early	25
Silicosis advanced	2
Query tuberculosis	38
Tuberculosis	5
Pneumoconiosis plus query tuberculosis	10
Pneumoconiosis plus tuberculosis	—
Silicosis early plus query tuberculosis	1
Silicosis early plus tuberculosis	—
Silicosis advanced plus query tuberculosis	—
Silicosis advanced plus tuberculosis	—
Other conditions	8
	538

These men had previously been examined and some were engaged in the industry prior to this examination. 257 received initial certificates (Form No. 2) four received rejection certificates (Form No. 4), 107 received re-admission certificates (Form No. 6), 167 received

special certificates (Form No. 9), three received prohibition certificates (Form No. 10). Thus of 538 re-examinees, 257 were eligible for employment anywhere on a mine, 274 were eligible for surface employment and seven were not eligible for any employment on a mine.

There is no information available, as to how many of these men are actually engaged in the industry.

Grouping the two sets of figures discloses that the following certificates were issued under the Mines Regulation Act, 1906:

Initial Certificates (Form 2)	988
Rejection Certificates (Form 4)	4
Re-admission Certificates (Form 6)	136
Special Certificates (Form 9)	229
Prohibition Certificates (Form 10)	3
	1,360

The percentage of men of normal health to the number examined was 72.647 whilst for the previous year the percentage was 86.156.

Miners' Phthisis Board.

Deaths of beneficiaries and the attainment of the age of 16 years by some of the dependent children again slightly reduced the amount of compensation paid during the year, which totalled £41,126.

The number of beneficiaries under the Act now totals 288, being 74 ex-miners (with and without dependants), 210 widows (with and without dependent children), and four orphan children.

J. THOMAS,
Acting Chairman Miners' Phthisis Board
and Superintendent Mine Workers' Relief Act.
23rd February, 1943.

TABLE SHOWING RESULTS OF PERIODICAL EXAMINATION OF MINE WORKERS FROM INCEPTION OF EXAMINATIONS (1925) TO 31ST DECEMBER, 1942.

First Examination (1925–26).

			Per cent.
Normals, etc.	3,239	=	80·5
Silicosis Early	459	=	11·4
Silicosis Advanced	183	=	4·5
Silicosis plus Tuberculosis	131	=	3·3
Tuberculosis only	11	=	·3
Total number of men examined	4,023	=	100·0

Second Examination (1927).

				Per cent.
Normals, etc.—				
Previously reported as Normals, etc.	2,290			
New cases (*i.e.*, cases examined for the first time)	826			
		3,116	=	83·6
Silicosis Early—				
Previously reported as Early	348			
New cases	33			
		381	=	10·2
Silicosis Advanced—				
Previously reported as Advanced	85			
New cases	8			
		93	=	2·5
Silicosis plus Tuberculosis—				
Previously reported as Normals, etc.	13			
Previously reported as Silicosis Early	27			
Previously reported as Silicosis Advanced	62			
New cases	26			
		128	=	3·4
Tuberculosis only		10	=	·3
Total number of men examined		3,728	=	100·0

PERIODICAL EXAMINATION OF MINE WORKERS—*continued.*

Third Examination (1928).

			Per cent.
Normals, etc.—			
Previously reported as Normals, etc.	2,738		
New cases	239		
	2,977	=	85·5
Silicosis Early—			
Previously reported as Normals, etc.	47		
Previously reported as Silicosis Early	303		
New cases	12		
	362	=	10·4
Silicosis Advanced—			
Previously reported as Normals, etc.	1		
Previously reported as Silicosis Early	16		
Previously reported as Silicosis Advanced	79		
New cases	2		
	98	=	2·8
Silicosis plus Tuberculosis—			
Previously reported as Normals, etc.	10		
Previously reported as Silicosis Early	14		
Previously reported as Silicosis Advanced	10		
New cases	8		
	42	=	1·2
Tuberculosis only—			
Previously reported as Normals, etc.	3		
New cases	1		
	4	=	·1
Total number of men examined	3,483	=	100·0

Fourth Examination (1929).

			Per cent.
Normals, etc.—			
Previously reported as Normals, etc.	2,099		
New cases	21		
	2,120	=	81·9
Silicosis Early—			
Previously reported as Normal, etc.	100		
Previously reported as Silicosis Early	224		
New cases	2		
	326	=	12·6
Silicosis Advanced—			
Previously reported as Silicosis Early	34		
Previously reported as Silicosis Advanced	60		
	94	=	3·6
Silicosis plus Tuberculosis—			
Previously reported as Normals, etc.	8		
Previously reported as Silicosis Early	14		
Previously reported as Silicosis Advanced	19		
	41	=	1·6
Tuberculosis only—			
Previously reported as Normals, etc.	7		
	7	=	·3
Total number of men examined	2,588	=	100·0

Fifth Examination (1930).

			Per cent.
Normals, etc.—			
Previously reported as Normals, etc.	2,751		
New cases	34		
	2,785	=	81·9
Silicosis Early—			
Previously reported as Normals, etc.	133		
Previously reported as Silicosis Early	247		
New cases	3		
	383	=	11·3
Silicosis Advanced—			
Previously reported as Silicosis Early	22		
Previously reported as Silicosis Advanced	43		
New cases	2		
	67	=	2·0
Silicosis plus Tuberculosis—			
Previously reported as Normals, etc.	6		
Previously reported as Silicosis Early	60		
Previously reported as Silicosis Advanced	46		
New cases	2		
	114	=	3·3
Tuberculosis only—			
Previously reported as Normals, etc.	47		
New cases	3		
	50	=	1·5
Total number of men examined	3,399	=	100·0

Sixth Examination (1931).

			Per cent.
Normals, etc.—			
Previously reported as Normals, etc.	2,530		
	2,530	=	84·0
Silicosis Early—			
Previously reported as Normals, etc.	94		
Previously reported as Silicosis Early	252		
	346	=	11·5
Silicosis Advanced—			
Previously reported as Silicosis Early	18		
Previously reported as Silicosis Advanced	35		
	53	=	1·8
Silicosis plus Tuberculosis—			
Previously reported as Normals, etc.	4		
Previously reported as Silicosis Early	35		
Previously reported as Silicosis Advanced	19		
	58	=	1·9
Tuberculosis only—			
Previously reported as Normals, etc.	25		
	25	=	·8
Total number of men examined	3,012	=	100·0

PERIODICAL EXAMINATION OF MINE WORKERS—*continued.*

Seventh Examination (1932).

			Per Cent.
Normals, etc.	3,835	3,835 =	89·5
Silicosis Early—			
Previously reported as Normals, etc.	35		
Previously reported as Silicosis Early	338	373 =	8·7
Silicosis Advanced—			
Previously reported as Silicosis Early	6		
Previously reported as Silicosis Advanced	47	53 =	1·2
Silicosis plus Tuberculosis—			
Previously reported as Normals, etc.	3		
Previously reported as Silicosis Early	9		
Previously reported as Silicosis Advanced	4	16 =	·4
Tuberculosis Only—			
Previously reported as Normals, etc.		8 =	·2
Total number of men examined		4,285 =	100·0

Eighth Examination (1933).

			Per Cent.
Normals, etc.	2,920	2,920 =	86·5
Silicosis Early—			
Previously reported as Normals, etc.	57		
Previously reported as Silicosis Early	322	379 =	11·2
Silicosis Advanced—			
Previously reported as Normals, etc.	1		
Previously reported as Silicosis Early	15		
Previously reported as Silicosis Advanced	44	60 =	1·8
Silicosis plus Tuberculosis—			
Previously reported as Normals, etc.	2		
Previously reported as Silicosis Early	9		
Previously reported as Silicosis Advanced	4	15 =	·4
Tuberculosis only—			
Previously reported as Normals, etc.		3 =	·1
Total number of men examined		3,377 =	100·0

Ninth Examination (1934).

			Per Cent.
Normals, etc.	5,140	5,140 =	92·4
Silicosis Early—			
Previously reported as Normals, etc.	54		
Previously reported as Silicosis Early	315	369 =	6·6
Silicosis Advanced—			
Previously reported as Normals, etc.	1		
Previously reported as Silicosis Early	24		
Previously reported as Silicosis Advanced	12	37 =	·7
Silicosis plus Tuberculosis—			
Previously reported as Normals, etc.	6		
Previously reported as Silicosis Advanced	6	12 =	·2
Tuberculosis only—			
Previously reported as Normals, etc.		5 =	·1
Total number of men examined		5,563 =	100·0

Tenth Examination (1935).

			Per Cent.
Normals, etc.	4,437	4,437 =	92·3
Silicosis Early—			
Previously reported as Normals, etc.	35		
Previously reported as Silicosis Early	303	338 =	7·0
Silicosis Advanced—			
Previously reported as Silicosis Early	24		
Previously reported as Silicosis Advanced	2	26 =	·6
Silicosis plus Tuberculosis—			
Previously reported as Silicosis Early	5	5 =	·1
Tuberculosis only—			
Previously reported as Normals, etc.		2 =	·0
Total number of men examined		4,808 =	100·0

Eleventh Examination (1936).

			Per Cent.
Normals, etc.	6,972	6,972 =	94·7
Silicosis Early—			
Previously reported as Normals, etc.	29		
Previously reported as Silicosis Early	323	352 =	4·8
(Note.—Of the 352 cases of Early Silicosis reported, 23 were already suffering from Early Silicosis and 4 from Pneumoconiosis when re-admitted to the industry on the Re-Admission Certificate under Regulation 7 of the Mines Regulation Act, 1906.)			
Silicosis Advanced—			
Previously reported as Normals, etc.	1		
Previously reported as Silicosis Early	15		
Previously reported as Silicosis Advanced	4	20 =	·3
Silicosis plus Tuberculosis—			
Previously reported as Normals, etc.	3		
Previously reported as Silicosis Early	8	11 =	·1
Tuberculosis only		8 =	·1
Total number of men examined		7,363 =	100·0

PERIODICAL EXAMINATION OF MINE WORKERS—*continued.*

Twelfth Examination (1937).

			Per Cent.
Normals, etc.	7,487	7,487 =	95·4
Silicosis Early—			
Previously reported as Normal, etc.	15		
Previously reported as Silicosis Early	319	334 =	4·3
(Note.—Of the 334 cases of Early Silicosis reported, 37 were already suffering from Early Silicosis when re-admitted to the industry on the Re-Admission Certificate under Regulation 7 of the Mines Regulation Act, 1906.)			
Silicosis Advanced—			
Previously reported as Silicosis Early	14		
Previously reported as Silicosis Advanced	4	18 =	·2
Silicosis plus Tuberculosis—			
Previously reported as Normals, etc.	1		
Previously reported as Silicosis Early	10	11 =	·1
Tuberculosis only		2 =	·0
Total number of men examined		7,852 =	100·0

Thirteenth Examination (1938).

			Per cent.
Normals, etc.	6,833	6,833 =	95·68
Silicosis Early—			
Previously reported as Normal, etc.	13		
Previously reported as Silicosis Early	266	279 =	3·91
(Note.—Of the 279 cases of Early Silicosis reported, 32 were already suffering from Early Silicosis and four from Pneumoconiosis when re-admitted to the industry on Re-Admission Certificate under Regulation 7 of the Mines Regulation Act, 1906.)			
Silicosis Advanced—			
Previously reported as Normal, etc.			
Previously reported as Silicosis Early	15		
Previously reported as Silicosis Advanced	2	17 =	·24
Silicosis plus Tuberculosis—			
Previously reported as Normal, etc.	1		
Previously reported as Silicosis Early	8		
Previously reported as Silicosis Advanced		9 =	·13
Tuberculosis only—			
Previously reported as Normal, etc.		3 =	·04
Total number of men examined		7,141 =	100·00

Fourteenth Examination (1939).

			Per cent.
Normals, etc.	6,670	6,670 =	95·63
Silicosis Early—			
Previously reported as Normal, etc.	18		
Previously reported as Silicosis Early	264	282 =	4·04
(Note.—Of the 282 cases of Early Silicosis reported 28 were already suffering from Early Silicosis and one from Pneumoconiosis when re-admitted to the industry on Re-Admission Certificates under Regulation 7 of the Mines Regulation Act, 1906.)			
Silicosis Advanced—			
Previously reported as Normal, etc.			
Previously reported as Silicosis Early	7		
Previously reported as Silicosis Advanced	3	10 =	·14
Silicosis plus Tuberculosis—			
Previously reported as Normal, etc.	1		
Previously reported as Silicosis Early	9		
Previously reported as Silicosis Advanced	1	11 =	·16
Tuberculosis only—			
Previously reported as Normal, etc.		2 =	·03
Total number of men examined		6,975 =	100·00

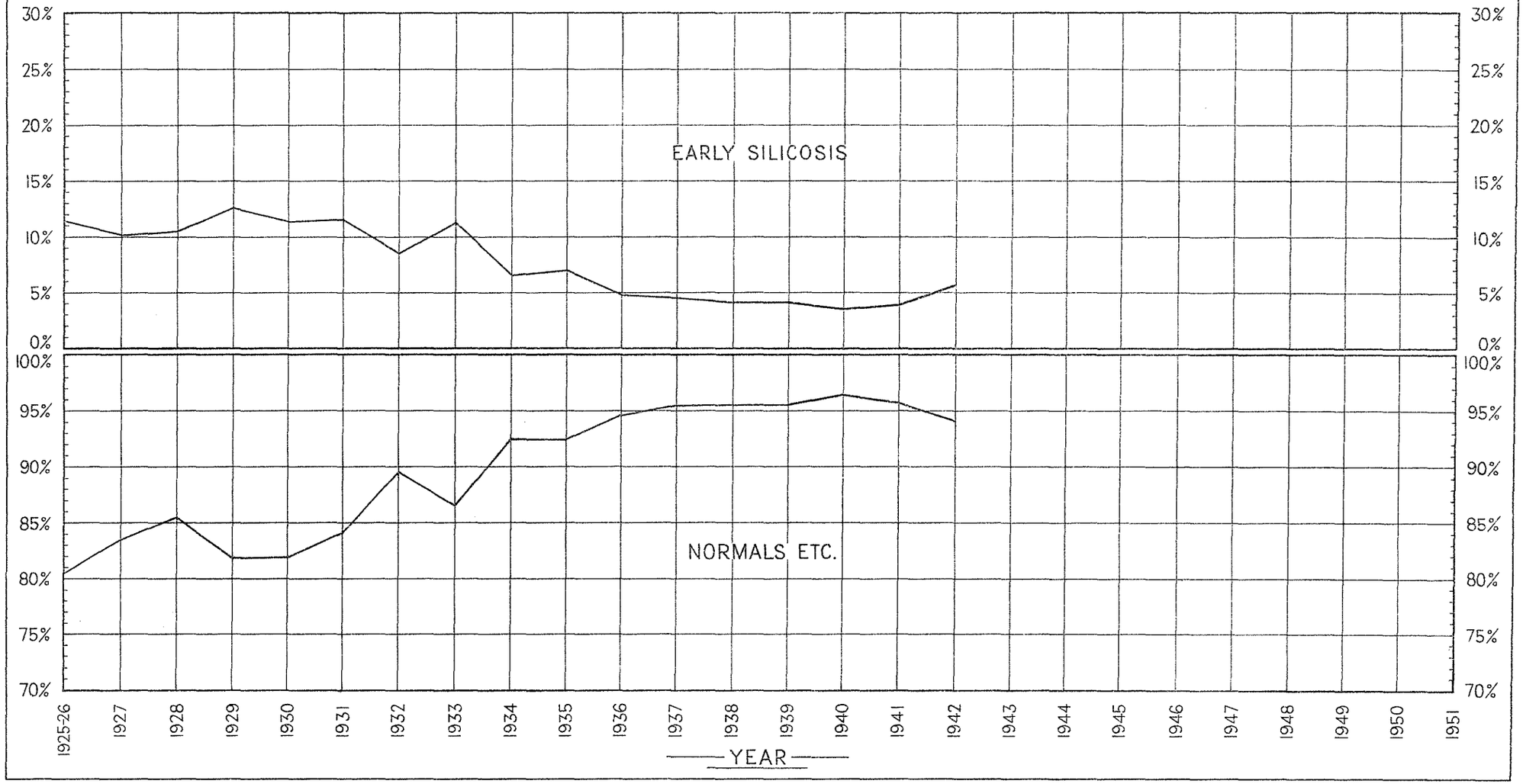
Fifteenth Examination (1940.)

			Per cent.
Normals, etc.	7,023	7,023 =	96·218
Silicosis Early—			
Previously reported as Normal, etc.	12		
Previously reported as Silicosis	245	257 =	3·521
(Note.—Of the 257 cases of Early Silicosis reported, 23 were suffering from Early Silicosis and 12 from Pneumoconiosis when re-admitted to the industry on Re-Admission Certificates under Regulation 7 of the Mines Regulation Act, 1906.)			
Silicosis Advanced—			
Previously reported as Normal, etc.			
Previously reported as Silicosis Early	10		
Previously reported as Silicosis Advanced	1	11 =	·151
Silicosis plus Tuberculosis—			
Previously reported as Normal, etc.			
Previously reported as Silicosis Early	4		
Previously reported as Silicosis Advanced		4 =	·055
Tuberculosis only—			
Previously reported as Normal, etc.		4 =	·055
Total number of men examined		7,299 =	100·000

PERIODICAL EXAMINATION OF MINE WORKERS

GRAPH No. 1

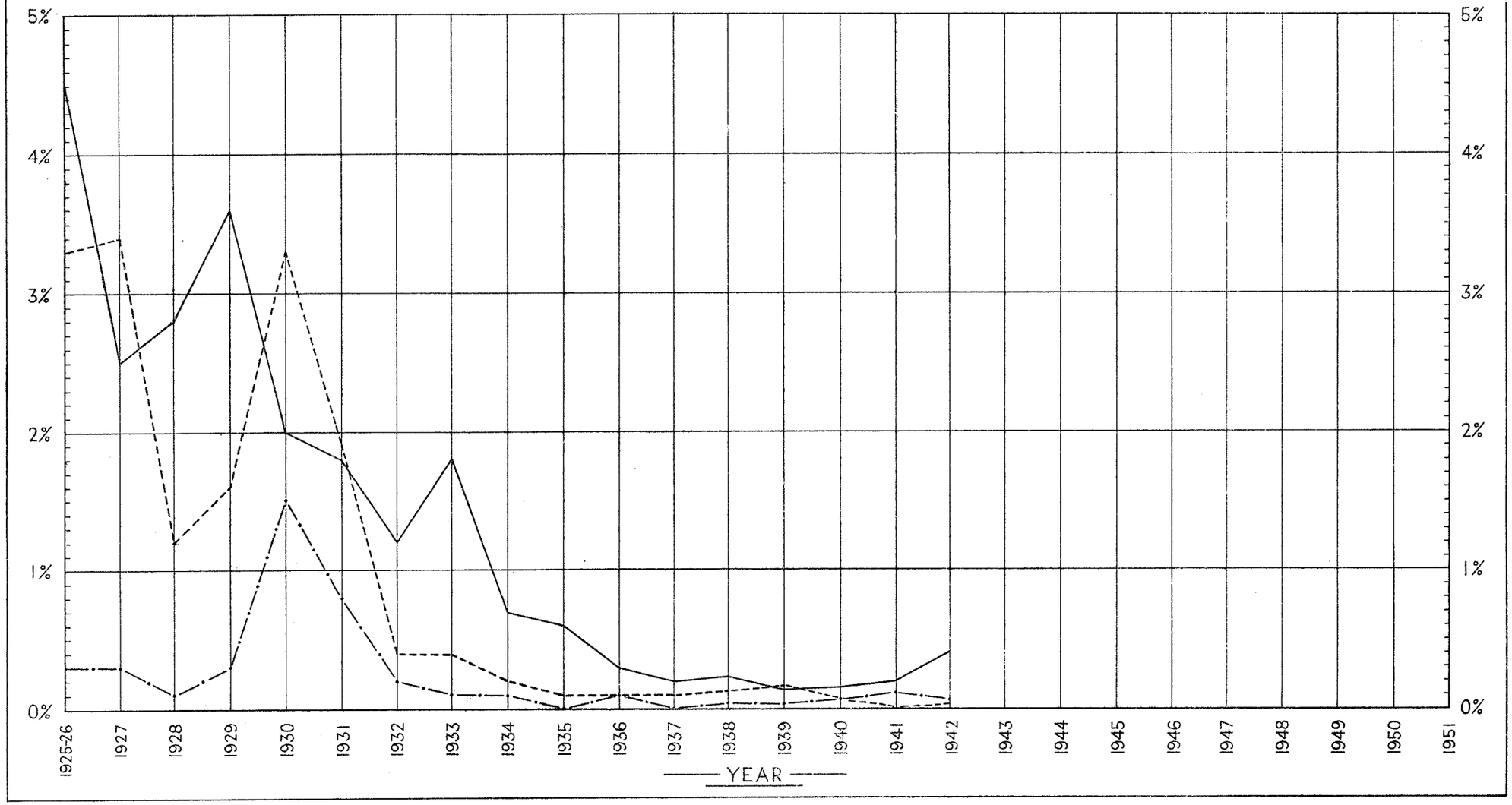
Showing Percentages of Normals and Early Silicotics, from 1925-26 onwards



PERIODICAL EXAMINATION OF MINE WORKERS

GRAPH Nº 2

Showing Percentages of Silicosis Advanced, Silicosis plus Tuberculosis and Tuberculosis only, from 1925-26 onwards



PERIODICAL EXAMINATION OF MINE WORKERS—*continued.*

Sixteenth Examination (1941).

			Per cent.
Normals, etc.	6,840	6,840	= 95·785
Silicosis Early—			
Previously reported as Normal, etc.	32		
Previously reported as Silicosis Early	248	280	= 3·921
Silicosis Advanced—			
Previously reported Normal, etc.	....		
Previously reported as Silicosis Early	11		
Previously reported as Silicosis Advanced	3	14	= ·196
Silicosis plus Tuberculosis—			
Previously reported as Normal, etc.	....		
Previously reported as Silicosis Early	....		
Previously reported as Silicosis Advanced	....		
Tuberculosis only—			
Previously reported as Normal, etc.	7	7	= ·098
Total number of men examined		7,141	= 100,000

PERIODICAL EXAMINATION OF MINE WORKERS—*continued.*

Seventeenth Examination (1942).

			Per cent.
Normals, etc.	5,469	5,469	= 93·905
Silicosis Early—			
Previously reported as Normal, etc.	61		
Previously reported as Silicosis Early	264	325	= 5·580
Silicosis Advanced—			
Previously reported as Normal, etc.	....		
Previously reported as Silicosis Early	20		
Previously reported as Silicosis Advanced	5	25	= ·0430
Silicosis plus Tuberculosis—			
Previously reported as Normal, etc.	....		
Previously reported as Silicosis Early	2		
Previously reported as Silicosis Advanced	....	2	= 0·034
Tuberculosis only—			
Previously reported as Normal, etc.	3	3	= 0·051
Total number of men examined		5,824	= 100·000

Men employed in the outlying districts were not examined during 1929 or 1931; only those employed in Kalgoorlie and surrounding district being examined. The increase in numbers diagnosed as Early Silicosis and Tuberculosis in 1930 was due to the improved plant and radiographic technique.

Only new miners and those whose previous diagnoses warranted review were examined in the outlying districts during 1933.

Mining Statistics to 31st December, 1942.

TABLE OF CONTENTS.

TABLE I.

PRODUCTION OF GOLD AND SILVER FROM ALL SOURCES, SHOWING IN FINE OUNCES THE OUTPUT AS REPORTED TO THE MINES DEPARTMENT DURING YEARS 1941 AND 1942, AND THE TOTAL PRODUCTION TO DATE.

(*Note.*—Lease numbers in brackets indicate that the holding was *voided* during the year.)

(*Note.*—* denotes mainly derived from treatment of tailings.)

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	TOTAL FOR 1941.				TOTAL FOR 1942.				TOTAL PRODUCTION TO 31ST DECEMBER, 1942.			
			Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.
			Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.
Kimberley Goldfield.														
Brockman	109	Mt. Bradley	....	40·00	12·36	....	....	86·00	27·54	....	....	193·00	50·94	....
		Voided leases and sundry claims	....	7·00	....	....	....	....	....	....	15·24	3,836·75	3,276·32	....
Hall's Creek		do. do. do.	....	9·00	15·27	....	27·73	10·00	15·51	....	27·73	546·55	585·36	....
Mt. Dockrell	(107)	Erin-go-bragh	....	34·00	27·18	....	....	....	....	....	....	61·00	53·32	....
	95	Irish Lass	9·17	92·00	42·89	....	....	12·00	6·30	....	22·83	321·00	254·90	....
	(112)	Old Golden Dream	....	68·00	18·19	....	....	24·00	7·00	....	....	92·00	25·19	....
	(85)	Western Lead	....	101·00	28·18	....	....	15·00	4·60	....	....	216·00	75·53	93·00
		Voided leases and sundry claims	....	36·00	10·48	....	....	....	....	....	20·03	623·70	874·94	....
Ruby Creek	111	Darcy's Mine	16·05	65·50	50·14	....	....	12·50	11·12	....	16·05	78·00	61·26	....
	98	Goliath	....	41·00	28·40	....	....	36·00	24·33	....	....	120·70	103·72	....
	97	Ruby Queen	....	550·00	266·82	....	....	668·00	376·92	....	....	2,445·25	1,358·57	....
	100	St. Lawrence	....	....	....	....	....	....	....	....	....	10·00	11·32	....
	96	West and Left	....	....	....	....	....	....	....	....	....	10·00	5·30	....
		Voided leases and sundry claims	....	....	....	....	....	....	....	....	....	12,956·75	9,615·49	....
The Mary		do. do. do.	....	30·10	24·19	....	....	....	....	....	....	445·85	263·69	....
The Panton		do. do. do.	....	....	....	....	....	....	....	....	....	40·85	156·71	....
	From Goldfields Reported by	*generally* :— Banks and Gold Dealers	337·73	....	....	....	467·12	....	....	....	7,602·50	·75	1·54	....
		Total	**362·95**	**1,073·60**	**524·10**	....	**494·85**	**863·50**	**473·32**	....	**7,704·38**	**21,998·15**	**16,774·10**	**93·00**
Pilbara Goldfield.														
MARBLE BAR DISTRICT.														
Bamboo Creek	856	Bulletin	....	279·00	96·49	....	3·31	99·00	42·93	....	8·36	2,893·00	937·35	....
	850	Federation	....	472·00	147·88	....	....	213·00	51·19	....	....	1,183·00	803·36	....
	866, 901	Greater Bonnie Doon (1935), Limited	....	....	....	....	....	....	....	....	....	2,530·00	1,042·86	....
	866	(Bonnie Doon)	....	....	....	....	....	....	....	....	....	204·00	78·03	....
	707	Kitchener	....	298·00	198·26	....	....	51·00	43·33	....	....	9,279·00	13,474·26	....
	1010	Mickey	....	445·00	175·14	....	....	61·00	27·88	....	....	1,300·00	351·99	....
	(1041)	Mickey Extended	....	138·00	8·50	....	....	....	....	....	....	955·00	27·46	....
	740, 794, 878	Mt. Prophecy Leases	....	363·50	305·00	....	....	191·50	201·23	....	....	8,062·50	8,244·40	....
	740	(Mt. Prophecy)	....	....	....	....	....	....	....	....	1·11	1,040·50	1,898·07	....
	794	(Perseverance)	....	....	....	....	....	....	....	....	....	290·50	584·21	....
	817	Prince Charlie	....	121·00	97·22	....	....	80·75	24·62	....	3·68	1,891·00	3,001·93	....
	865	(Queen)	....	146·00	50·91	....	....	....	....	....	....	1,234·00	571·67	....
	924	True Blue	....	114·50	8·50	....	....	176·75	13·56	....	....	894·75	66·90	....
		Voided leases	....	....	....	....	....	....	....	....	564·26	16,886·85	25,145·24	....
		Sundry claims	....	59·00	15·65	....	....	110·00	36·02	....	316·80	4,714·35	2,884·85	
Boodalyerrie		Voided leases and sundry claims	....	....	....	....	....	....	....	....	299·23	120·25	587·86	....
Lalla Rookh		do. do. do.	....	....	....	....	....	....	....	....	4·78	11,555·00	12,371·42	574·01

Marble Bar	(1038)	Charity		32·50	14·95			19·00	10·91			108·00	71·59	
	929, etc.	Comet Gold Mines, Ltd.		15,844·00	12,220·59			12,977·10	13,324·05			55,380·35	52,519·83	
	1019	(Alethia)										586·75	23·70	
	930, etc.	Prior to transfer to present holders										1,609·00	1,211·72	
	(854)	Coongan Star		11·75	10·72							1,140·75	2,104·44	
	912	Homeward Bound		368·00	71·80			636·25	263·22			4,183·00	2,147·46	
	926	Leviathan		658·00	219·25		2·73	534·50	196·14		7·33	3,332·00	1,105·82	
	929, (1023), (1034)	Ora Banda South Mines, N.L.		446·50	195·16			41·00	40·07			1,153·50	506·52	
	929	(Tassy Queen)										2,323·50	1,534·75	
	(845), (869)	Outward Bound Leases		52·25	30·29			71·00	28·84			1,867·55	949·47	
	(845)	(Outward Bound)										1,543·50	1,873·91	
	(869)	(Outward Bound East)										30·00	26·79	
	(909)	Stray Shot		25·50	45·69							237·00	221·04	
	1050	Stray Shot		22·00	10·90			37·50	24·29			59·50	35·19	
	(844), (851)	Viking Leases		26·25	9·40							1,272·00	945·78	
	(844)	(Anglo French)										467·00	706·25	
	(851)	(Viking)										34·50	45·52	
	(1001)	White Hill		19·00	5·89						1·73	892·75	171·93	
	1047	William George		112·50	17·88			119·50	27·81			232·00	45·69	
		Voided leases									187·35	24,258·95	29,432·26	
		Sundry claims		617·00	197·68		8·31	642·50	237·57		248·86	18,809·64	11,937·50	
North Pole	1040	Normay		20·00	7·53							69·00	31·07	
		Voided leases and sundry claims		221·00	60·58							1,097·75	686·90	
North Shaw		do. do. do.									577·43	1,252·20	1,118·01	
Pilgangoora		do. do. do.									185·86	2,736·60	549·99	
Sharks	868	Mount Ada	1·43	105·00	142·00			73·25	39·62		1·43	1,447·25	1,589·68	
		Voided leases										78·00	222·02	
		Sundry claims						4·50	38·92		196·83	1,026·25	1,511·19	
Talga		Voided leases and sundry claims		10·25	4·59						237·59	3,766·90	3,258·78	
Tambourah	(1053)	Victory		36·00	17·92			16·00	19·85			52·00	37·77	
		Voided leases and sundry claims	7·39	597·00	319·29			138·50	102·59		458·17	5,266·75	4,534·30	
Warrawoona	1046	Klondyke Queen		1,010·00	115·00			530·00	218·54			1,645·00	345·35	
		Voided leases and sundry claims	4·91	43·50	56·30			65·75	45·62		679·86	16,676·84	22,367·74	
Western Shaw		do. do. do.									89·81	1,294·00	1,039·29	
Wyman's Well	1002, 1003	Copenhagen leases		216·75	8·15			44·50	3·37			785·75	39·29	
	1002	(Copenhagen)										1,046·75	42·87	
	(1045)	Duchess of Kent		20·50	10·07							65·25	41·46	
	1013	Trump		462·25	62·53			151·50	39·57			1,426·50	262·35	
		Voided leases and sundry claims	·77	188·75	89·62		2·40	31·75	25·76		95·52	3,450·65	2,328·47	
Yandicoogina		do. do. do.									384·97	3,724·95	6,849·70	
	From District generally :—													
	Sundry Parcels treated at :													
	Bamboo Creek State Battery			40·00	*886·23	*24·96			*184·59			40·00	*9,178·31	*181·04
	Marble Bar State Battery				*1,465·62				*350·37			12·00	*8,758·48	
	Ironclad Battery												*237·71	
	The Great North-Western Gold Co., Ltd.				*82·64				*161·66				*244·30	
	Various Works											237·95	*1,391·56	
	Reported by Banks and Gold Dealers		41·26		·90		50·93				14,426·68		·90	
	Total		**55·76**	**23,642·25**	**17,482·72**	***24·96**	**67·68**	**17,117·10**	**15,824·12**		**18,977·64**	**231,053·28**	**246,357·51**	**755·05**

NULLAGINE DISTRICT.

Eastern Creek	268L	Doherty's Reward		141·00	89·33							316·50	317·68	
	251L	Rose		14·00	17·06			7·00	7·99			132·00	113·57	
	253L	Shamrock					8·96				8·96	72·00	59·11	
		Voided leases									8·19	4,571·00	8,964·03	11·77
		Sundry claims		146·00	166·62			10·00	18·10		12·74	1,403·60	1,593·97	16·90
Elsie		Voided leases										586·25	1,675·91	
		Sundry claims		11·50	25·82		8·28	2·25	56·60		8·28	58·00	188·08	
McPhee's Creek		Voided leases										113·00	137·92	
		Sundry claims										134·00	197·09	

TABLE I.—*Production of Gold and Silver from all sources, etc.*—continued.

PILBARA GOLDFIELD—*continued.*

NULLAGINE DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1941.				Total for 1942.				Total Production to 31st December, 1942.			
			Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.
			Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.
Middle Creek	279L	All Nations	....	573·00	121·17	....	....	496·00	135·99	....	....	1,837·75	458·04	....
	(272L)	All Nations East	....	144·00	44·26	....	....	....	....	....	....	144·00	44·26	....
	(260L)	All Nations North	....	334·00	81·48	....	....	....	....	....	....	1,759·00	516·15	....
	229L	Barton	....	350·00	53·67	....	....	381·00	49·67	....	1·22	778·50	141·10	....
	231L, etc.	Blue Spec leases	....	627·00	326·02	....	....	351·00	93·65	....	....	3,182·50	1,886·21	....
	247L	Hopetoun North	....	....	....	....	....	....	....	....	....	213·00	51·43	....
	(258L)	Junction	....	50·00	8·19	....	....	....	....	....	....	77·50	12·43	....
	267L	Little Wonder	....	750·00	308·11	....	....	450·00	159·12	....	....	3,047·00	834·99	....
		Voided leases	....	....	....	....	....	....	....	....	....	8,036·90	8,916·84	....
		Sundry claims	....	145·10	109·79	....	....	151·00	32·11	....	....	4,302·60	1,948·71	....
Mosquito Creek	277L	Land's End	....	103·50	16·50	....	8·27	....	....	....	8·27	103·50	16·50	....
		Voided leases	....	....	....	....	....	....	....	....	22·92	8,128·80	12,797·72	....
		Sundry claims	....	198·00	51·98	....	....	....	....	....	168·71	3,601·94	3,740·65	....
Nullagine	(252L)	Marjie	....	213·00	207·58	....	....	75·00	47·19	....	....	1,118·00	804·84	....
	270L	Valentine	....	20·00	6·53	....	....	....	....	....	....	135·00	64·34	....
		Voided leases	....	....	....	....	....	....	....	....	32·79	7,528·25	11,501·55	....
		Sundry claims	50·19	696·50	171·39	....	2·15	180·00	11·65	....	523·98	5,693·30	10,016·76	....
Twenty-mile Sandy	256L	Bill Jim	....	....	....	....	....	268·00	138·65	....	....	655·00	331·86	....
		Voided leases	....	....	....	....	....	....	....	....	3·20	5,221·20	7,971·21	....
		Sundry claims	....	1,270·10	421·36	....	....	565·00	136·23	....	63·60	7,036·85	5,729·39	....
	From District generally :—													
	Sundry Parcels treated at :													
	Greig's Cyanide Plant		....	....	....	....	....	....	*11·59	....	....	....	*121·93	....
	Simpson's Cyanide Plant (Twenty-mile Sandy)		....	....	*357·84	....	....	....	*17·15	....	....	....	*1,127·98	....
	Various Works		....	....	....	....	....	....	....	....	....	112·50	6,218·62	....
	Reported by Banks and Gold Dealers		93·08	....	....	....	66·12	....	....	....	9,206·85	....	24·77	....
	Total		**143·27**	**5,786·70**	**2,584·70**	....	**93·78**	**2,936·25**	**915·69**	....	**10,069·71**	**70,099·44**	**88,525·64**	**28·67**

Ashburton Goldfield.

Belvedere	(40), (41)	Belvedere leases	....	....	*14–12	*84·41	....	....	....	....	9·38	1,560·00	435·86	176·48
Dead Finish	(48)	Big Sarah	....	82·00	119·28	....	....	....	....	....	....	129·50	223·44	....
	47	Star of the West	....	189·00	132·85	....	....	74·50	35·21	....	....	413·50	266·13	....
		Voided leases	....	....	....	....	....	....	....	....	....	152·00	56·07	....
		Sundry claims	....	3·00	3·54	....	....	....	....	....	11·89	78·75	235·31	....
Melrose	(43), (44)	Melrose leases	....	54·00	30·40	27·72	....	....	....	....	....	241·00	124·10	117·32
	43	(Melrose)	....	....	....	....	....	....	....	....	....	1,667·00	313·43	90·16
		Voided leases	....	....	....	....	....	....	....	....	....	796·00	402·73	5·63
		Sundry claims	....	79·50	33·55	5·06	....	....	....	....	34·29	562·00	262·78	6·40
Mt. Edith	....	do.	....	....	....	....	....	....	....	....	....	5·00	3·97	....
Mt. Mortimer	....	do.	....	....	....	....	....	....	....	....	680·27	44·50	40·25	74·47
Uaroo	....	Voided leases	....	....	....	....	....	....	....	....	....	....	....	7,713·22
	From Goldfield generally :—													
	Reported by Banks and Gold Dealers		53·79	....	....	....	42·53	....	....	....	8,873·94	....	7·12	....
	Total		**53·79**	**407·50**	**333·74**	**117·19**	**42·53**	**74·50**	**35·21**	....	**9,610·27**	**5,649·25**	**2,371·19**	**8,183·68**

Gascoyne Goldfield

Bangemall	....	Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	6·22	350·70	313·82	....
		Sundry claims	....	....	....	....	....	....	....	....	....	....	....	....	122·52	36·30	203·47	....
	From Goldfield generally :—																	
	Reported by Banks and Gold Dealers	....	....	....	....	....	....	....	....	....	....	....	....	590·35	....	....	....
	Total	....	....	....	....	....	....	....	....	....	....	....	....	**719·09**	**387·00**	**517·29**	....

Peak Hill Goldfield.

Egerton	556P	Pegasus	....	163·00	345·21	....	....	38·00	87·38	....	....	916·00	2,155·29	....
		Voided leases	....	....	....	....	....	....	....	....	91·77	5,077·25	2,842·45	....
		Sundry claims	....	....	3·05	....	....	....	....	....	258·86	1,431·77	765·74	....
Horseshoe	(560P)	Labourchere Range	....	801·75	108·42	....	....	....	....	....	....	1,127·50	166·21	....
	561P	Nathan Bitter	....	69·00	33·35	....	....	62·00	26·51	....	....	131·00	59·86	....
		Voided leases	....	....	....	....	....	....	....	....	1,978·23	733·38	1,981·15	2·00
		Sundry claims	4·42	242·00	87·57	....	....	....	....	....	849·70	1,794·55	673·36	....
Jimblebar	....	Voided leases	....	....	....	....	....	....	....	....	172·75	7,526·25	2,561·95	·58
		Sundry claims	....	....	....	....	....	....	....	....	79·74	1,048·05	574·16	....
Mt. Fraser	....	Voided leases	....	....	....	....	....	....	....	....	....	389·50	320·96	....
		Sundry claims	....	....	....	....	....	....	....	....	128·89	400·75	341·14	....
Mt. Seabrook	....	Voided leases	....	....	....	....	....	....	....	....	5·05	620·25	428·26	....
		Sundry claims	....	39·00	23·00	....	....	....	....	....	....	1,038·10	791·51	....
Peak Hill	562P	Anti-Axis	....	27·00	12·85	....	....	70·00	36·24	....	....	97·00	49·09	....
	512P	Atlantic	....	564·00	69·04	....	....	97·75	11·40	....	....	4,128·75	515·53	....
	(510P)	Atlantic North	....	156·25	17·48	....	....	138·00	15·25	....	....	1,515·25	408·54	....
	552P	Bobby Dazzler	....	87·00	34·34	....	....	40·00	13·33	....	·63	494·50	246·61	....
	511P	Commercial	....	....	....	....	....	....	....	....	....	2,702·75	470·23	....
	448P	Evening Star	....	33·00	46·35	....	....	....	....	....	70·17	6,906·00	4,849·87	....
	(514P)	Jasper Bar	....	56·00	19·80	....	....	....	....	....	10·40	1,511·25	917·24	....
	553P	Morning Star	....	630·00	72·63	....	....	96·00	8·58	....	4·43	2,474·25	308·83	....
	(508P)	Mount Pleasant	....	10·00	7·46	....	....	....	....	....	....	1,158·00	390·44	....
	506P	No. 1 North	....	27·00	54·86	....	....	30·00	35·00	....	....	5,714·70	1,270·12	....
	492P	North Star	....	579·00	46·34	....	....	....	....	....	92·83	12,179·50	1,842·27	....
		Voided leases	....	....	....	....	....	....	....	....	846·40	508,579·33	239,921·99	2,285·63
		Sundry claims	6·51	663·00	100·79	....	1·11	207·00	32·93	....	337·12	33,734·85	8,803·33	....
Ravelstone	....	Voided leases	....	....	....	....	....	....	....	....	101·64	4,219·85	3,117·68	....
		Sundry claims	....	....	....	....	....	....	....	....	....	553·60	283·17	....
Wilgeena	....	Voided leases	....	....	....	....	....	....	....	....	23·54	128·50	146·79	....
Wilthorpe	....	do.	....	....	....	....	....	....	....	....	....	47·00	20·93	....
		Sundry claims	....	....	....	....	....	....	....	....	....	89·00	25·71	....
Yowereena	....	Voided leases	....	....	....	....	....	....	....	....	....	19·50	36·46	....
		Sundry claims	....	....	....	....	....	....	....	....	....	117·25	203·16	....
	From Goldfield generally :—													
	Sundry parcels treated at :													
	State Battery, Peak Hill	....	....	*408·43	....	....	....	*18·31	....	3·05	15·00	*6,255·83	....
	Smith's Cyanide Plant	....	....	*267·74	....	....	....	*27·87	....	....	....	*940·19	....
	Various Works	....	....	....	....	....	....	....	....	....	30·00	*5,661·37	23·12
	Reported by Banks and Gold Dealers	49·85	....	....	....	37·99	....	....	....	3,269·50	....	....	....
	Total	**60·78**	**4,147·00**	**1,758·71**	....	**39·10**	**778·75**	**312·80**	....	**8,324·70**	**608,650·18**	**290,347·42**	**2,311·33**

East Murchison Goldfield.

LAWLERS DISTRICT.

Kathleen Valley	1330	Beth-Heno	....	177·00	25·93	....	....	....	....	....	....	503·00	216·47	....
	(1332)	Mossbecker	....	14·00	5·50	....	....	....	....	....	....	1,566·00	211·83	....
	1321	Yellow Aster	....	60·50	49·86	....	....	25·00	23·71	....	....	294·50	163·58	....
		Voided leases	....	....	....	....	....	....	....	....	144·85	76,939·50	47,784·15	....
		Sundry claims	....	179·50	40·93	....	....	87·75	20·86	....	540·40	5,011·50	2,068·22	....

TABLE I.—*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 1941.				TOTAL FOR 1942.				TOTAL PRODUCTION TO 31ST DECEMBER, 1942.			
			Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.
			Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.
Lawlers	1336	Caroline East	....	20·00	11·75	....	....	23·00	12·38	....	....	91·00	51·54	....
	1236, 1240, etc.	Emu Gold Mines, Limited	....	18,484·00	3,118·90	18·00	....	30,827·00	7,791·51	....	....	202,985·00	49,728·42	452·00
	1236–40–49	Prior to transfer to present holders	....	....	....	....	....	....	....	....	13·02	168·50	1,216·93	....
	1317	Tallon Doon	....	70·00	17·30	....	....	6·00	3·95	....	....	277·00	133·03	....
	(1337)	Vivien	....	480·00	94·91	....	....	....	....	....	....	538·00	127·31	....
	(1338)	Vivien South	....	179·00	34·79	....	....	....	....	....	....	179·00	34·79	....
		Voided leases	....	....	....	....	....	....	....	....	690·66	1,283,465·72	490,719·89	14,350·93
		Sundry claims	2·47	226·00	53·69	....	1·54	72·50	51·69	....	788·37	16,208·98	8,917·17	268·34
Sir Samuel	1333	Vanguard	....	300·00	45·90	....	....	....	....	....	....	1,462·00	181·69	....
	(1335)	Westralia	....	29·50	13·30	....	....	....	....	....	....	29·50	13·30	....
		Voided leases	....	....	....	....	....	....	....	....	359·03	273,448·05	141,373·26	10,227·52
		Sundry claims	....	264·00	90·94	....	....	169·50	93·02	....	118·85	6,862·75	4,284·71	....
	From District generally :—													
	Sundry parcels treated at :													
	State Battery, Sir Samuel		....	....	....	....	....	....	*38·10	....	....	53·50	*2,247·26	....
	King's Cyanide Plant		....	....	*10·64	....	....	....	*87·99	....	2·35	....	*274·96	....
	McPherson's Cyanide Plant		....	....	*40·40	....	....	....	....	....	2·12	12·03	*4,265·25	....
	Norwood, Vickery, and Lewis		....	....	....	....	....	....	*235·82	·12	....	....	*235·82	·12
	Vanguard Cyanide Plant		....	1·00	*161·91	....	....	....	....	....	....	4·00	*700·47	....
	Westralian Tailings Treatment, Ltd.		....	....	*2,125·27	*27·64	....	5·00	*1,949·87	*17·00	....	5·00	*4,321·67	*44·64
	Various Works		....	....	....	....	....	....	....	....	....	1,699·50	*25,792·06	*936·09
	Reported by Banks and Gold Dealers		16·72	....	....	....	2·78	....	....	....	6,473·52	·05	9·84	....
		Total	**19·19**	**20,484·50**	**5,941·92**	**45·64**	**4·32**	**31,215·75**	**10,308·90**	**17·12**	**9,133·17**	**1,871,804·08**	**785,073·62**	**26,279·64**

WILUNA DISTRICT.

Coles	662J	Black Adder	....	150·00	98·46	....	....	30·00	26·22	....	....	1,108·50	520·33	....
	(639J)	Pay Day	....	11·25	1·00	....	....	....	....	....	....	188·50	28·01	....
	665J	New Venture	....	....	....	....	....	49·00	6·30	....	....	49·00	6·30	....
		Voided leases	....	....	....	....	....	....	....	....	....	578·75	121·13	....
		Sundry claims	....	229·50	75·57	....	....	....	....	....	12·77	3,783·00	1,469·83	....
Corboys	(659J)	Ida	....	48·00	25·90	....	....	....	....	....	....	354·00	112·05	....
	435J	Old Toscana	5·24	72·00	50·83	....	....	15·00	23·76	....	5·24	747·00	566·48	....
	627J	Vinaurum	....	264·00	63·66	....	....	24·00	5·09	....	....	2,367·00	1,741·49	....
	433J, 434J	Waratah leases	....	341·00	164·82	....	....	419·00	112·55	....	....	1,188·04	568·94	....
	433J, 434J	(Waratah G.Ms., Ltd., N.L.)	....	....	....	....	....	....	....	....	....	359·00	587·92	....
		Voided leases	....	....	....	....	....	....	....	....	1·25	7,374·25	5,344·10	5·00
		Sundry claims	....	451·00	206·31	....	....	351·00	145·54	....	17·36	6,783·35	4,183·75	....
Gum Creek		Voided leases	....	....	....	....	....	....	....	....	20·75	1,380·00	595·73	....
		Sundry claims	....	....	....	....	....	....	....	....	1·36	379·25	120·89	....
Mt. Eureka		Voided leases	....	....	....	....	....	....	....	....	....	142·25	96·36	....
		Sundry claims	....	....	....	....	....	....	....	....	....	783·75	548·56	....
Mt. Keith		Voided leases	....	....	....	....	....	....	....	....	44·54	20,259·50	13,551·08	....
		Sundry claims	....	....	....	....	....	....	....	....	232·10	3,855·00	2,472·34	..
New England		Voided leases	....	....	....	....	....	....	....	....	101·44	5,336·25	3,471·17	.
		Sundry claims	....	183·00	149·11	....	....	124·00	42·00	....	5·78	4,239·75	2,633·92	.

Wiluna	(660J)	Black Swan	....	....	31·75	3·54	....	....	....	....	....	....	....	93·75	71·53	....
	631J	Brilliant Reduced	....	....	320·50	32·13	....	....	154·00	19·53	....	....	....	1,756·75	243·35	....
	552J	Coolgardie Brilliant, N.L.	....	....	11,332·00	3,674·99	....	....	600·00	461·88	....	....	....	21,267·00	6,826·62	....
	552J	Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	....	....	7,257·00	2,202·75	12·40
	607J	Coolgardie Billiant, N.L.	....	....	440·00	247·98	....	....	700·00	618·21	....	....	....	1,140·00	866·19	....
	607J, (663J)	Linden (W.A.) Gold, N.L.	....	....	1,905·00	464·24	....	....	....	....	....	....	....	21,619·00	6,024·02	....
	607J	Prior to transiers to present holders	....	....	....	....	....	....	....	....	....	....	....	1,156·75	655·83	....
	10J, 37J, etc.	Moonlight Wiluna G.Ms., Ltd.	....	....	105,880·52	26,141·00	196·00	....	113,790·65	24,798·00	....	....	....	653,082·69	167,990·40	1,213·00
	10J, 37J, etc.	Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	....	....	36,975·50	14,174·75	....
	666J	Mystery	....	....	....	....	....	....	3·75	6·45	....	....	....	3·75	6·45	....
	(630J)	North Brilliant Reduced	....	....	301·00	41·28	....	....	....	....	....	....	....	2,826·25	836·83	....
	(625J)	Palmer's Puzzle	....	....	21·25	3·32	....	....	....	....	....	....	....	801·75	207·07	....
	6J, etc.	Wiluna Gold Mines, Ltd.	....	....	568,900·00	72,586·00	....	....	548,226·00	65,737·63	....	....	....	5,986,463·00	1,155,845·43	1,213·99
	6J, etc.	Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	....	....	341,730·57	133,457·92	89·32
		Voided leases	....	....	....	....	....	....	....	....	....	....	574·76	137,082·25	78,631·24	....
		Sundry claims	....	....	184·25	38·25	....	....	150·50	31·38	....	321·18	23,919·55	9,916·77	124·33
	From District generally :—															
	Sundry Parcels treated :															
	State Battery, Wiluna	....	....	....	*446·84	....	....	....	....	....	....	....	592·00	*21,949·37	218·70
	Black Adder Battery	....	....	....	*39·67	....	....	....	....	....	....	....	....	*85·93	....
	Toscana Cyanide Plant	....	....	....	*180·08	....	....	....	....	*18·83	....	....	....	*2,378·39	....
	Waratah Cyanide Plant	....	....	....	*153·29	....	....	....	....	*95·30	....	....	....	*527·22	....
	Various Works	....	....	....	....	....	....	....	....	....	....	....	....	*1,237·68	12·68
	Reported by Banks and Gold Dealers	....	....	....	....	....	9·66	....	....	41·79	....	103·30	....	44·32	....
	Total	**5·24**	**691,066·02**	**104,884·67**	**196·00**	**9·66**	**664,636·90**	**92,190·46**	....	**1,441·83**	**7,299,023·70**	**1,642,920·44**	**2,889·42**

BLACK RANGE DISTRICT.

Barrambie	972B, 976B	Scheelite leases	....	100·00	108·41	....	....	64·50	63·83	....	....	500·50	571·66	....
	972B	(Scheelite)	....	....	....	....	....	....	....	....	....	105·50	108·88	....
	976B	(Scheelite North)	....	....	....	....	....	....	....	....	....	92·75	92·83	....
		Voided leases	....	....	....	....	....	....	....	....	22·49	17,359·42	16,200·76	125·60
		Sundry claims	....	9·00	5·03	....	....	4·50	2·60	....	173·17	833·55	915·51	....
Bellchambers	1051B	Bellchambers	....	1,118·50	425·30	....	....	144·00	69·86	....	....	3,093·75	1,363·02	....
		Voided leases	....	....	....	....	....	....	....	....	111·80	343·52	395·88	....
		Sundry claims	....	28·55	12·07	....	....	....	....	....	....	619·80	386·08	....
Birrigrin	....	Voided leases	....	....	....	....	....	....	....	....	820·68	12,042·93	15,086·09	....
		Sundry claims	....	....	....	....	....	....	....	....	179·92	2,487·55	1,238·22	....
Curran's Find	....	Voided leases	....	....	....	....	....	....	....	....	241·13	7,252·25	3,116·68	....
		Sundry claims	....	16·00	2·38	....	....	....	....	....	29·38	2,158·75	827·18	....
Erroll's	....	Voided leases	....	....	....	....	....	....	....	....	166·46	14,170·50	9,328·92	....
		Sundry claims	....	....	....	....	....	....	....	....	405·64	964·75	595·45	....
Hancock's	1074B	Apples	328·14	406·50	343·65	....	102·94	72·00	62·37	....	431·08	478·50	406·02	....
	1050B	Duke of Windsor	....	114·50	42·05	....	·78	31·75	13·27	....	·78	649·25	334·39	....
	1077B	Hill View	....	....	....	....	....	62·00	20·13	....	....	62·00	20·13	....
		Voided leases	....	....	....	....	....	....	....	....	6,523·59	31,902·75	33,075·10	55·72
		Sundry claims	13·92	129·25	45·60	....	....	18·35	4·68	....	147·10	8,255·10	3,143·35	....
Maninga Marley	....	Voided leases	....	....	....	....	....	....	....	....	195·20	60,833·48	48,494·40	22·55
		Sundry claims	....	....	....	....	....	....	....	....	158·16	3,071·40	1,764·28	....
Montague	967B, 998B	North End leases	....	4,309·00	435·82	....	....	1,462·50	148·22	....	....	35,357·95	4,863·33	....
		Voided leases	....	....	....	....	....	....	....	....	100·17	39,672·65	16,888·02	....
		Sundry claims	....	17·00	29·58	....	....	....	....	....	71·09	4,968·60	3,139·93	....
Nungarra	(1072B)	Wirraminna	....	85·25	9·77	....	....	....	....	....	....	462·75	63·49	....
		Voided leases	....	....	....	....	....	....	....	....	978·28	9,933·00	4,951·55	....
		Sundry claims	....	....	....	....	....	87·75	19·96	....	1,508·33	7,494·15	2,930·91	....
Sandstone	959B, etc.	Atlas Gold Mines, Ltd.	....	....	....	....	....	160·00	25·08	....	....	959·00	168·60	....
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	136·06	537·75	686·59	....
	1076B	Black Range Gold Mines, Ltd.	....	....	....	....	....	84·00	14·34	....	....	84·00	14·34	....
	1075B	Doolette South	87·75	180·50	253·04	....	129·79	79·25	60·14	....	217·54	259·75	313·18	....
	958B	Lady Mary	....	451·75	494·13	....	....	543·25	374·19	....	....	5,051·75	4,625·71	....
	1069B	Sonny Boy	....	50·00	12·61	....	....	....	....	....	....	110·50	18·76	....
		Voided leases	....	....	....	....	....	....	....	....	3,620·46	692,204·07	443,769·55	11,754·22
		Sundry claims	3·78	53·00	1·85	....	....	102·05	25·27	....	1,466·02	14,669·45	6,619·32	....

TABLE I.—*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 1941.				Total for 1942.				Total Production to 31st December, 1942.			
			Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.
			Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.
Youanme	1046B	Canberra	....	100·00	8·24	....	....	....	....	....	....	1,501·00	443·13	....
	960B, etc.	Youanmi G.Ms., Ltd.	....	73,857·87	17,022·79	1,154·14	....	3,892·70	2,824·53	761·08	....	370,977·77	96,083·94	5,835·76
	960B	(Youanme)	....	....	....	....	....	....	....	....	....	38·50	3·91	....
		Voided leases	....	....	....	....	....	....	....	....	127·28	358,978·78	176,882·54	4,608·55
		Sundry claims	....	46·00	6·35	....	....	....	....	....	19·86	6,258·55	1,814·66	....
		From District generally :—												
		Sundry parcels treated at :												
		State Battery, Sandstone	....	....	*1,141·65	....	....	....	*291·54	....	....	266·00	*21,840·64	59·53
		State Battery, Youanme	....	....	*354·84	....	....	....	....	....	....	40·00	*5,461·83	....
		North End Cyanide Plant	....	....	*294·09	....	....	....	*155·02	....	....	....	*4,873·12	....
		Various Works	....	....	....	....	....	....	....	....	....	37·00	*6,505·69	....
		Reported by Banks and Gold Dealers	·12	....	....	....	....	....	....	....	1,492·65	....	20·38	....
		Total	**433·71**	**81,072·67**	**21,049·25**	**1,154·14**	**233·51**	**6,808·60**	**4,175·03**	**761·08**	**19,344·32**	**1,717,140·97**	**940,441·95**	**22,461·93**

Murchison Goldfield.

CUE DISTRICT.

Big Bell	2050, etc.	Big Bell Mines, Ltd.	....	423,420·00	45,984·18	16,353·96	....	376,550·00	46,116·93	16,572·86	....	2,199,865·00	286,395·60	98,399·04
	2050	(Little Bell)	....	....	....	....	....	....	....	....	4·49	579·75	60·95	....
	2219	Pindar	....	36·25	54·16	....	....	28·75	25·19	....	....	65·00	79·35	....
		Voided leases	....	....	....	....	....	....	....	....	....	274·75	278·83	....
		Sundry claims	....	38·25	20·09	....	·39	45·75	37·04	....	6·71	338·50	308·97	....
Cuddingwarra		Voided leases	....	....	....	....	....	....	....	....	143·05	102,020·41	56,131·93	100·71
		Sundry claims	1·55	330·05	141·89	....	1·63	17·25	5·98	....	366·72	8,048·39	4,710·70	9·00
Cue	2208	Dunedin	44·23	103·00	33·02	....	1·84	8·55	17·01	....	85·34	213·05	100·35	....
	2236	Hill View	....	....	....	....	....	186·00	305·34	....	....	186·00	305·34	....
	2231	Maybe	....	199·75	56·37	....	·90	....	....	....	·90	199·75	56·37	....
	(2224)	Monte Carlo	....	33·50	7·99	....	....	....	....	....	....	49·00	27·95	....
	(2084)	Trovato di Pietro	....	53·25	38·58	....	....	....	....	....	1·77	2,193·75	1,279·98	....
		Voided leases	....	....	....	....	....	....	....	....	599·33	285,064·89	218,546·82	66·63
		Sundry claims	·15	1,579·50	545·93	....	9·86	1,131·50	393·58	....	1,069·75	40,866·99	18,730·14	....
Lelya		Voided leases	....	....	....	....	....	....	....	....	8·78	1,069·00	1,811·26	....
		Sundry claims	6·20	....	....	....	....	....	....	....	108·06	842·90	739·93	....
Mindoolah	(2209, etc.)	Mindoolah Mines, Limited	....	6·00	2·76	....	....	....	....	....	....	23·25	14·35	....
	(2222)	Two Mates	....	54·53	50·79	....	....	....	....	....	....	54·53	50·79	....
	(2212)	Two Reef	....	263·50	161·10	....	....	....	....	....	2·54	1,367·00	833·84	....
		Voided leases	....	....	....	....	....	....	....	....	3·07	7,935·50	4,773·33	42·97
		Sundry claims	....	....	....	....	....	....	....	....	29·30	2,963·85	2,169·26	....
Reedy	1977, etc.	Triton Gold Mines, N.L.	....	75,742·00	21,495·10	2,197·61	....	33,272·00	10,391·14	779·78	....	604,070·00	191,041·46	17,791·92
	1977, etc.	Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	14,492·50	7,073·36	5·00
	2071, 2191	Western Gold Mines, N.L.	....	276·00	58·22	....	....	....	....	....	....	1,846·00	398·14	....
		Voided leases	....	....	....	....	....	....	....	....	216·11	6,552·93	10,128·90	1·22
		Sundry claims	8·00	810·25	193·50	....	1·12	347·50	94·30	....	278·24	4,925·05	2,239·21	....
Tuckabianna	2130	Garibaldi	....	28·50	2·57	....	....	....	....	....	45·22	298·88	544·36	....
	2233	Goldie	....	....	....	....	....	237·25	73·09	....	....	237·25	73·09	....
	2235	Uranus	....	....	....	....	....	153·25	80·19	....	....	153·25	80·19	....

	2218	Vienna	4·29	63·75	11·82	....	....	60·25	16·55	....	13·85	188·60	198·27	....
	2234	Winston	....	....	....	....	45·96	80·50	186·98	....	45·96	80·50	186·98	....
		Voided leases	....	....	....	....	....	....	....	....	162·70	11,537·75	6,108·85	....
		Sundry claims	46·69	603·25	202·07	....	16·31	351·50	189·95	....	520·93	3,969·60	2,413·08	....
Tuckanarra	2079	Bachelor	18·69	....	....	....	47·15	10·75	15·33	....	128·52	450·25	381·43	....
	(2200)	Blue Peter	....	....	....	....	....	....	....	....	275·21	112·10	498·71	....
		Voided leases	....	....	....	....	....	....	....	....	3,089·21	18,911·65	21,919·61	172·77
		Sundry claims	....	173·50	44·83	....	....	12·00	5·81	....	872·94	9,829·55	10,189·33	....
Weld Range	2183	Joy Long	....	173·25	44·29	....	....	115·50	44·13	....	....	869·50	301·79	....
		Voided leases	....	....	....	....	....	....	....	....	23·64	545·75	486·41	....
		Sundry claims	....	....	....	....	....	....	....	....	3·90	1,148·50	750·54	....
	From District generally :—													
	Sundry Parcels treated at :													
	State Battery, Cue		....	....	*2,237·77	....	....	....	*758·29	....	....	12·75	*18,569·59	91·93
	State Battery, Tuckanarra		....	....	*26·52	....	....	....	....	....	....	518·50	*5,501·84	....
	Various Works		....	....	....	....	....	....	....	....	....	6,925·52	*29,375·96	1,147·77
	Reported by Banks and Gold Dealers		75·74	....	2·02	....	46·36	....	....	....	3,304·50	....	22·62	....
	Totals		**205·54**	**503,988·08**	**71,415·57**	**18,551·57**	**171·52**	**412,608·30**	**58,756·83**	**17,352·64**	**11,410·74**	**3,341,897·64**	**905,889·76**	**117,828·96**

MEEKATHARRA DISTRICT.

Abbotts	(1869N)	Sunlight	....	9·00	2·67	....	....	....	....	....	....	109·75	44·97	....
		Voided leases	....	....	....	....	....	....	....	....	26·45	36,731·60	38,730·31	....
		Sundry claims	....	94·00	41·43	....	....	....	....	....	5·29	3,661·27	2,237·83	....
Burnakura	1885N	Federal Gully	....	39·50	34·01	....	....	28·25	36·13	....	....	67·75	70·14	....
	1849N	New Alliance	....	7·50	18·19	....	....	36·00	7·35	....	....	132·25	114·39	....
		Voided leases	....	....	....	....	....	....	....	....	3,247·59	38,972·70	30,705·63	26·90
		Sundry claims	19·64	504·25	326·76	·12	....	264·25	109·45	1·42	146·27	1,992·55	1,071·97	1·54
Chesterfield		Voided leases	....	....	....	....	....	....	....	....	449·34	6,869·26	7,483·76	·80
		Sundry claims	....	33·00	11·43	....	·56	12·25	4·94	....	42·19	888·55	714·20	....
Gabanintha	1854N	Golden Star	....	109·00	69·39	....	....	23·75	19·92	....	....	203·25	251·06	....
	1844N	Mab	....	76·00	15·70	....	....	44·00	10·49	....	....	618·50	148·08	....
	(1876N)	Magpie	....	145·25	48·77	....	....	92·25	12·26	....	....	237·50	61·03	....
	1725N	New Brew	....	110·75	145·70	....	....	91·25	93·10	....	....	906·10	1,087·34	....
		Voided leases	....	....	....	....	....	....	....	....	40·61	22,736·75	13,755·32	815·57
		Sundry claims	....	67·25	78·82	....	....	119·00	41·48	....	164·50	3,448·25	2,148·14	....
Garden Gully	(1719N)	Sabbath	....	17·75	7·14	....	....	8·50	16·77	....	....	377·75	405·78	....
		Voided leases	....	....	....	....	....	....	....	....	101·27	29,860·57	21,441·93	1,102·59
		Sundry claims	....	62·75	19·73	....	....	....	....	....	7·51	2,843·69	1,677·23	....
Gum Creek		Voided leases	....	....	....	....	....	....	....	....	117·23	3,893·08	3,819·91	....
		Sundry claims	....	....	....	....	....	....	....	....	89·23	727·25	636·85	....
Holden's	1551N	New Waterloo	....	....	....	....	....	....	....	....	·99	1,468·00	918·92	....
		Voided leases	....	....	....	....	....	....	....	....	18·00	16,593·00	6,401·50	....
		Sundry claims	....	....	....	....	....	....	....	....	214·02	425·15	279·25	....
Jillawarra	1871N	Werribie	76·36	93·00	214·32	....	50·50	109·50	208·94	....	128·85	250·25	503·31	....
		Voided leases	....	....	....	....	....	....	....	....	1,134·68	1,499·55	2,801·53	....
		Sundry claims	....	....	....	....	....	30·25	15·80	....	323·06	366·50	346·48	....
Meeka Pools		Voided leases	....	....	....	....	....	....	....	....	....	111·58	82·27	....
		Sundry claims	....	....	....	....	....	....	....	....	2·84	233·57	205·38	....
Meekatharra	1861N	Adele May	....	9·00	2·50	....	....	....	....	....	....	9·00	4·37	....
	1883N	Coffee Pot	....	33·50	10·78	....	....	65·50	35·14	....	....	99·00	45·92	....
	1855N	Commodore	....	138·75	62·69	....	....	50·50	10·42	....	....	575·75	181·96	....
	1553N	Consols North	....	....	....	....	....	373·00	486·01	....	....	373·00	486·01	....
	(1856N)	Consols South	....	59·25	10·42	....	....	....	....	....	....	59·25	10·42	....
	477N	Fenian	....	7,065·00	2,132·27	....	....	2,304·50	1,050·17	....	....	23,598·25	22,972·70	....
	477N, 814N	Fenian leases	....	....	....	....	....	....	....	....	....	313,485·94	254,989·70	....
	1844N	Fortune Teller	....	195·25	20·88	....	7·09	505·50	70·42	....	7·09	700·75	91·30	....
	(1870N)	Halcyon Extended	2·21	28·00	4·33	....	....	....	....	....	2·21	28·00	4·33	....
	1466N	Havelock	....	522·00	67·02	....	....	....	....	....	....	3,078·05	1,940·89	....
	1559N	Ingliston	451·44	145·50	162·97	....	....	17·25	107·54	....	476·76	1,705·05	1,519·62	....
	1542N	Ingliston Alberts	....	151·00	107·07	....	....	128·50	309·82	....	....	279·50	416·89	....
	1542N, (1566N), (1575N)	Ingliston Albert's leases	....	....	....	....	....	....	....	....	....	2,983·70	1,283·06	....

TABLE I.—*Production of Gold and Silver from all sources, etc.*—continued.

MURCHISON GOLDFIELD—*continued.*

MEEKATHARRA DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1941.				Total for 1942.				Total Production to 31st December, 1942.			
			Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.
			Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.
	475N, etc.	Ingliston Consols Extended leases	....	....	....	....	....	346·50	336·21	....	....	873,302·72	356,308·54	....
	475N	Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	1,536·25	4,248·25	·30
	1539N, (1863N)	Ingliston South Gold Development, N.L.	....	298·50	584·37	....	....	119·75	134·87	....	....	1,217·75	1,949·96	....
	1539N	Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	16,274·61	12,815·17	....
	1547N	Lady Central	....	....	....	....	....	32·75	26·05	....	....	32·75	26·05	....
	533N	Marmont	9·88	1,042·00	365·49	....	28·42	308·50	183·67	....	89·33	60,119·95	42,798·54	....
	580N	Marmont Extended	....	....	....	....	....	52·75	30·58	....	....	1,667·95	1,562·40	....
	580N, (888N)	Marmont Extended leases	....	....	....	....	....	....	....	....	....	152·00	129·61	....
	(1576N), 1547N	Meekatharra Central Gold, N.L.	....	365·75	254·59	....	....	108·50	10·39	....	5·29	4,842·25	2,463·30	....
	(1576N), 1547N	Prior to transfer to present holders	....	....	....	....	....	....	....	....	11·06	2,951·42	5,198·33	....
	1633N	Mickey Doolan	....	....	....	....	....	....	....	....	....	29·75	38·13	....
	1577N	Mopoke	12·47	146·75	81·35	....	....	234·25	502·77	....	12·47	1,315·25	788·59	....
	1860N	New Gwalia	....	....	....	....	....	....	....	....	....	421·75	56·44	....
	(1800N)	Peter Pan	....	....	2·32	....	....	....	....	....	....	948·00	90·78	....
	1571N	Phar Lap	....	341·00	201·73	....	....	298·50	137·21	....	....	4,802·50	3,035·72	....
	1529N, etc.	Prohibition G.M. Co., Ltd.	....	7,050·00	1,105·96	....	....	3,200·00	623·26	....	....	24,314·25	4,186·71	11·83
	1529N	Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	29,422·00	4,971·30	....
		Voided leases	....	....	....	....	....	....	....	....	1,318·35	371,215·32	201,000·68	2,454·74
		Sundry claims	....	1,253·50	189·41	....	22·90	1,065·00	149·27	....	803·88	21,774·95	8,636·11	....
Mistletoe		Voided leases	....	....	....	....	....	....	....	....	1,004·39	417·00	486·21	....
		Sundry claims	....	....	....	....	....	....	....	....	190 99	19·75	2·03	....
Mt. Maitland		Voided leases	....	....	....	....	....	....	....	....	....	88·00	80·11	....
		Sundry claims	....	....	....	....	....	....	....	....	....	420·75	240·86	....
Munara Gully		Voided leases	....	....	....	....	....	....	....	....	....	13,283·50	6,559·93	....
		Sundry claims	....	....	....	....	....	....	....	....	34·23	1,009·75	373·74	....
Nannine	1564N, (1585N)	Aladdin G.Ms., Ltd.	....	....	....	....	....	....	....	....	....	15,901·50	2,320·63	....
	1564N	Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	3,914·10	457·70	....
	1872N	Blue Pedro	....	5,491·75	1,225·79	....	....	848·00	236·95	....	....	7,003·75	1,640·91	....
	1580N	Caledonian	....	358·25	156·25	....	....	333·00	104·80	....	....	1,025·10	487·30	....
	1879N	Called Back	29·96	4·25	34·36	....	....	....	....	....	29·96	4·25	34·36	....
	(1880N)	Queen of the Lake	11·19	....	....	....	....	....	....	....	11·19	....	....	....
	(1867N)	Welcome	2·46	....	....	....	....	....	....	....	19·07	2·00	13·28	....
	1882N	Welcome	5·90	3·00	3·71	....	1·45	15·75	29·42	....	7·35	18·75	33·13	....
		Voided leases	....	....	....	....	....	....	....	....	796·26	93,450·97	69,507·15	167·45
		Sundry claims	18·20	44·25	59·40	....	21·12	14·25	21·45	....	1,365·75	6,007·68	4,647·29	....
Quinns		Voided leases	....	....	....	....	....	....	....	....	1,193·80	33,356·91	13,464·37	90·70
		Sundry claims	....	....	....	....	....	....	....	....	1,304·72	3,829·17	2,716·66	....
Ruby Well		Voided leases	....	....	....	....	....	....	....	....	43·46	7,461·00	4,046·70	....
		Sundry claims	....	24·00	5·01	....	....	....	....	....	1,425·26	520·25	629·60	....
Stake Well		Voided leases	....	....	....	....	....	....	....	....	200·12	21,362·00	9,566·18	....
		Sundry claims	....	....	....	....	....	38·00	9·34	....	66·64	1,003·60	584·54	....
Star of the East		Voided leases	....	....	....	....	....	....	....	....	....	27,244·00	20,305·40	....
		Sundry claims	....	....	....	....	....	....	....	....	....	127·62	94·97	....
Yaloginda	1853N	Bluebird	....	876·00	411·36	....	....	....	·62	....	....	4,002·00	1,219·21	....
	(1851N)	Edenhope	....	17·50	11·96	....	....	....	....	....	127·77	231·00	233·46	....
	1881N	North Rocklee	....	76·25	75·84	....	....	....	....	....	....	76·25	75·84	....
	(1807N)	Rocklee	70·05	32·75	5·75	....	....	....	....	....	73·55	308·75	121·66	....
		Voided leases	....	....	....	....	....	....	....	....	1,789·94	27,451·04	14,110·84	8·68
		Sundry claims	·32	353·00	45·13	....	....	55·50	85·48	....	709·40	9,781·92	4,432·94	....

			From District generally :—															
			Sundry parcels treated at :															
			State Battery, Meekatharra	....	....	....	....	....	....	*777·58	....	....	....	*264·85	....	....	68·50	*21,443·51	19·00
			Good Brew Syndicate	....	....	....	....	....	....	*114·39	....	....	....	*90·62	....	....	....	*367·23	....
			Various Works	....	....	....	....	....	....	....	....	....	....	....	....	....	172·75	*6,362·37	342·17
			Reported by Banks and Gold Dealers		....	....	....	96·18	....	....	....	69·54	13·50	7·99	....	12,192·45	13·50	20·80	....
			Totals	....	....	....	....	**806·26**	**27,494·75**	**9,326·74**	**·12**	**201·58**	**11,388·50**	**5,631·95**	**1·42**	**31,572·66**	**2,219,119·74**	**1,259,077·20**	**5,042·27**

DAY DAWN DISTRICT.

Day Dawn	....	652D	....	Creme D'Or	....	....	....	....	19·50	7·19	....	....	46·25	38·24	....	....	129·25	72·47	....
		647D	....	Klondike	....	....	....	....	565·00	496·99	....	....	159·00	125·60	....	86·96	2,052·53	2,094·58	....
		573D	....	Mountain View	....	....	....	....	619·75	557·38	....	....	951·50	785·73	....	94·05	3,226·53	2,890·71	....
		576D	....	New Fingall	....	....	....	....	231·75	58·54	....	....	194·50	63·49	....	12·96	2,961·50	1,058·07	....
				Voided leases	....	....	....	....	....	....	....	....	....	....	....	871·62	1,919,523·08	1,223,242·40	169,210·44
				Sundry claims	....	....	....	3·17	315·05	67·97	....	28·24	310·00	192·25	....	489·21	12,196·51	6,058·99	....
Lake Austin	....	656D	....	Eureka	....	....	....	....	77·50	46·01	....	....	83·75	23·42	....	....	161·25	69·43	....
		(649D)	....	New Golconda Mines, N.L.	....	....	....	2·84	6·75	17·00	....	....	....	....	....	2·84	536·05	297·40	....
				Voided leases	....	....	....	....	....	....	....	....	....	....	....	3,666·39	36,071·90	50,628·52	....
				Sundry claims	....	....	....	....	70·25	22·24	....	17·05	63·75	29·60	....	974·34	3,085·44	1,189·62	....
Mainland	....	....	....	Voided leases	....	....	....	....	....	....	....	....	....	....	....	3,297·18	7,575·62	25,026·07	....
				Sundry claims	....	....	....	3·85	340·00	61·49	....	....	....	....	....	763·15	1,337·95	701·31	....
Pinnacles	....	....	....	Voided leases	....	....	....	....	....	....	....	....	....	....	....	1,218·58	18,117·00	9,869·29	....
				Sundry claims	....	....	....	1·03	333·85	92·07	....	2·68	102·00	62·66	....	492·84	4,164·67	1,586·90	....
			From District generally :—																
			Sundry parcels treated at :																
			Various Works	....	....	....	....	....	....	....	....	....	....	....	....	16·61	940·75	*1,967·72	....
			Reported by Banks and Gold Dealers		....	....	....	....	....	....	....	·95	....	....	....	1,995·13	....	·77	....
			Totals	....	....	....	....	**10·89**	**2579·40**	**1,426·88**	....	**48·92**	**1,910·75**	**1,320·99**	....	**13,981·86**	**2,012,080·03**	**1,326,754·25**	**169,210·44**

MOUNT MAGNET DISTRICT.

Jumbulyer	....	(1399M)	....	Elk	....	....	....	....	46·50	16·18	....	....	....	....	....	....	399·10	133·45	....
		1410M	....	Gold Bug	....	....	....	....	49·75	89·09	....	....	11·50	8·95	....	....	67·75	119·79	....
		1406M	....	Granites	....	....	....	....	12·25	26·45	....	....	....	....	....	....	12·25	26·45	....
		1365M	....	Pantomine	....	....	....	11·05	31·50	33·79	....	....	7·50	2·38	....	13·37	236·25	183·90	....
				Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	25·00	11·46	....
				Sundry claims	....	....	....	6·70	99·00	56·77	....	....	29·00	18·51	....	134·72	1,004·95	742·99	....
Lennonville	....	1405M	....	Banker	....	....	....	....	88·50	103·24	....	1·17	35·00	14·69	....	1·17	165·75	171·98	....
		1308M	....	Empress	....	....	....	....	....	....	....	....	....	....	....	....	385·00	143·95	....
		1422M	....	Florance	....	....	....	....	....	....	....	....	55·50	61·45	....	....	55·50	61·45	....
		1379M	....	Galtee Moore	....	....	....	....	1,368·00	339·47	....	....	1,002·00	261·89	....	....	4,578·00	1,104·70	....
		1378M	....	Gambier Lass	....	....	....	....	162·00	18·69	....	....	35·00	8·50	....	5·85	419·00	101·26	....
		1374M	....	Souvenir	....	....	....	·23	46·25	72·50	....	....	....	....	....	2·90	143·00	269·31	....
				Voided leases	....	....	....	....	....	....	....	....	....	....	....	3,209·58	143,621·05	125,250·65	458·82
				Sundry claims	....	....	....	....	203·50	77·41	....	....	346·50	47·56	....	127·96	13,532·77	5,126·58	....
Mt. Magnet	....	(1408M)	....	Boomer	....	....	....	....	4,498·00	374·86	....	....	....	....	....	....	4,498·00	374·86	....
		1382M	....	Corona	....	....	....	....	1,065·00	888·27	....	....	905·00	1,043·25	....	....	3,042·65	2,387·65	....
		(1400M)	....	Dead Man's Hill	....	....	....	....	19·00	2·28	....	....	....	....	....	....	164·85	17·89	....
		1394M	....	Eclipse	....	....	....	....	71·50	115·42	....	....	66·25	38·65	....	6·53	485·75	618·19	....
		1255M (1367M)	....	Edward Carson leases	....	....	....	....	1,312·00	915·27	7·00	....	1,140·00	825·48	....	....	15,988·50	11,698·83	7·00
		(1367M)	....	Edward Carson West	....	....	....	....	....	....	....	....	....	....	....	....	127·25	35·91	....
		1286M	....	Evening Star	....	....	....	....	329·75	63·32	....	....	512·00	53·18	....	36·37	2,382·82	1,101·73	....
		1287M	....	Havelock	....	....	....	....	1,067·25	161·92	....	....	196·50	37·87	....	11·05	4,285·25	828·75	....
		1424M	....	Havilah	....	....	....	....	....	....	....	....	9·25	9·23	....	....	9·25	9·23	....
		1320M	....	Hesperus Dawn	....	....	....	....	241·75	610·80	....	....	94·58	236·24	6·14	56·49	710·58	1,566·57	6·14
		(1395M)	....	Hidden Treasure	....	....	....	....	10·25	3·92	....	....	....	....	....	....	194·75	162·64	....
		1282M, etc.	....	Hill 50 G.M., N.L.	....	....	....	....	30,863·00	10,688·09	....	....	39,068·00	11,533·29	39·89	....	173,402·90	53,463·42	50·82
		1361M	....	Jupiter	....	....	....	....	84·00	29·41	....	....	....	....	....	·83	307·00	102·98	....
		1411M	....	Leap Year	....	....	....	....	176·75	208·30	....	....	166·50	75·68	....	....	343·25	283·98	....
		1339M	....	Mars	....	....	....	....	1,229·75	240·57	....	....	103·25	13·76	....	....	3,111·75	587·95	....
		1425M	....	Mayflower	....	....	....	....	....	....	....	....	8·50	19·52	....	....	8·50	19·52	....
		1334M, etc.	....	Metropolitan Mining and Development Co., Ltd.				....	2,610·75	1,928·67	....	....	2,133·50	976·46	....	....	10,991·45	7,356·73	....
		1334M	....	Prior to transfer to present holders				....	....	....	....	....	....	....	....	2·12	878·05	942·19	....
		(1381M)	....	Mortomoro	....	....	....	....	62·25	4·28	....	....	....	....	....	26·86	175·25	58·70	....
		1215M, etc.	....	Mt. Magnet Gold Mines, Ltd.	....	....	....	....	3,006·00	271·35	2·68	....	....	84·78	1·34	....	328,051·00	47,027·03	130·87
		1215M, 1254M	....	Prior to transfer to present holders				....	....	....	....	....	....	....	....	45·00	25,715·03	12,176·93	....

TABLE I.—*Production of Gold and Silver from all sources, etc.*—continued.

MURCHISON GOLDFIELD—*continued.*

MOUNT MAGNET—*continued.*

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	TOTAL FOR 1941.				TOTAL FOR 1942.				TOTAL PRODUCTION TO 31ST DECEMBER, 1942.			
			Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.
			Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.
	1416M	Myra Lydia	....	45·25	2·83	....	....	....	....	....	....	45·25	2·83	....
	1246M	Neptune	....	2,994·00	821·95	....	....	1,098·87	478·87	....	829·41	8,787·65	3,999·22	....
	(1419M)	New Year	....	....	....	....	1·78	8·00	1·79	....	1·78	8·00	1·79	....
	1403M	Poverty King	....	33·75	205·59	....	....	....	....	....	....	33·80	489·71	....
	(1404M)	Poverty Pot	....	29·50	29·58	....	....	....	....	....	....	159·25	56·14	....
	1281M, etc.	Saturn leases	....	17,389·00	2,216·66	....	....	....	....	....	101·24	37,413·00	5,741·32	....
	(1392M)	Sovereign	....	....	·48	....	....	....	....	....	154·61	....	7·45	....
	1251M, etc.	Swan Bitter G.M. Co., Ltd.	....	1,609·50	766·24	....	....	3,210·00	890·87	....	15·25	13,641·50	4,733·84	....
	1251M	Prior to transfer to present holders	....	....	....	....	....	....	....	....	320·12	6,081·25	3,180·61	....
	1322M	Three Boys	3·89	116·00	59·01	....	9·26	53·75	5·61	....	229·73	480·28	664·00	....
	1388M	Top-not	....	68·25	44·46	....	....	56·50	32·94	....	....	344·75	251·78	....
	(1413M)	Tydu	....	25·25	10·93	....	....	....	....	....	....	25·25	10·93	....
	1357M	Wind Bag	....	699·25	196·14	....	....	659·00	227·63	....	....	2,589·50	1,152·95	....
	1426M	Zenith	....	....	....	....	....	31·50	31·51	....	....	31·50	31·51	....
		Voided leases	....	....	....	....	....	....	....	....	8,834·01	388,125·25	219,604·20	714·36
		Sundry claims	39·16	2,889·50	590·79	....	10·88	597·00	230·75	....	2,653·84	54,973·85	27,466·54	....
Mt. Magnet, East	....	Voided leases	....	....	....	....	....	....	....	....	827·82	5,522·28	2,811·75	....
		Sundry claims	....	....	....	....	....	....	....	....	37·22	418·25	428·29	....
Moyagee	(1387M)	Louise	....	45·00	40·68	....	....	....	....	....	....	45·00	40·68	....
	1355M, 1398M	Moyagee leases	....	1,248·00	1,391·50	121·95	....	1,700·00	1,927·64	98·68	....	3,568·00	4,013·11	281·95
	1355M	Moyagee	....	....	....	....	....	....	....	....	....	2,547·50	4,198·30	347·04
		Voided leases	....	....	....	....	....	....	....	....	23·59	5,062·60	7,535·20	....
		Sundry claims	....	2·75	21·81	....	....	....	....	....	159·93	1,484·00	1,677·51	....
Paynesville	....	Voided leases	....	....	....	....	....	....	....	....	1,613·34	449·77	1,116·15	....
		Sundry claims	4·50	13·00	19·23	....	7·99	....	....	....	543·57	882·57	1,372·00	....
Winjangoo	....	Voided leases	....	....	....	....	....	....	....	....	192·87	72·00	69·98	....
		Sundry claims	....	84·00	16·18	....	....	....	....	....	223·32	162·78	55·50	....
		From District generally :—												
		Sundry Parcels treated at :												
		State Battery, Boogardie	....	....	*1,226·92	....	....	....	*970·37	....	....	125·26	*32,661·99	....
		Piedmont Cyanide Plant	....	....	*1·05	....	....	....	....	....	....	....	*1·05	....
		Welcome Cyanide Plant	....	10·00	*325·78	....	....	....	*59·92	....	....	10·00	*941·39	....
		Various Works	....	....	....	....	....	....	....	....	....	43·06	*17,427·01	1·00
		Reported by Banks and Gold Dealers	45·05	....	....	....	20·37	....	34·44	....	2,255·49	....	46·82	....
		Total	**110·58**	**76,056·25**	**25,328·13**	**131·63**	**51·45**	**53,339·08**	**20,263·66**	**146·05**	**22,697·94**	**1,272,652·35**	**616,061·15**	**1,998·00**

Yalgoo Goldfield.

Bilberatha	1139	Blaney's Gold Mine	59·82	302·00	114·43	....	....	520·00	190·72	....	92·21	1,888·00	1,265·01	....
	(1167)	Picata Joker	....	38·00	18·07	....	....	....	....	....	....	621·00	215·71	....
		Voided leases	....	....	....	....	....	....	....	....	....	642·00	276·13	....
		Sundry claims	....	132·00	31·59	....	....	9·00	3·79	....	6·64	3,075·05	1,401·56	....
Carlaminda	....	Voided leases	....	....	....	....	....	....	....	....	4·67	2,056·57	862·42	3·30
		Sundry claims	....	12·00	2·26	....	....	....	....	....	....	1,368·50	600·68	....

Field's Find	907	Brown's Reward	....	....	....	....	....	....	....	....	....	....	....	300·00	75·91	....
	907, etc.	Brown's Reward leases	....	....	....	....	....	....	....	....	....	....	....	4,540·55	3,800·16	....
	(1114), 1119	Field's Find Central West	....	2,417·50	504·26	25·01	....	....	....	....	....	....	4,625·00	1,074·53	56·69
	1192	Rose Marie	....	206·00	131·24	....	....	142·00	370·16	....	....	....	348·00	501·40	....
		Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	....
		Sundry claims	12·56	320·00	22·49	....	....	30·00	35·43	....	226·72	40,147·30	28,032·74	....
											185·31	5,393·75	1,755·13	....
Goodingnow	(1144)	Adeline	....	30·00	5·05	....	....	....	....	....	....	140·00	45·98	....
	1063	Ark	1·23	257·75	119·02	....	....	42·00	18·42	....	1·23	807·50	376·04	....
	1102	Astor	....	981·50	679·40	....	....	568·00	203·16	....	....	4,807·75	2,722·56	....
	1198	Astor South	....	107·00	14·61	....	....	294·00	82·08	....	....	401·00	96·69	....
	1025	Carnation	....	1,669·00	1,020·45	....	....	1,493·75	1,452·08	....	....	14,724·05	11,045·94	....
	1049	Lake View	....	....	....	....	....	....	....	....	....	3,260·00	1,633·09	....
	1121	Lake View West	....	....	....	....	....	....	....	....	....	32·50	4·62	....
	1175	Marigold	....	742·00	352·07	....	....	1,255·25	467·92	....	....	2,918·25	1,245·77	....
	1090	Orchid	....	425·50	103·06	....	....	....	....	....	·08	9,408·50	4,756·25	....
	1145	Oversight	....	....	....	....	....	17·00	3·59	....	....	433·10	141·18	....
	1085	Sweet William	....	....	....	....	....	97·00	19·02	....	2·97	792·00	249·45	....
		Voided leases	....	....	....	....	....	....	....	....	420·02	32,649·31	38,470·55	....
		Sundry claims	....	154·00	70·65	....	1·32	77·50	23·58	....	322·23	9,816·75	5,029·78	....
Gullewa	1189, etc.	King Solomon's Mines, Ltd.	....	315·00	85·89	4·45	....	....	47·52	1·34	....	5,445·10	2,234·66	32·28
	1047	Mugga King	....	1,235·00	370·89	27·49	1·72	25·00	6·87	·44	1·72	8,244·50	2,561·24	69·40
	1194	Shenandoah	....	90·00	9·30	·04	....	61·00	8·09	....	....	151·00	17·39	·04
		Voided leases	....	....	....	....	....	....	....	....	11·29	25,385·00	15,865·54	....
		Sundry claims	....	32·00	3·58	....	....	9·00	3·77	....	170·45	4,391·25	1,918·24	....
Kirkalucka	....	Voided leases	....	....	....	....	....	....	....	....	....	61·25	45·10	....
		Sundry claims	....	....	....	....	....	....	....	....	17·79	246·05	122·13	....
Messenger's Patch	1197	Gnow's Nest	....	....	*108·89	....	....	6·00	8·43	....	....	6·00	*117·32	....
	(1010), (1011)	Gnow's Nest leases	14·02	64·00	18·83	....	....	....	....	....	27·91	2,897·75	2,060·51	....
		Voided leases	....	....	....	....	....	....	....	....	321·80	36,823·76	26,254·41	1,083·01
		Sundry claims	....	8·00	·56	....	....	....	....	....	797·10	1,585·35	583·39	....
Mt. Farmer	....	Voided leases	....	....	....	....	....	....	....	....	....	64·00	40·19	....
		Sundry claims	....	6·25	2·11	....	....	....	....	....	....	462·90	145·06	....
Mt. Gibson	....	Voided leases	....	....	....	....	....	....	....	....	6·44	526·50	888·70	....
		Sundry claims	....	27·00	16·02	....	1·03	15·00	11·07	1·00	45·75	973·10	409·48	1·00
Ninghan	....	Voided leases	....	....	....	....	....	....	....	....	....	10·00	1·41	....
		Sundry claims	....	....	....	....	....	....	....	....	....	324·75	123·28	....
Noongal	1137	City of Melbourne	....	224·00	29·69	....	....	164·00	46·74	....	....	2,046·50	860·05	....
	(1200)	Good Companions	....	26·00	15·29	....	....	....	....	....	....	26·00	15·29	....
	(1195)	Grey Cat	....	69·50	40·50	....	....	....	....	....	....	69·50	40·50	....
	1201	Hard to Find	....	9·00	36·17	....	....	59·00	66·48	....	....	68·00	102·65	....
	(953)	Revival	....	191·00	31·89	....	....	30·00	9·09	....	·70	3,577·75	1,288·81	....
		Voided leases	....	....	....	....	....	....	....	....	39·14	5,350·00	3,322·25	....
		Sundry claims	4·92	423·75	179·80	....	1·23	26·00	7·66	....	346·47	8,497·30	3,556·78	....
Nyounda	....	Voided leases	....	....	....	....	....	....	....	....	217·63	416·00	183·91	....
		Sundry claims	2·62	131·25	12·59	....	....	....	....	....	26·59	701·00	177·19	....
Pinyalling	....	Voided leases	....	....	....	....	....	....	....	....	93·80	2,296·35	959·50	....
		Sundry claims	3·13	88·00	64·13	....	1 75	45·50	17·30	....	137·22	1,371·75	613·96	....
Retaliation	1046	Alma May	....	76·50	15·27	....	....	152·00	46·29	....	....	1,336·75	543·41	....
		Voided leases	....	....	....	....	....	....	....	....	....	3,220·00	1,110·85	....
		Sundry claims	....	....	....	....	....	....	....	....	....	778·25	304·71	....
Rothsay	....	Voided leases	....	....	....	....	....	....	....	....	....	40,490·75	10,729·58	....
		Sundry claims	·73	229·00	36·72	....	....	124·50	41·41	....	·73	6,469·50	2,562·03	....
Wadgingarra	....	Voided leases	....	....	....	....	....	....	....	....	....	691·11	650·63	....
		Sundry claims	....	....	....	....	....	....	....	....	....	2,131·30	559·83	....
Warda Warra	....	Voided leases	....	....	....	....	....	....	....	....	....	10,760·50	5,862·04	....
		Sundry claims	....	....	....	....	....	....	....	....	....	933·75	369·87	....
Warriedar	....	Voided leases	....	....	....	....	....	....	....	....	....	13,661·50	4,607·88	7·30
		Sundry claims	....	....	....	....	....	44·00	6·36	....	2·84	8,782·85	1,892·46	....
Yalgoo	....	Voided leases	....	....	....	....	....	....	....	....	3·23	6,314·50	9,965·18	....
		Sundry claims	....	40·00	1·36	....	....	....	....	....	23·56	2,615·25	998·46	....
Yuin	....	Voided leases	....	....	....	....	....	....	....	....	127·12	68,139·50	27,908·57	130·13
		Sundry claims	....	....	....	....	....	....	....	....	4·70	335·50	67·53	....

TABLE I.—*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 1941.				TOTAL FOR 1942.				TOTAL PRODUCTION TO 31ST DECEMBER, 1942.			
			Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.
			Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.
		From Goldfield generally :—												
		Sundry Parcels treated at:												
		State Battery, Payne's Find	....	....	*308·09	....	....	....	*263·97	....	....	38·50	*4,328·38	....
		State Battery, Warriedar	....	....	*275·66	....	....	....	....	....	....	....	*6,503·21	....
		State Battery, Yalgoo	....	....	*225·61	....	....	....	*86·35	....	....	....	*1,193·63	....
		Revival Cyanide Plant	....	....	....	....	....	....	....	....	....	....	*574·60	....
		Various Works	....	....	....	....	....	....	....	....	9·42	664·00	2,384·39	26·67
		Reported by Banks and Gold Dealers	7·24	....	....	....	9·53	....	34·44	....	955·19	....	34·44	....
		Totals	**106·27**	**11,079·50**	**5,077·49**	**56·99**	**16·58**	**5,306·50**	**3,581·79**	**2·78**	**4,650·67**	**424,578·35**	**253,339·90**	**1,409·82**

Mt. Margaret Goldfield.

MOUNT MORGANS DISTRICT.

Australia United		Voided leases	....	....	....	....	....	....	....	....	1,911·63	15,913·69	23,305·76	1·76
		Sundry claims	....	7·00	17·96	....	....	....	....	....	580·98	1,307·50	2,227·65	....
Eucalyptus	527F	Bar Twenty	....	99·00	89·91	....	....	22·00	16·59	....	....	184·50	168·13	....
		Voided leases	....	....	....	....	....	....	....	....	2,878·56	1,419·35	3,082·88	....
		Sundry claims	16·08	132·25	163·18	....	10·08	174·50	210·53	....	588·28	1,965·30	1,862·51	....
Linden	522F	Ailsa	....	116·00	45·82	....	....	333·00	65·20	....	....	643·00	208·97	....
	(525F)	Alawar	....	36·00	12·46	....	....	....	....	....	....	132·00	42·82	....
	528F	Blue Peter	....	54·00	12·99	....	....	41·00	8·93	....	....	114·00	28·84	....
	537F	Camelback	....	31·00	20·19	....	....	115·50	75·00	....	....	146·50	95·19	....
	508F	Coronation	....	49·00	103·37	....	....	43·50	7·83	....	....	303·75	2,319·47	....
	(524F)	Cuckoo Hawke	....	31·00	19·25	....	....	....	....	....	....	108·00	60·71	....
	539F	Democrat	....	....	....	....	....	477·50	327·07	....	....	477·50	327·07	....
	517F	Dunn's Reward	....	27·00	50·86	....	....	17·00	5·36	....	10·97	83·50	164·27	....
	494F	Local Lady	1·65	235·00	383·26	....	....	442·00	434·74	....	1·65	1,255·50	1,120·82	....
	(538F)	Mt. Celia	....	....	....	....	....	5·00	6·78	....	....	5·00	6·78	....
	521F	North Democrat	....	443·00	965·36	....	....	293·50	643·11	....	....	1,248·75	2,778·05	....
	529F	Second Fortune	....	232·50	128·94	....	....	195·00	104·52	....	....	427·50	233·46	....
		Voided leases	....	....	....	....	....	....	....	....	560·69	56,688·56	42,493·04	·68
		Sundry claims	16·41	604·50	476·11	....	50·14	713·50	882·28	....	365·47	17,502·60	12,631·03	....
Mt. Margaret	526F	Uplift	13·65	64·00	11·29	....	....	20·00	4·02	....	13·65	209·00	37·63	....
	M.A. 12F	Mt. Margaret Mission Station	2·64	....	....	·09	....	....	....	....	131·95	403·00	130·38	·09
		Voided leases	....	....	....	....	....	....	....	....	·37	8,691·39	5,253·88	12·55
		Sundry claims	....	....	....	....	....	....	....	....	127·34	1,701·35	652·62	....
Mt. Morgans	(530F)	Lorna	....	28·00	4·06	....	....	....	....	....	....	28·00	4·06	....
	(535F)	Millionaire	....	26·75	12·08	....	....	....	....	....	....	26·75	12·08	....
	399F, etc.	Morgans Gold Mines, Ltd.	....	2,178·00	2,305·85	....	....	1,701·00	656·08	....	....	4,382·55	*13,533·40	....
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	16·66	779,578·43	354,225·86	5,552·63
	501F	V's United	....	....	....	....	....	....	....	....	....	68·75	28·44	....
	(534F)	Webou	....	27·00	8·91	....	....	....	....	....	....	27·00	8·91	....
		Voided leases	....	....	....	....	....	....	....	....	166·74	60,352·75	34,487·66	77·86
		Sundry claims	....	171·25	109·54	....	....	234·25	81·95	....	394·80	4,486·32	3,118·39	....
Murrin	395F	Arthur Rymer	....	22·00	8·03	....	....	....	....	....	8·42	3,848·25	744·25	....
	482F	Hill End	....	145·00	32·95	....	....	....	....	....	....	3,666·75	1,570·74	....
		Voided leases	....	....	....	....	....	....	....	....	233·36	129,376·47	101,692·22	29·60
		Sundry claims	....	274·75	123·82	....	....	83·00	64·74	....	564·53	6,166·98	4,319·44	....

Redcastle	....	Voided leases	....	....	....	....	....	....	....	....	....	....	....	441·03	4,107·20	4,043·41	....
		Sundry claims	....	30·00	5·10	....	....	....	....	....	....	113·84	806·07	562·29	....
Yundamindera	510F	Landed at Last	....	760·00	114·52	....	....	110·00	27·31	....	....	....	4,302·00	668·00	....
	509F	New Golden Treasure	....	120·00	31·37	....	....	94·00	35·23	....	22·83	979·00	355·73	....
	(520F)	Trouble	....	16·00	8·60	....	....	....	....	....	7·63	148·50	194·84	....
	540F	Vera	....	....	....	....	....	70·00	27·61	....	....	70·00	27·61	....
		Voided leases	....	....	....	....	....	....	....	....	80·47	72,265·35	48,267·09	5·82
		Sundry claims	9·18	22·00	13·76	....	....	63·00	64·26	....	270·71	6,259·35	4,616·71	....
	From District generally :—													
	Sundry Parcels treated at:													
	State Battery, Linden	....	....	*694·45	....	....	....	*717·55	....	9·16	263·29	*10,098·63	....
	C. C. Crocker (M.A. 14F)	....	....	....	....	....	....	*2·61	....	....	....	*2·61	....
	Hill End Cyanide Plant	....	....	*56·69	....	....	....	....	....	....	....	*556·95	....
	N. C. Parry's Cyanide Plant	....	....	*16·86	....	....	....	*53·70	....	....	....	*70·56	....
	Potosi Cyanide Plant	....	....	*153·12	....	....	....	*125·24	....	....	....	*278·36	....
	Rymer's Cyanide Plant	....	....	*14·19	....	....	....	....	....	....	....	*1,159·90	....
	A. E. Smith (M.A. 1F)	....	....	....	....	....	7·25	1·39	....	....	7·25	1·39	....
	D. F. Turbett's Cyanide Plant	....	....	*368·06	....	....	....	*293·97	....	....	....	*662·03	....
	Various Works	....	....	....	....	....	....	....	....	....	1,257·81	*5,238·32	99·97
	Reported by Banks and Gold Dealers	61·48	....	....	·68	63·18	....	....	....	2,947·92	10·30	56·69	·68
	Total	**121·09**	**5,982·00**	**6,582·91**	**·77**	**123·40**	**5,255·50**	**4,943·60**	....	**12,449·64**	**1,193,416·36**	**689,838·53**	**5,781·64**

MOUNT MALCOLM DISTRICT.

Cardinia	(1769c)	Black Chief	....	116·00	7·97	....	....	....	....	....	....	400·00	60·84	....
	1803c	East Lynn	....	....	....	....	....	270·00	22·50	....	....	270·00	22·50	....
	1795c	Rangoon	....	250·00	106·64	....	....	....	....	....	....	250·00	106·64	....
	(1770c)	Rangoon	....	80·00	42·98	....	....	....	....	....	....	2,294·00	275·07	....
	(1785c)	Triangle	....	....	....	....	....	4·50	7·41	....	....	4·50	7·41	....
		Voided leases	....	....	....	....	....	....	....	1,605·53	1,631·74	3,613·33	....
		Sundry claims	....	287·00	52·95	....	....	283·00	41·50	....	124·08	1,626·50	542·20	....
Diorite	1787c	Innit	....	609·00	135·20	....	....	584·00	170·76	9·13	100·42	1,253·00	317·04	9·13
	1786c	Puzzle	....	614·00	399·78	....	....	240·00	345·78	....	....	910·00	810·18	....
		Voided leases	....	....	....	....	....	....	....	....	845·23	34,757·53	31,979·38	24·05
		Sundry claims	30·81	263·50	94·36	....	17·60	58·00	31·80	....	340·53	4,570·55	4,380·54	....
Dodger's Well	....	Voided leases	....	....	....	....	....	....	....	....	57·90	1,373·30	1,936·52	....
		Sundry claims	....	....	....	....	....	....	....	....	29·27	1,440·25	904·23	....
Lake Darlot	1784c	British King West	....	99·00	81·89	....	....	11·00	15·56	....	....	214·00	193·67	....
	1791c	Weebo North	....	241·00	137·31	....	....	180·00	67·54	....	....	515·00	224·05	....
		Voided leases	....	....	....	....	....	....	....	....	4,482·18	67,498·46	49,769·83	....
		Sundry claims	....	....	....	....	....	....	....	....	625·38	7,144·34	4,786·99	2·60
Leonora	1754c	Gold Blocks	....	203·00	32·10	....	....	181·00	276·90	17·40	....	1,343·00	750·39	20·75
	(1778c)	Golden Rod	1·54	9·00	4·07	....	....	....	....	....	1·54	9·00	4·07	....
	1594c	Leonora Central G.M. Co., N.L.	....	1,151·00	133·93	....	....	....	....	....	....	8,621·00	853·23	....
	1788c	Little Gwalia	....	550·00	13·31	....	....	....	....	....	....	635·00	15·62	....
	807c, etc.	Sons of Gwalia, Ltd.	....	134,365·00	42,520·11	3,822·09	....	99,004·00	31,135·20	2,217·32	....	4,868,546·67	2,029,892·87	140,949·57
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	109,081·00	55,989·21	8·66
	1557c	Tower Hill	....	71·00	9·71	....	....	126·00	11·57	....	·58	526·55	118·13	....
		Voided leases	....	....	....	....	....	....	....	....	1,864·74	164,232·45	88,205·95	10·71
		Sundry claims	....	596·00	137·75	....	....	497·00	70·08	....	360·98	17,196·55	11,341·37	....
Malcolm	....	Voided leases	....	....	....	....	....	....	....	....	47·07	62,656·53	47,560·70	....
		Sundry claims	....	10·00	6·55	....	....	45·00	35·85	....	39·14	4,274·47	2,631·37	....
Mertondale	(1793c)	Merton's Reward	....	284·00	45·56	....	....	16·00	5·60	....	....	300·00	51·16	....
		Voided leases	....	....	....	....	....	....	....	....	....	88,724·75	60,884·16	1,497·58
		Sundry claims	....	160·00	26·07	....	....	....	....	....	87·56	3,069·66	2,229·45	....
Mt. Clifford	1725c)	Bannockburn	....	1,158·00	137·84	....	....	....	*81·00	....	9·61	2,788·50	807·67	....
		Voided leases	....	....	....	....	....	....	....	....	1,613·74	6,768·46	15,663·65	....
		Sundry claims	....	10·50	2·03	....	....	....	....	....	405·63	5,451·70	3,457·66	....
Pig Well	....	Voided leases	....	....	....	....	....	....	....	....	....	13,587·32	14,676·58	63·68
		Sundry claims	....	....	....	....	....	....	....	....	34·61	2,896·65	1,225·46	....
Randwick	1794c	Mighty Splash	6·01	310·00	32·94	....	....	65·00	9·54	....	6·01	375·00	42·48	....
	(1760c)	Mighty Splash	....	85·00	23·01	....	....	....	....	....	....	1,564·00	855·67	....
		Voided leases	....	....	....	....	....	....	....	....	239·49	8,577·65	8,798·11	....
		Sundry claims	....	56·00	18·73	....	....	....	....	....	230·59	2,464·64	1,299·14	....

TABLE I.—*Production of Gold and Silver from all sources, etc.*—continued

MT. MARGARET GOLDFIELD—*continued.*

MOUNT MALCOLM DISTRICT—*continued.*

MINING CENTRE.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR LEASE.	TOTAL FOR 1941.				TOTAL FOR 1942.				TOTAL PRODUCTION TO 31ST DECEMBER, 1942.			
			Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.
			Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.
Webster's	....	Voided leases	....	....	....	....	....	....	....	....	30·30	22,167·50	14,377·65	....
		Sundry claims	14·10	·20	15·46	....	....	....	....	....	721·56	2,227·40	1,499·81	....
Wilson's Creek	....	Voided leases	....	....	....	....	....	....	....	....	....	333·50	168·27	....
		Sundry claims	....	....	....	....	....	....	....	....	4·94	316·00	261·12	....
Wilson's Patch	....	Voided leases	....	....	....	....	....	....	....	....	99·38	28,863·35	13,050·19	1·05
		Sundry claims	....	....	....	....	....	....	....	....	55·25	1,488·91	1,357·77	....
		From District generally :—												
		Sundry Parcels treated at :												
		State Battery Reserve, Darlot	....	10·00	*91·91	....	....	....	....	....	....	10·00	*145·97	....
		Park & Hunt's Cyanide Plant	....	....	*2·23	....	....	....	*14·86	....	....	....	*925·95	....
		Reefer Cyanide Plant	....	20·00	*328·49	....	....	....	*457·82	....	....	20·00	*2,302·80	22·38
		Various Works	....	....	....	....	....	....	....	....	....	789·50	*20,984·71	123·15
		Reported by Banks and Gold Dealers	40·38	12·00	3·60	....	36·50	....	....	....	3,615·89	21·50	45·17	....
		Total	**92·84**	**141,620·20**	**44,644·48**	**3,822·09**	**54·10**	**101,564·50**	**32,801·27**	**2,243·85**	**17,679·13**	**5,556,081·38**	**2,502,403·93**	**142,733·31**

MOUNT MARGARET DISTRICT.

Burtville	2446T	Boomerang	....	94·00	705·41	21·54	....	56·00	441·26	....	....	200·50	1,953·99	21·54
	2476T	Happy Find	....	....	....	....	....	73·00	316·95	....	....	73·00	316·95	....
	2480T	Mocking Bird	....	....	....	....	....	24·50	66·89	....	....	24·50	66·89	....
	2138T	Nil Desperandum	....	17·00	17·13	....	....	50·75	110·30	....	5·30	1,357·37	2,988·39	....
	2412T	Sailor Prince	....	....	....	....	....	....	....	....	....	467·25	89·16	....
		Voided leases	....	....	....	....	....	....	....	....	416·09	68,523·68	104,615·47	275·27
		Sundry claims	....	151·00	132·82	....	....	43·50	60·05	....	210·92	7,138·41	5,289·12	....
Duketon	2479T	Mulga Queen	....	....	....	....	....	26·00	17·95	....	....	26·00	17·95	....
	(2449T)	Mulga Queen	....	50·00	19·41	....	1·81	18·00	14·33	....	1·81	119·00	55·06	....
		Voided leases	....	....	....	....	....	....	....	....	3,219·64	31,712·42	22,403·39	....
		Sundry claims	7·56	267·75	184·29	....	109·89	221·45	272·74	....	449·12	2,148·90	1,930·75	29·76
Eagle's Nest	....	Voided leases	....	....	....	....	....	....	....	....	145·34	534·50	1,238·22	....
		Sundry claims	·44	....	....	....	....	9·50	7·42	....	467·99	935·50	305·94	....
Erlistoun	(2464T)	Brilliant Ajax	....	65·00	41·49	....	....	34·00	24·73	....	....	99·00	66·22	....
	2141T	King of Creation G.Ms., Ltd.	....	....	....	....	....	....	....	....	....	6,358·00	1,288·92	11·00
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	13,723·00	3,199·66	....
	(2472T)	Old Victory	....	....	....	....	....	8·00	4·79	....	....	8·00	4·79	....
	(2421T)	Victory Extended	·10	56·59	....	....	....	....	....	....	362·51	38·08	506·36	....
	2345T, etc.	Western Mining Corporation, Ltd.	....	21,890·00	12,396·67	874·26	....	5,636·00	3,235·72	208·95	....	106,009·00	75,816·25	4,316·81
	2345T	Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	119·25	140·97	....
	2458T	Westralia	....	30·00	43·32	....	....	....	20·49	....	....	30·00	63·81	....
		Voided leases	....	....	....	....	....	....	....	....	40·97	29,548·07	19,541·86	....
		Sundry claims	7·82	204·15	145·67	....	4·52	85·50	52·89	....	1,329·88	5,400·84	3,608·65	....
Euro	....	Voided leases	....	....	....	....	....	....	....	....	65·14	91,821·50	37,678·25	....
		Sundry claims	·69	82·50	39·57	....	....	37·25	10·49	....	47·21	1,270·25	699·91	....
Laverton	2216T	Beria Main Lode	....	530·00	258·58	....	....	....	11·73	....	....	6,550·35	1,397·27	....
	2408T, etc.	Gladiator Gold Mines, Ltd.	....	29,220·00	6,033·60	....	....	18,733·00	4,876·25	....	....	103,538·00	25,965·35	....
	(2454T)	Golden Gordon	....	171·25	74·25	....	....	....	....	....	....	205·75	92·66	....
	2433T	Ida H. Extended	....	....	....	....	....	....	....	....	8·30	18·50	8·78	....
	2229T	Ida H.	....	244·00	262·89	....	....	....	....	....	....	531·50	469·46	....
	2229T, (2230T)	Ida H. leases	....	....	....	....	....	....	....	....	....	2,683·75	379·62	....

	2469T	Lancefield Central						5·00	21·51			5·00	21·51	
	2245T	Lancefield Extended West		155·75	242·37			312·25	535·92			468·00	778·29	
	(2221T), etc.	Lancefield (W.A.) Gold Mines, N.L.		42·00	347·61				78·46			558,482·00	162,047·36	366·20
		Prior to transfer to present holders										941,424·98	360,139·22	51,882·27
	2478T	Lancefield North						17·25	58·79			17·25	58·79	
	(2462T)	Majestic		14·00	22·19							14·00	22·19	
	2261T	Mary Mac		204·10	44·79							204·10	44·79	
	(2450T)	South Lancefield Extended		630·75	126·48			40·25	11·23			937·50	202·60	
	(2447T)	Waste of Time		10·00	15·22							72·25	100·10	
	(2443T)	White Horse		48·75	42·71							133·75	137·08	
		Voided leases									2,044·40	460,144·19	261,946·55	4,674·69
		Sundry claims	10·89	610·50	377·76		13·95	226·00	210·63		1,685·53	16,683·75	8,917·47	
Mt. Barnicoat	2477T	South Ida						23·00	23·29			23·00	23·29	
	2254T	Ulalla										392·50	92·44	
		Voided leases										1,343·25	521·06	
		Sundry claims		60·25	52·75		·68	43·00	62·64		·68	1,058·00	796·57	
Mt. Shenton		Voided leases										15·00	26·65	
		Sundry claims										279·25	209·67	
	From District generally :—													
	Sundry Parcels treated at :													
	State Battery, Laverton			*1,329·17				*188·31			97·50	*7,207·52	15·64
	G. W. Cox (W.R. 118T)							*6·75				*6·75	
	Craiggiemore's Cyanide Works											*629·72	
	G. E. Grey's Cyanide Works			*273·70				*125·02				*5,478·39	
	D. Cable (L.T.T. 978H, 979H)							*122·52				*122·52	
	Hootanui Battery			*5·70							2·50	*42·30	
	Mulga Queen Cyanide Plant			*12·17								*41·14	
	Mary Mac Cyanide Plant			*2·61								*1,690·87	
	Various Works										157·00	9,925·10	
	Reported by Banks and Gold Dealers	13·03				6·12		14·70		2,569·90		26·76	
	Totals	**40·43**	**54,792·85**	**23,306·92**	**895·80**	**136·97**	**25,723·20**	**11,004·75**	**208·95**	**13,070·73**	**2,463,188·64**	**1,133,456·77**	**61,593·18**

North Coolgardie Goldfield.

MENZIES DISTRICT.

Comet Vale	5476Z	Sand Queen Gladsome, N.L.			*28·04							42,096·75	14,578·62	6·45
		Priot to transfer to present holders										75,754·50	59,007·25	1,505·65
		Voided leases									419·74	148,635·97	119,408·22	3,839·28
		Sundry claims	28·00	18·74			25·00	23·97			40·19	1,686·91	881·38	
Goongarrie	(5711Z)	Junction		577·00	70·63							577·00	70·63	
	(5715Z)	New Boddington		1,100·00	96·78			790·00	77·44			1,890·00	174·22	
		Voided leases									1,379·14	27,304·54	17,721·15	
		Sundry claims	·96				16·36				1,994·48	2,257·52	2,746·05	
Menzies	5703Z	Aspacia		392·50	227·41	5·24		330·00	216·86			970·50	876·11	5·24
	5543Z	Black Swan		33·00	40·69			58·00	445·83			967·63	1,486·32	9·08
	5708Z	Blow						28·00	72·80			28·00	72·80	
	(5704Z)	Coronation		91·00	27·24							188·00	68·63	
	5694Z	Dark Horse		10·50	16·51							83·00	293·76	
	5511Z, etc.	First Hit G.Ms. (1934), Ltd.		7,760·00	5,396·87	1,071·86		5,624·00	3,848·69	627·74		50,915·20	36,334·13	6,608·73
		Prior to transfer to present holders										1,672·75	4,687·69	
	5542Z	Good Block lease		15·00	52·26			36·00	172·84		7·32	1,425·00	1,759·23	
	5549Z	Lady Harriet										253·00	78·37	
	(5706Z)	Lady Shenton Gold Mines (1934), N.L.		23·00	8·55		10·42				10·42	24,445·49	13,277·29	2,223·96
	(5705Z)	Maranoa		514·25	265·28	2·56		386·00	84·40			959·25	372·16	2·56
	5520Z	Mignonette										168·50	209·47	
	5697Z	New Florence		104·50	40·62			440·00	140·55			691·00	263·77	
	5663Z	Springfield		10·00	4·81			10·00	5·10			122·00	44·43	
	5484Z	Warrior		123·00	89·82			140·00	91·11			2,747·00	1,323·08	
		Prior to transfer to present holders										285·96	132·77	
	5671Z	Woolgar Gold Mines, Ltd.										42·00	8·85	
		Prior to transfer to present holders										151·50	174·25	
		Voided leases									1,130·38	902,337·30	708,331·01	11,354·63
		Sundry claims	4·94	422·50	277·36		2·74	137·00	57·24		639·82	30,659·94	23,606·76	776·49
Mt. Ida	5658Z	Carida										277·95	361·69	
	5668Z	Federation		91·00	67·90			79·00	47·49			389·50	425·20	
	(5708Z)	Mighbee		5·00	25·62							18·25	77·74	
	5551Z, etc.	Mt. Ida Gold Mines, Ltd.		3,985·00	1,729·14	160·18		6,928·00	3,408·75	319·33		19,268·50	8,895·93	639·85

TABLE I.—*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 1941.				Total for 1942.				Total Production to 31st December, 1942.			
			Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.
			Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	1,512·75	737·95	....
	5707Z	Quin Hills	12·52	320·00	67·18	....	....	186·00	43·93	....	12·52	809·00	181·19	....
	(5713Z)	Vere	....	9·50	7·77	....	....	....	....	....	....	9·50	7·77	....
		Voided leases	....	....	....	....	....	....	....	....	79·69	67,226·97	71,625·55	106·63
		Sundry claims	53·39	312·00	237·32	....	58·50	279·50	202·39	....	225·23	15,425·66	7,850·44	·12
Twin Hills	5717Z	Twin Hills North	....	....	....	....	....	10·00	3·49	....	....	10·00	3·49	....
	5716Z	Twin Hills South	....	10·00	9·95	....	....	17·50	9·36	....	....	27·50	19·31	....
		Voided leases	....	....	....	....	....	....	....	....	....	514·80	546·07	....
		Sundry claims	....	....	....	....	....	....	....	....	....	97·80	86·69	....
		From District generally :—												
		Sundry Parcels treated at												
		Mt. Ida State Battery	....	....	*1,445·38	....	....	....	*10·11	....	....	1,866·25	*6,826·10	....
		Blaxell's Cyanide Plant	....	....	*35·32	40·21	....	....	....	....	....	....	*176·59	64·10
		Gold Tailings, Ltd.'s Cyanide Plant	....	....	*110·93	·51	....	....	*47·07	....	....	....	*345·87	5·84
		Lady Harriett Cyanide Plant	....	....	*748·32	....	....	....	*771·40	....	....	279·50	*14,849·39	30·00
		Menzies Consolidated Cyanide Plant	....	....	*326·89	....	....	....	*208·08	....	....	....	*2,776·73	....
		B. W. Sander's Cyanide Plant	....	....	*282·18	215·32	....	....	*183·31	360·49	....	....	*489·41	575·81
		Various Works	....	....	....	....	....	....	....	....	....	2,512·30	*33,988·69	1,813·40
		Reported by Banks and Gold Dealers	24·89	....	....	....	19·03	....	....	....	1,792·50	35·00	7·72	....
		Total	**96·70**	**15,936·75**	**11,755·51**	**1,495·88**	**107·05**	**155·04**	**10,172·21**	**1,307·56**	**7,731·43**	**1,429,597·44**	**1,158,267·92**	**29,563·95**

ULARRING DISTRICT.

Davyhurst	1102U	Lights of Israel	....	975·00	129·03	....	....	....	....	....	....	1,075·00	169·85	....
	(1077U)	Makai	....	494·00	207·41	....	....	334·00	36·86	....	....	2,488·00	737·38	....
	1016U	New Callion	....	....	*75·39	....	....	....	....	....	....	5,293·30	2,002·37	119·67
	1110U	Remarc	....	435·00	87·99	....	....	441·75	77·73	....	....	876·75	165·72	....
		Voided leases	....	....	....	....	....	....	....	....	147·35	160,810·07	124,680·03	5,408·47
		Sundry claims	....	917·00	177·30	....	....	540·00	91·66	....	37·98	12,225·44	5,202·71	....
Morley's	1101U	Emerald	....	112·00	122·89	....	....	82·50	382·55	....	....	296·50	683·85	....
	1094U	First Hit	....	142·00	316·92	....	....	208·00	812·17	....	....	547·75	2,068·82	....
	(1108U)	Golden Cockatoo	....	15·00	32·40	....	....	....	....	....	....	28·00	50·53	....
	(1109U)	Hilltop	....	37·00	17·20	....	....	....	....	....	....	129·00	97·92	....
	1081U	Mabel Gertrude	....	70·00	76·75	....	....	19·00	44·77	....	....	333·00	413·29	....
	1089U	Paramount	....	44·00	84·54	....	....	44·00	90·04	....	....	654·50	880·18	....
	1078U	Rabbit	....	45·00	74·37	....	....	67·00	159·23	....	265·66	267·50	674·08	....
	1074U	Two Chinamen	....	16·00	41·64	....	12·81	48·00	191·29	....	3,409·54	768·50	2,876·84	....
		Voided leases	....	....	....	....	....	....	....	....	121·96	286·50	606·39	....
		Sundry claims	10·57	87·00	82·74	....	3·87	39·50	55·79	....	934·39	1,204·25	2,159·26	....
Mulline	1107U	Ajax West	....	84·25	118·52	....	1·37	49·25	90·33	....	1·37	282·75	547·89	....
	(1079U)	Larne Pride	....	31·00	156·61	....	....	....	1·75	....	....	550·00	475·10	....
	(1124U)	Petty Kash	....	....	....	....	....	5·00	8·37	....	....	5·00	8·37	....
	1069U	Riverina Gold Mines, Ltd.	....	....	....	....	....	....	....	....	....	32,058·00	11,662·42	....
		Voided leases	....	....	....	....	....	....	....	....	274·09	102,001·22	102,843·85	530·75
		Sundry claims	5·58	108·50	72·18	·41	....	106·50	68·13	....	178·19	10,275·89	8,419·82	1·10
Mulwarrie	(1084U)	Oakley	....	103·00	94·11	....	....	....	....	....	....	563·00	439·41	....
	1113U	Oakley	....	89·00	123·75	....	....	62·00	68·08	....	....	151·00	191·83	....
		Voided leases	....	....	....	....	....	....	....	....	165·29	18,917·68	25,929·80	38·47
		Sundry claims	10·45	101·00	41·40	....	14·32	30·00	13·23	....	283·09	2,981·33	2,574·59	....

Ularring	....	Voided leases	....	....	....	....	....	....	....	....	....	....	563·34	9,771·60	13,907·76	....
		Sundry claims	....	....	....	....	....	....	....	....	....	....	....	671·50	309·48	....
		From District generally :—														
		Sundry parcels treated at :														
		State Battery, Mulline	....	....	*73·09	....	....	....	....	....	....	....	639·99	*16,459·89	....
		State Battery, Mulwarrie	....	....	*181·25	....	....	....	*16·54	....	....	....	613·18	*6,564·16	....
		Golden Pole Cyanide Plant	....	....	*63·02	....	....	....	*16·29	....	....	....	....	*79·31	....
		Waihi Cyanide Plant	....	....	*63·28	....	....	....	*120·71	....	....	....	....	*183·99	....
		Waihi-Golden Pole Cyanide Plant	....	....	*99·27	....	....	....	....	....	....	....	....	*936·58	....
		Prior to Amalgamation	....	....	....	....	....	....	....	....	....	....	....	5,032·24	....
		Young Australia Cyanide Plant	....	....	*629·36	....	....	....	....	....	....	....	10·00	*883·55	....
		Various Works	....	....	....	....	....	....	....	....	....	....	15·82	205·15	*816·79	....
		Reported by Banks and Gold Dealers	2·75	....	....	....	3·18	....	....	....	....	....	164·23	100·00	22·67	....
		Total	**29·35**	**3,905·75**	**3,242·41**	**·41**	**35·55**	**2,076·50**	**2,345·52**	**....**	**6,562·30**	**367,081·35**	**341,758·72**	**6,098·46**

NIAGARA DISTRICT.

Desdemona	....	Voided leases	....	....	....	....	....	....	....	....	....	....	7·12	9,809·00	7,555·81	12·04
		Sundry claims	....	95·00	11·77	....	....	....	....	....	....	....	8·99	2,225·45	892·48	....
Kookynie	914G	Altona	....	58·00	10·18	....	....	239·00	21·12	....	....	....	297·00	31·30	....
	911G	Cosmopolitan South	....	235·00	102·75	....	....	230·00	87·90	....	....	....	600·00	293·91	....
	810G, 811G	Two D's leases	....	110·00	57·63	....	....	....	....	....	....	....	2,360·00	1,034·29	....
		Voided leases	....	....	....	....	....	....	....	....	....	350·65	741,566·21	392,858·04	5,375·97
		Sundry claims	....	318·00	92·87	....	....	128·00	77·07	....	....	156·58	7,670·80	5,924·24	....
Niagara	(910G)	May	....	57·50	14·34	....	....	....	....	....	....	....	157·00	33·75	....
	(915G)	May	....	32·00	7·63	....	....	91·00	22·46	....	....	....	123·00	30·09	....
	913G	New Gladstone	....	158·00	61·98	....	....	481·00	208·01	....	....	....	639·00	269·99	....
		Voided leases	....	....	....	....	....	....	....	....	....	104·54	84,957·50	52,031·22	....
		Sundry claims	....	120·00	74·68	....	....	72·50	29·81	....	....	125·32	14,002·66	7,958·07	....
Tanya	902G	Grafter	....	182·00	9·06	....	....	....	4·20	....	....	....	192·00	16·69	....
		Voided leases	....	....	....	....	....	....	....	....	....	41·58	50,285·57	23,267·41	174·24
		Sundry claims	....	400·00	194·69	....	....	176·00	116·62	....	....	313·62	8,006·33	4,093·37	....
		From District generally :—														
		Sundry parcels treated at :														
		Grafter Battery	....	....	*26·93	....	....	....	*10·94	....	....	....	....	*137·63	....
		Owen and Party's Cyanide Plant	....	....	*61·97	....	....	....	*42·42	....	....	....	....	*296·35	....
		P. J. Ward Permit	....	....	....	....	....	....	*10·08	....	....	....	....	*10·08	....
		Various Works	....	....	....	....	....	....	....	....	....	....	1,220·50	*15,930·32	41·17
		Reported by Banks and Gold Dealers	2·89	....	....	....	....	....	....	....	....	2,407·52	....	63·53	....
		Total	**2·89**	**1,765·50**	**726·48**	**....**	**....**	**1,417·50**	**630·63**	**....**	**3,515·92**	**924,112·02**	**512,728·57**	**5,603·42**

YERILLA DISTRICT.

Edjudina	1122R, etc.	Paget Gold Mines of Edjudina, Ltd.	....	....	....	....	....	....	....	....	....	....	....	841·50	187·51	....
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	....	....	738·75	559·80	....
		Voided leases	....	....	....	....	....	....	....	....	....	....	18·44	33,943·45	42,627·48	37·79
		Sundry claims	....	68·25	42·45	....	....	22·50	9·88	....	....	26·89	6,807·58	4,761·31	....
Patricia	....	Voided leases	....	....	....	....	....	....	....	....	....	....	4,158·50	5,396·40	25·40
		Sundry claims	....	....	....	....	....	....	....	....	....	....	35·00	17·76	....
Pinjin	....	Voided leases	....	....	....	....	....	....	....	....	....	48·34	17,463·30	10,742·77	....
		Sundry claims	....	43·50	33·53	....	....	44·50	23·87	....	....	154·86	5,623·59	3,466·70	....
Yarri	(1223R)	Coral Gold Mine	....	117·00	25·77	....	....	....	....	....	....	....	117·00	25·77	....
	1126R, etc.	Porphyry (1939) G.M., Ltd.	....	24,442·00	4,414·66	200·49	....	38,869·00	4,887·56	45·00	....	....	63,311·00	9,300·22	245·49
	1126R	(Edjudina Gold Mining Co., N.L.)	....	....	*232·67	10·55	....	....	....	....	....	....	30,220·00	5,409·93	507·51
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	....	124·50	38·89	....
	1211R	Margaret	....	229·25	43·16	....	....	123·50	26·03	....	....	....	590·00	131·18	....
	(1220R)	Towers	....	93·00	18·00	....	....	68·00	7·74	....	....	....	161·00	25·74	....
	(1216R)	Wallaby	....	11·50	2·57	....	....	....	....	....	....	....	24·00	6·40	....
		Voided leases	....	....	....	....	....	....	....	....	....	93·38	42,793·25	20,777·67	2·00
		Sundry claims	·13	614·25	118·85	....	....	62·50	18·01	....	....	6·80	13,669·80	5,208·23	....
Yerilla	....	Voided leases	....	....	....	....	....	....	....	....	....	3,107·25	16,161·93	12,733·54	13·93
		Sundry claims	2·04	7·00	17·20	....	....	7·00	11·15	....	....	52·14	2,695·58	1,538·19	....

TABLE I.—*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 1941.				TOTAL FOR 1942.				TOTAL PRODUCTION TO 31ST DECEMBER, 1942.			
			Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.
			Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.
Yilgangie	1221R	Golden Hill	....	60·00	31·18	....	....	60·00	34·95	....	....	120·00	66·13	....
	1176R	Western Mining Corporation	....	....	....	....	....	646·75	446·89	....	....	646·75	446·89	....
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	·85	1,244·75	1,830·28	....
	(1194R)	Yilgangie King	....	137·00	66·26	....	....	66·75	25·89	....	....	626·00	365·23	....
		Voided leases	....	....	....	....	....	....	....	....	9·94	716·75	583·85	....
		Sundry claims	....	245·00	138·90	....	2·90	42·25	15·57	....	212·15	2,841·30	1,666·56	....
	From District generally :—													
		State Battery Yarri	....	....	*331·57	....	....	....	*167·74	....	....	271·50	*7,492·99	3·50
		State Battery, Yerilla	....	....	....	....	....	....	....	....	....	....	*43·52	....
		Various Works	....	....	....	....	....	....	....	....	2·17	642·25	*6,049·24	....
		Reported by Banks and Gold Dealers	·48	....	2·55	....	1·22	....	....	....	1,320·57	....	4·11	....
		Total	**2·65**	**26,067·75**	**5,517·32**	**211·04**	**4·12**	**40,012·75**	**5,675·28**	**45·00**	**5,053·78**	**246,589·03**	**141,504·29**	**835·62**

Broad Arrow Goldfield.

Bardoc	2102W	Despatch	....	....	....	....	...	17·50	3·05	....	....	432·00	140·60	....
	2198W	Ellen Pearce	....	529·50	395·68	....	....	197·00	75·90	....	....	1,040·75	743·72	....
	(2171W)	Eureka	3·54	32·00	12·37	....	....	....	....	....	3·54	86·00	47·88	....
	2219W	Gippslander	....	....	....	....	....	11·50	11·62	....	....	11·50	11·62	..
	(2079W)	Wycheproof	....	40·00	9·67	....	....	....	....	....	12·02	2,448·00	961·84	....
	2199W	Zoroastrian	....	277·25	61·63	....	....	32·50	6·94	....	....	933·75	144·87	....
		Voided leases	....	....	....	....	....	....	....	....	2,319·85	79,738·09	53,431·47	203·60
		Sundry claims	13·67	487·50	141·08	....	....	204·75	74·94	....	1,248·40	14,148·78	7,363·08	....
Black Flag	2190W	Bell Bird	....	43·50	21·40	....	....	....	....	....	1·55	118·50	36·86	....
	(2149W)	Carbine Gold Mines, N.L.	....	658·50	267·95	....	....	35·75	4·96	....	....	3,695·25	1,385·61	....
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	1,507·00	1,160·87	....
	2207W	Foundation	....	17·25	5·08	....	....	275·75	69·64	....	....	293·00	74·72	....
	(2204W)	Rocky Bluff	27·40	13·00	29·42	....	....	....	....	....	27·40	31·00	39·05	....
		Voided leases	....	....	....	....	....	....	....	....	404·76	42,532·29	25,445·28	....
		Sundry claims	10·40	141·75	94·20	....	....	148·50	50·18	....	963·68	7,139·46	4,298·66	....
Broad Arrow	2217W	Dreamer	....	....	....	....	11·65	8·00	11·11	....	11·65	8·00	11·11	....
	2039W	Golden Arrow	....	363·00	92·41	....	....	....	....	....	....	3,998·50	589·17	....
	(2202W)	Golden Crown	....	108·00	10·57	....	....	29·00	7·89	....	....	158·00	22·64	....
	1958W	Grace Darling	....	336·00	214·71	....	....	300·50	227·58	....	1·67	3,229·25	2,320·09	....
	(2209W)	Hagland's Hill	9·43	5·00	8·33	....	....	....	....	....	9·43	5·00	8·33	....
	2215W	Hagland's Hill	....	....	....	....	10·11	....	....	....	10·11	....	....	....
	2216W	Kimra	....	....	....	....	....	460·00	735·33	....	....	460·00	735·33	....
	2148W	Lady Betty	....	69·00	17·05	....	....	41·00	10·35	....	....	320·80	79·43	....
	2206W	Lady Betty Extended	....	99·00	26·20	....	....	56·00	11·28	....	....	155·00	37·48	....
	2218W	Lady Betty North	....	....	....	....	....	66·00	13·30	....	....	66·00	13·30	....

	1771W	North Duke	....	....	....	....	....	....	....	....	....	....	....	....	1,533·79	192·80	628·42	....
	1933W	Oversight Tara United	....	....	....	....	144·00	11·24	....	....	15·00	11·19	....	1,144·69	820·54	899·84	....
	(2201W)	Tom Cat	....	....	....	....	66·25	31·53	....	....	....	....	....	....	83·25	57·47	....
	2221W	Undersight	....	....	....	....	....	....	....	....	60·00	7·94	....	....	60·00	7·94	....
	(2187W)	West Duke	....	....	....	....	41·00	12·00	....	....	....	....	....	....	83·75	54·26	....
		Voided leases	....	....	....	....	....	....	....	....	....	....	....	7,466·36	138,740·35	111,236·61	20·23
		Sundry claims	....	....	....	....	136·88	2,475·25	1,011·62	....	14·58	791·00	339·55	....	3,611·47	29,970·14	15,527·18	·11
Canegrass	....	Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	27·77	669·82	460·72	....
	....	Sundry claims	....	....	....	....	....	18·50	6·92	....	....	12·00	4·97	....	227·55	706·70	502·29	....
Carnage	....	Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	835·35	2,402·00	2,170·67	....
	....	Sundry claims	....	....	....	....	·18	13·75	3·85	....	....	....	....	....	6·61	1,774·58	861·61	....
Cashman's	....	(2189W)	Lady Evelyn	....	....	....	....	22·25	4·65	....	....	....	....	....	19·15	38·50	21·04	....
			Voided leases	....	....	....	....	....	....	....	....	....	....	....	862·12	8,133·65	7,069·87	....
			Sundry claims	....	....	....	....	....	....	....	....	....	....	....	39·55	997·27	313·75	....
Christmas Reef	....	2175W	New Mexico	....	....	....	....	95·25	212·87	....	....	99·00	185·78	....	....	281·50	515·35	....
		2211W	New Year's Gift	....	....	....	....	....	....	....	....	11·25	9·03	....	....	11·25	9·03	....
			Voided leases	....	....	....	....	....	....	....	....	....	....	....	29·68	783·52	207·21	....
			Sundry claims	....	....	....	....	16·62	181·30	209·89	....	20·32	106·00	166·66	....	307·15	2,677·39	2,516·22	....
Fenbark	....	(2186W)	Fenbark	....	....	....	....	....	245·50	44·72	....	....	36·25	4·18	....	....	689·75	106·14	....
		2188W	Golden Penny	....	....	....	....	....	270·50	52·18	....	....	262·50	75·97	....	....	1,752·00	251·76	....
			Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	4·42	2,601·75	1,849·71	....
			Sundry claims	....	....	....	....	....	77·00	14·35	....	3·31	69·50	36·48	....	51·96	2,472·77	914·81	....
Grant's Patch	....	(2214W)	Lark	....	....	....	....	....	....	....	....	....	16·00	2·36	....	....	16·00	2·36	....
		1962W, etc.	Ora Banda Amalgamated Mines, N.L.	....	....	....	....	....	24,067·00	6,649·00	....	....	20,745·00	5,262·00	....	....	135,958·00	52,553·88	175·00
			Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	....	....	....	....	12,424·50	9,540·07	....
		2208W	Wentworth	....	....	....	....	....	255·25	67·32	....	....	198·00	43·37	....	....	453·25	110·69	....
			Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	258·52	14,485·60	4,558·26	....
			Sundry claims	....	....	....	....	15·64	560·75	302·41	....	....	47·75	68·58	....	351·24	4,560·29	2,323·86	....
Ora Banda	....	1336W	Associated Northern Ora Banda, N.L.	....	....	....	....	....	....	....	....	....	....	....	....	....	2,727·50	406·53	4·87
			Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	....	....	....	....	315,958·95	123,252·22	1,664·70
		(2205W)	Beau Vite	....	....	....	....	....	165·75	28·55	....	....	44·75	13·39	....	....	210·50	41·94	....
		1943W, etc.	Ora Banda United Mines, Ltd.	....	....	....	....	....	....	....	....	....	....	....	....	....	2,182·25	74·80	....
			Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	....	....	....	....	76,612·22	14,630·93	....
			Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	829·75	24,321·60	12,484·25	....
			Sundry claims	....	....	....	....	....	576·25	147·22	....	13·73	303·50	52·74	....	174·00	11,872·00	3,965·17	....
Paddington	....	2196W	Little Nugget	....	....	....	....	3·44	220·00	100·43	....	2·20	53·50	21·59	....	5·64	399·50	190·56	....
		2195W	Lochinvar Gold Mines, Ltd.	....	....	....	....	....	572·00	54·54	....	....	143·50	78·17	....	....	715·50	132·71	....
		2114W	Lone Oak	....	....	....	....	....	54·50	23·38	....	....	25·00	9·81	....	8·58	389·00	274·86	....
		2105W	Minnie Palmer	....	....	....	....	....	1,396·00	168·05	....	....	1,789·00	179·04	....	....	9,675·50	775·32	....
		(2170W)	Mt. Corlac	....	....	....	....	·99	....	·66	....	....	....	....	....	30·09	932·00	240·74	....
		2122W	Pakeha	....	....	....	....	....	662·50	282·99	....	....	336·00	199·29	....	....	1,901·90	633·49	....
			Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	5,985·30	177,234·91	82,700·27	18·96
			Sundry claims	....	....	....	....	·62	464·00	184·17	....	....	152·00	48·18	....	1,993·65	15,388·48	8,869·25	....
Riche's Find	....	(2129W)	Western Mining Corporation, Ltd.	....	....	....	....	....	140·00	8·32	....	....	....	....	....	....	6,873·25	4,272·05	71·36
			Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	....	....	....	....	328·75	640·11	....
			Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	7·01	155·09	371·71	....
			Sundry claims	....	....	....	....	77·14	249·00	178·53	·13	....	....	....	....	212·26	1,460·55	1,660·28	·13
Siberia	....	(2197W)	Only Hope	....	....	....	....	....	431·75	48·79	....	....	....	....	....	....	769·50	82·18	....
			Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	2,582·38	28,084·97	31,282·44	....
			Sundry claims	....	....	....	....	....	298·25	35·91	....	9·34	6·25	3·07	....	1,467·70	20,003·79	12,331·90	....
Smithfield	....	2193W	King of Kings	....	....	....	....	....	1,048·50	286·57	....	....	965·00	203·81	....	....	2,143·75	532·78	....
			Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	....	2,091·96	590·34	....
			Sundry claims	....	....	....	....	·22	155·50	36·97	....	19·95	41·00	22·71	....	123·37	2,393·09	910·21	....
		From Goldfield generally :—																	
		Sundry parcels treated at :																	
		State Battery, Ora Banda	....	....	....	....	....	11·00	*1,176·79	....	....	12·00	*303·72	....	....	128·05	*15,162·04	....
		Brealey's Cyanide Plant	....	....	....	....	....	....	*1,451·87	753·61	....	....	*46·15	....	....	....	*2,374·39	1,227·68
		Bulletin Cyanide Plant	....	....	....	....	....	....	*10·92	....	....	....	....	....	....	....	*191·61	....
		R. H. Fox's Cyanide Plant	....	....	....	....	....	....	*131·63	....	....	....	....	....	....	....	*131·63	....
		Golden Arrow Cyanide Plant	....	....	....	....	....	26·00	*495·17	....	....	....	*225·71	....	....	26·00	*2,344·05	....
		Minnie Palmer Cyanide Plant	....	....	....	....	....	....	*552·08	....	....	....	*386·12	....	....	....	*2,645·33	....
		H. A. Frank's Permit	....	....	....	....	....	....	*105·37	....	....	....	....	....	....	....	*105·37	....
		W. N. Pearce's Cyanide Plant	....	....	....	....	....	....	*244·32	....	....	....	*18·25	....	....	....	*1,728·44	....
		E. F. Ruthjen Treatment Plant	....	....	....	....	....	22·00	3·78	....	....	....	....	....	....	22·00	3·78	....
		Various Works	....	....	....	....	....	....	....	....	....	....	....	....	2,276·90	16,874·02	*41,791·52	1,875·77
		Reported by Banks and Gold Dealers	....	....	....	....	111·81	....	·45	....	30·46	....	....	....	9,998·80	57·43	84·99	....
		Totals	....	....	....	....	**427·98**	**38,244·80**	**15,799·76**	**753·74**	**135·65**	**28,224·50**	**9,343·88**	....	**47,486·87**	**1,248,400·85**	**682,284·22**	**5,262·41**

TABLE I.—*Production of Gold and Silver from all sources, etc.*—continued.

North-East Coolgardie Goldfield.

KANOWNA DISTRICT.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1941.				Total for 1942.				Total Production to 31st December, 1942.			
			Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.
			Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.
Gindalbie	1540X	Lady Betty	....	70·50	104·94	....	21·98	42·50	65·23	....	261·18	173·75	382·28	....
		Voided leases	....	....	....	....	....	....	....	....	19·94	44,077·78	39,512·90	38·31
		Sundry claims	....	243·75	62·60	....	....	71·75	27·63	....	713·92	4,770·27	2,723·53	....
Gordon	1532X	Sirdar	79·84	572·00	383·43	61·79	....	1,407·00	392·89	....	79·84	3,863·25	2,655·03	61·79
		Voided leases	....	....	....	....	....	....	....	....	589·88	48,723·78	16,562·53	....
		Sundry claims	....	49·75	7·71	....	....	26·50	3·88	....	177·38	1,918·20	1,130·74	....
Kalpini	....	Voided leases	....	....	....	....	....	....	....	....	38·73	13,463·50	6,739·57	·07
		Sundry claims	....	19·75	12·39	....	3·16	59·25	47·12	....	277·53	1,437·00	988·61	....
Kanowna	(1548X)	Forty Years Ago	....	74·00	20·99	....	....	25·25	3·37	....	....	99·25	24·36	....
	1541X	Three of Diamonds	....	174·00	22·80	....	....	....	....	....	....	174·00	22·80	....
		Voided leases	....	....	....	....	....	....	....	....	4,536·28	684,719·10	380,100·88	2,842·24
		Sundry claims	4·28	574·75	155·26	....	....	....	....	....	2,223·40	23,561·27	10,974·83	1·50
Mulgarrie	....	Voided leases	....	....	....	....	....	....	....	....	1,216·63	6,902·26	4,197·98	....
		Sundry claims	....	....	....	....	....	....	....	....	16·78	1,261·75	631·40	....
Six Mile	....	Voided leases	....	....	....	....	....	....	....	....	15,95·63	559·00	767·72	....
		Sundry claims	....	13·75	1·74	....	....	....	....	....	54·14	668·50	215·28	....
	From District Generally:													
	Sundry Parcels treated at:													
	Carlson's Cyanide Plant		....	....	....	....	....	....	*1·36	....	....	....	*2,127·28	....
	Job's Cyanide Plant		....	....	*88·00	....	....	....	*55·02	....	....	....	*1,117·78	....
	Peat's Cyanide Plant		....	....	*86·11	....	....	16·00	*67·98	....	....	16·00	*195·84	....
	Various Works		....	....	....	....	....	....	....	....	1,197·94	158,919·05	149,649·91	....
	Reported by Banks and Gold Dealers		77·91	....	4·11	....	35·43	....	....	....	105,873·98	·50	101·55	....
	Totals		**162·03**	**1,792·25**	**950·08**	**61·79**	**60·57**	**1,648·25**	**664·48**	....	**118,873·18**	**995,308·21**	**620,822·80**	**2,583·91**

KURNALPI DISTRICT.

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1941.				Total for 1942.				Total Production to 31st December, 1942.			
			Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.
			Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.
Jubilee	....	Voided leases	....	....	....	....	....	....	....	....	145·13	2,122·50	1,465·16	....
		Sundry claims	....	9·50	3·23	....	....	....	....	....	39·09	1,219·25	511·63	....
Kurnalpi	....	Voided leases	....	....	....	....	....	....	....	....	3,509·44	4,049·01	3,940·87	6·27
		Sundry claims	7·49	37·00	24·49	....	·23	....	....	....	888·86	4,231·11	2,012·54	....
Mulgabbie	(453K)	Golden Crown	....	....	....	....	....	9·00	4·91	....	....	9·00	4·91	....
		Voided leases	....	....	....	....	....	....	....	....	1,402·66	217·75	7,840·96	4·95
		Sundry claims	212·23	108·50	103·05	....	84·64	22·50	20·98	....	2,730·70	1,171·45	2,185·53	....
	From District Generally:													
	Sundry parcels treated at:													
	Various Works		....	....	....	....	....	....	....	....	....	101·50	*388·63	....
	Reported by Banks and Gold Dealers		17·87	....	....	....	10·96	....	....	....	12,164·61	....	2·35	....
	Totals		**237·59**	**155·00**	**130·77**	....	**95·83**	**31·50**	**25·89**	....	**20,880·49**	**13,121·57**	**18,352·58**	**11·22**

East Coolgardie Goldfield.

EAST COOLGARDIE DISTRICT.

Binduli	(5917E)	Belle of Kalgoorlie	....	42·50	4·05	....	....	....	145·75	128·30	....	....	65·50	6·81	....
	6023E	Royal Standard	....	....	....	....	....	....	....	....	....	....	145·75	128·30	....
		Voided leases	....	....	....	....	....	....	....	....	....	....	591·85	250·08	....
		Sundry claims	....	133·50	21·29	....	....	269·25	88·73	....	13·01	4,481·27	1,459·51	....
Boorara	5486E	Olympian	....	289·25	78·63	....	....	261·00	60·69	....	....	1,267·50	681·60	....
		Voided leases	....	....	....	....	....	....	....	....	459·07	306,930·82	171,842·83	408·36
		Sundry claims	38·07	42·25	16·43	....	12·79	59·25	36·27	....	146·05	2,616·84	1,390·96	....
Boulder	5862E	Albert Adventure	....	195·50	12·89	....	....	....	....	....	....	1,460·50	258·77	....
	5630E	Argennum	....	124·00	52·27	....	....	85·00	26·53	....	....	454·50	130·63	....
	(5540E, etc.)	B.A.N.Z. Mines, Limited	....	130·00	15·07	....	....	....	....	....	....	621·25	187·80	....
	5465E	Birthday Gift	....	194·50	20·72	....	....	....	....	....	....	5,244·89	1,366·30	....
	5690E	Boulder Perseverance, Ltd.	....	121,312·74	38,144·68	15,601·46	....	107,376·80	32,757·37	10,574·03	....	1,579,741·72	713,814·70	203,974·38
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	3,306,942·88	1,841,159·00	203,821·43	....
	5964E	Croesus Extended	....	67·75	2·90	....	....	....	....	....	....	67·75	2·90	....
	5472E	Golden Key	....	106·00	35·79	....	....	....	....	....	37·99	415·00	158·96	....
	5692E, etc.	Gold Mines of Kalgoorlie, Ltd.	....	162,274·00	43,053·23	15,544·77	....	132,651·00	30,277·59	11,101·37	....	700,993·86	223,664·66	78,145·16
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	545·23	527,790·53	568,643·05	4,844·50
	5696E (9E), etc.	Great Boulder Proprietary G.Ms., Ltd.	....	392,779·00	93,216·00	37,408·02	....	328,277·00	81,056·68	25,209·91	1·53	6,929,660·97	4,499,391·67	710,543·65
	5845E	Happy Returns	....	51·50	3·34	....	....	....	....	....	....	186·50	45·78	....
	5345E, etc.	Kalgoorlie Enterprise Mines, Ltd.	....	70,805·87	22,494·58	2,496·10	....	62,240·53	19,911·23	1,658·83	....	306,319·88	98,194·74	10,236·93
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	15,320·68	8,957·01	....
	5708E (15E), etc.	Lake View and Star, Limited	....	618,191·00	170,549·52	12,655·16	....	402,071·00	127,149·19	12,244·50	....	5,960,927·30	2,043,713·21	131,738·16
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	8·49	15,792,500·38	9,149,223·80	1,348,055·82
	5159E	Lake View South (G.M.K.), Ltd.	....	12,499·00	3,772·08	....	....	12,215·00	3,469·15	....	....	60,127·38	21,007·90	....
	5700E (22E), etc.	North Kalgurli (1912), Ltd.	....	140,910·80	45,415·37	26,057·28	....	115,487·98	40,965·09	21,438·14	111·55	1,345,620·31	493,095·79	128,934·28
	5700 (22E), etc.	North Kalgurli (1912), Ltd., Croesus Pty. Group	....	65,450·00	14,024·62	....	....	7,488·00	2,171·62	....	51·20	90,159·00	19,261·22	....
	5891E	(New Croesus)	....	....	....	....	....	....	....	....	....	193·00	48·74	....
	5700E (22E), etc.	Prior to transfer to present holders	....	....	....	....	....	....	....	....	43·99	4,018,436·01	2,815,911·21	97,625·03
	5429E, etc.	North Kalgurli United Mines, Ltd.	....	....	....	....	....	....	....	....	....	4,661·51	928·18	232·93
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	131·74	76·74	....
	5539E	Oroya East	....	224·50	18·10	....	....	....	....	....	....	906·25	107·22	....
	5853E, etc.	Paringa Junction Leases	....	284·50	128·79	....	5·12	407·75	301·27	....	5·12	946·00	448·72	....
	5853E	(Paringa Junction)	....	....	....	....	....	....	....	....	....	123·75	17·77	....
	5854E	(Paringa Junction North)	....	....	....	....	....	....	....	....	....	60·50	10·64	....
	5855E	(Paringa Junction South)	....	....	....	....	....	....	....	....	....	1,473·25	228·42	....
	5456E, etc.	Paringa Mining and Exploration Co., Ltd.	....	92,289·00	22,459·62	5,757·36	....	83,798·00	22,184·68	....	....	410,464·06	104,398·92	8,637·67
	5556E	(Brown Hill Extended)	....	....	....	....	....	....	....	....	....	638·00	74·44	....
	5716E	(Two B's)	....	....	....	....	....	....	....	....	....	645·52	180·88	....
	5456E, etc.	Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	52,670·76	23,503·73	....
	5808E, etc.	South Kalgurli Consolidated, Ltd.	....	91,874·00	27,466·88	....	....	75,470·00	22,695·59	67·50	....	2,225,185·25	908,962·80	15,139·02
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	1,344,254·70	531,792·77	17,722·97
	5466E	South Star	123·41	1,171·25	310·79	....	....	827·00	169·42	....	233·46	4,237·43	1,450·78	....
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	5·22	1,835·75	748·78	....
		Voided leases	....	....	....	....	....	....	....	....	12,108·15	620,612·59	472,362·80	6·83
		Sundry claims	....	490·25	45·90	....	....	....	....	....	225·88	11,402·99	4,229·63	....
Cutter's Luck	(5941E)	Black Cat	19·58	12·25	9·13	....	1·25	....	....	....	20·83	12·25	9·13	....
		Sundry claims	1·80	....	....	....	....	....	....	....	365·41	677·90	300·78	....
Feysville		Voided leases	....	....	....	....	....	....	....	....	110·93	561·30	394·24	....
		Sundry claims	4·18	38·25	9·16	....	8·11	23·00	3·91	....	193·54	1,077·10	609·05	....
Hampton Plains	P.P.L. 9	Celebration G.M. Co., N.L.	....	....	....	....	....	....	....	....	....	61,399·75	15,206·00	....
	P.P.L. 1	Consolidated Gold Areas, N.L.	....	31,152·20	6,641·76	2,555·35	....	22,194·80	5,762·20	1,789·08	....	131,971·93	34,711·22	5,607·69
	P.P.L. 86	Golden Hope, N.L.	....	....	....	....	....	....	....	....	....	5,964·00	2,006·14	....
	P.P.L. 192	Golden Hope North	....	129·00	57·24	....	....	224·00	143·78	....	....	353·00	201·02	....
	P.P.L. 12	Junction Extended	....	....	....	....	....	990·50	107·04	....	....	990·50	107·04	....
	P.P.L. 252, 289	Mount Martin	....	....	*26·04	....	....	....	*26·17	....	....	14,953·75	5,626·32	....
	P.P.L. 279	Mutooroo	....	....	....	....	....	....	....	....	....	6,151·88	1,087·26	....
	P.P.L. 277	New Hope	....	6,102·00	833·47	....	17·23	1,628·00	230·29	....	17·23	53,993·55	10,094·82	....
	P.P.L. 81	Villers Brettaneaux	....	....	....	....	....	....	....	....	....	3,562·02	1,435·55	....
		Voided leases	....	....	....	....	....	....	....	....	4,769·56	49,092·69	20,871·27	69·60
		Sundry claims	·65	198·00	61·08	....	39·31	1,147·00	235·12	....	73·53	46,273·16	8,445·96	....
Kalgoorlie	(5960E)	Albert's Pride	....	97·00	19·91	....	....	....	....	....	....	97·00	19·91	....
	5735E	Bonnie Lass	....	....	....	....	....	83·50	27·14	....	....	250·50	74·67	....
	5449E, etc.	Broken Hill Proprietary Co., Ltd.	....	40,444·00	16,211·26	....	....	38,939·00	14,298·12	....	3·99	271,619·01	113,158·21	1,843·28
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	1,027·75	166·81	....
	5531E	Cassidy's Hill	....	....	....	....	....	....	....	....	·79	243·50	135·04	....
	5867E	Concord	3·58	16·25	28·55	....	....	....	....	....	8·64	169·25	65·54	....

TABLE 1.—*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 1941.				TOTAL FOR 1942.				TOTAL PRODUCTION TO 31ST DECEMBER, 1942.			
			Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.
			Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.
Kalgoorlie—*continued.*	5839E	Coronation	....	....	....	....	....	....	....	....	....	40·00	9·03	....
	5934E	Coronation	....	28·00	4·63	....	....	....	....	....	....	28·00	4·63	....
	5913E	Devon Consols	58·67	187·88	133·06	....	3·59	251·50	99·65	....	67·37	844·21	356·72	....
	5924E	Federal	....	28·25	2·60	....	....	....	....	....	....	28·25	2·60	....
	5510E	Golden Dream	....	120·00	37·20	....	....	49·00	9·23	....	....	530·74	149·77	....
	5737E	Golden Mile Channel	....	103·50	5·72	....	....	....	....	....	·97	2,534·50	199·41	....
	6020E	Golden Mile North	....	....	....	....	....	60·75	17·35	....	....	60·75	17·35	....
	5904E	Great Patience	....	32·25	6·20	....	....	66·00	29·24	....	....	98·25	35·44	....
	5519E	Hannan's Enterprise	....	....	....	....	....	....	....	....	....	362·00	79·80	....
	(5966E)	Hidden Secret	2·20	....	....	....	....	139·00	134·76	....	2·20	139·00	134·76	....
	(5953E)	Inkerman	....	17·50	6·46	....	....	20·75	3·37	....	....	38·25	9·83	....
	5878E	Lady May	....	277·00	55·26	....	....	72·75	5·32	....	....	983·00	159·17	....
	5549E	Maritana Hill	....	....	....	....	....	....	....	....	....	381·50	42·12	....
	4547E, etc.	Mount Charlotte (Kalgoorlie) G.Ms., Ltd.	....	1,234·00	252·17	....	....	....	....	....	....	1,234·00	252·17	....
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	5·72	48,292·60	13,930·79	....
	5437E	North End Extended	82·99	8·75	26·85	....	128·93	8·25	32·12	....	696·37	226·30	387·46	....
	5852E	Pedestal	....	351·00	76·85	....	....	48·00	6·06	....	....	1,608·75	444·93	....
	5468E	Phar Lap	....	....	....	....	....	36·50	25·41	....	....	388·75	319·56	....
	5415E	Return	....	127·00	26·39	....	....	245·00	127·16	....	5·64	3,670·50	638·42	....
		Voided leases	....	....	....	....	....	....	....	....	9,798·95	962,980·20	397,234·66	44,017·12
		Sundry claims	157·47	849·70	239·73	....	18·81	112·00	84·44	....	1,285·44	58,719·29	22,860·80	....
Wombola	(5740E)	Big Bull	....	423·30	181·77	....	....	....	....	....	....	1,220·13	1,534·16	....
	5688E	Caledonian	....	664·00	603·82	....	....	605·50	448·08	....	....	2,842·00	2,321·35	....
	5497E	Daisy	....	433·25	243·93	....	....	375·00	291·56	....	....	3,227·25	3,154·36	....
	5872E	Everly	....	11·00	18·47	....	....	....	....	....	....	34·00	25·13	....
	5962E	G.D.M.	....	11·00	40·17	....	....	14·50	29·05	....	....	25·50	69·22	....
	(5928E)	Hammer & Drill	1·32	....	....	....	....	....	....	....	1·32	147·50	18·12	....
	5689E	Haomo	....	797·25	483·37	....	....	908·00	639·18	....	....	4,225·50	3,200·85	....
	5500E	Happy-go-Lucky	....	704·75	715·65	....	....	403·50	224·46	....	....	2,075·25	1,675·85	....
	(5865E)	Lady Dorothea	5·66	80·00	54·68	....	....	....	....	....	5·78	910·05	305·73	....
	(5931E)	Launa Doone	....	82·00	8·00	....	....	....	....	....	....	104·00	23·85	....
	(5908E)	Loganberry	....	31·50	12·24	....	....	....	....	....	3·13	202·00	65·11	....
	5961E	Loganberry	....	....	....	....	....	246·25	71·63	....	....	246·25	71·63	....
	5829E	Lurgan	....	250·75	179·63	....	....	79·00	24·26	....	·69	854·75	476·59	....
	5798E	Maranoa	....	232·50	141·71	....	12·50	249·50	178·14	....	19·73	2,023·00	1,019·54	....
	5493E, etc.	New Milano, No Liability	·25	5,543·00	4,168·95	237·76	....	7,675·00	3,035·65	173·89	·25	15,422·00	9,961·67	442·99
	5493E	(Milano)	....	....	....	....	....	....	....	....	....	4,012·75	11,676·72	....
	5616E	(Leslie)	....	....	....	....	....	....	....	....	....	602·00	939·10	....
	5967E	North Caledonian	....	10·75	4·16	....	....	....	....	....	....	10·75	4·16	....
	5850E	Pauline	....	24·25	31·46	....	....	14·50	18·88	....	....	237·00	287·95	....
	4766E	Pericles G.M., Ltd.	....	47·00	2·70	....	....	....	....	....	358·11	4,728·03	19,305·86	....
	6022E	Proprietary	....	....	....	....	....	54·50	40·04	....	....	54·50	40·04	....
	(5918E)	Rainbow	1·91	9·50	3·81	....	....	....	....	....	1·91	233·50	34·17	....
	(5741E)	Reggio	....	46·25	7·59	....	....	....	....	....	....	971·25	291·69	....
	6018E	Reggio	....	....	....	....	....	47·50	10·95	....	....	47·50	10·95	....
	5866E	Rosemary	....	....	....	....	....	17·50	47·12	....	....	17·50	47·12	....
	5925E	Tangney	....	....	....	....	....	....	....	....	....	12·00	4·46	....
	5795E	Transvaal	....	268·50	35·31	....	....	42·50	2·29	....	....	504·75	102·14	....
	(5796E)	Twenty Grand	....	58·50	13·91	....	....	....	....	....	....	637·25	394·20	....
	5525E	Xmas Flat	....	....	....	....	....	....	....	....	....	330·25	264·74	....
		Voided leases	....	....	....	....	....	....	....	....	1,991·54	14,611·63	15,719·19	....
		Sundry claims	79·29	1,019·75	419·74	....	27·10	342·75	237·33	....	398·62	20,169·93	12,555·90	....
	From District generally:— Sundry claims		....	....	....	....	....	....	....	....	11,480·18	5,440·46	2,541·10	....
	Sundry parcels treated at: Kalgoorlie State Battery		....	38·75	*1,447·25	....	....	55·75	*617·59	....	....	279·45	*18,822·26	....
	Cavalier's Treatment Works		....	....	....	....	....	....	....	....	....	10·50	*31·43	....
	Prior to transfer to present holders		....	....	....	....	....	....	....	....	....	....	*1,538·16	1507·65

			Bowden Bros. Cyanide Works	....	....	....	....	....	....	*160·67	....	....	....	*125·83	....	....	....	*286·50	....
			P. G. Collins' Cyanide Works	....	....	....	....	....	33·50	13·05	....	....	....	....	....	....	33·50	13·05	....
			Golden Horseshoe (New), Limited	....	....	....	....	....	....	*12,420·86	23,342·85	....	....	*13,028·94	23,835·30	....	....	*228,997·62	176,375·38
			S. Irwin and W. J. Heydon's Treatment Works	....	....	....	....	....	....	....	....	....	....	*53·32	....	....	....	*53·32	....
			T. J. Keegan's Treatment Works	....	....	....	....	....	....	*1·35	....	....	....	....	....	....	....	*1·35	....
			New Kalgoorlie, N.L., Cyanide Plant	....	....	....	....	....	....	*132·19	....	....	....	....	....	....	375·50	*2,383·39	2·00
			Pericles Cyanide Plant	....	....	....	....	....	....	*356·68	....	....	....	*308·02	....	....	....	*1,184·71	....
			Polkinghorne's Cyanide Plant	....	....	....	....	....	....	....	....	....	....	....	....	....	....	*149·38	....
			Various Works	....	....	....	....	....	....	....	....	....	....	....	....	449·06	40,687·27	*261,444·88	12,604·81
			Reported by Banks and Gold Dealers	....	....	....	....	142·70	20·00	347·86	....	537·98	40·04	404·07	....	26,155·98	335·63	1,905·61	....
			Total	....	....	....	....	**723·73**	**1,864,327·49**	**528,385·24**	**141,656·11**	**812·72**	**1,406,640·90**	**424,693·67**	**108,092·55**	**72,289·35**	**47,501,066·58**	**25,980,470·86**	**3,202,537·64**

BULONG DISTRICT.

Balagundi	....	....	....		Voided leases	....	....	....	....	....	....	....	....	....	....	2,408·98	1,110·68	1,473·73	12·92
					Sundry claims	....	....	....	....	9·99	....	....	....	....	....	284·04	656·76	456·17	....
Bulong	....	....	1311Y	....	Blue Quartz	....	....	....	....	....	413·50	102·51	....	....	....	....	....	....	....
			(1314Y)	....	Blue Quartz North	....	....	....	....	....	10·00	1·12	....	....	....	....	571·50	159·49	....
			1308Y	....	Southern Cross	....	....	....	....	....	40·00	4·88	....	....	....	....	10·00	1·12	....
					Voided leases	....	....	....	....	....	....	....	....	....	....	1·30	1,144·75	161·40	....
					Sundry claims	....	....	....	....	49·68	822·00	139·41	....	....	208·25	29·02	....	8,597·89	104,132·55	85,088·96	....
																		3,229·03	14,191·73	17,334·94	....
Majestic	....	....		....	Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	83·36	1,317·94	647·62	....
					Sundry claims	....	....	....	....	....	....	....	....	....	....	....	....	193·55	1,894·05	936·32	....
Morelands	....	....		....	do.	....	....	....	....	....	....	....	....	....	....	....	....	·13	183·00	58·51	....
Mt. Monger	....	....		....	Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	2,771·39	1,437·85	1,256·10	....
					Sundry claims	....	....	....	....	....	....	....	....	....	....	....	....	215·60	379·05	308·48	....
Randall's	....	....	1313Y	....	Flora Dora	....	....	....	....	....	531·25	218·00	....	....	138·50	40·16	....	....	902·06	372·07	....
			(1312Y)	....	Lady Agnes	....	....	....	....	....	174·50	28·77	....	....	....	....	....	....	344·50	62·74	....
					Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	60·04	31,853·29	10,654·49	....
					Sundry claims	....	....	....	....	....	73·25	22·32	....	1·28	80·25	19·49	....	28·81	4,691·56	1,188·34	....
Taurus	....	....		....	Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	5·76	1,765·10	909·84	....
					Sundry claims	....	....	....	....	....	201·75	21·83	....	....	....	....	....	164·57	2,597·35	1,036·33	....
Trans Find	....	....	P.P.L. 308	....	Dawn of Hope	....	....	....	....	....	122·00	28·46	....	....	....	....	....	2·87	792·25	286·93	....
					Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	....	983·92	865·71	....
					Sundry claims	....	....	....	....	....	22·25	4·57	....	....	....	....	....	5·93	699·25	312·08	....
			From District generally :—																		
			Sundry Parcels treated at :																		
			Various Works	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	6,102·15	6,675·38	....
			Reported by Banks and Gold Dealers	....	....	....	....	6·14	....	....	....	17·56	....	....	....	25,248·05	·01	28·44	....
			Total	....	....	....	....	**65·81**	**2,410·50**	**571·87**	..	**18·84**	**427·00**	**88·67**	....	**43,301·30**	**177,761·30**	**130,275·19**	**12·92**

Coolgardie Goldfield.

COOLGARDIE DISTRICT.

Bonnievale	....	....	5596	....	Jenny Wren	....	....	....	....	12·31	104·00	137·54	....	....	121·00	101·78	....	141·17	575·00	603·32	4·17
			4600	....	Melva Maie	....	....	....	....	....	16·00	119·00	....	....	·15	22·12	....	....	1,452·65	3,086·86	....
					Prior to transfer to present holders					....	....	....	....	....	....	....	....	....	614·50	1,099·21	11·63
			5321	....	Westralia Extended	....	....	....	....	....	9·00	3·43	....	....	....	....	....	....	164·50	37·54	....
					Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	25·00	352,443·84	188,746·25	....
					Sundry claims	....	....	....	....	....	129·00	37·12	....	....	36·00	32·18	....	158·69	5,919·93	4,479·49	....
Bullabulling	....	...		....	Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	....	776·81	668·19	....
					Sundry claims	....	....	....	....	....	....	....	....	....	....	....	....	21·19	1,308·26	558·48	....
Burbanks	....	....	5605	....	Burbanks Deeps	....	....	....	....	....	....	....	....	....	37·00	4·74	....	....	103·00	53·46	....
			5383	....	Burbanks Main Lode	....	....	....	....	....	29·00	1·32	....	....	....	....	....	....	29·00	1·32	....
			(5263)	....	Lord Bobs	....	....	....	..	....	85·00	26·12	....	....	....	....	....	8·59	1,752·50	680·21	....
			5443	....	New Gift	....	....	....	....	1·41	93·50	25·62	....	....	49·00	22·43	....	2·00	601·00	206·10	....
			(5614)	....	Resurrection	....	....	....	....	....	86·50	17·06	....	....	60·00	20·22	....	....	406·50	80·91	....
			5250	....	Vice Regal	....	....	....	....	....	275·00	99·47	....	....	....	....	....	1·91	3,966·00	1,250·21	....
			5454	....	Westraad	....	....	....	....	....	....	....	....	....	....	....	....	....	28·00	7·96	....
					Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	378·48	413,368·71	303,799·23	521·06
					Sundry claims	....	....	....	....	2·79	349·50	105·41	....	....	75·00	32·85	....	516·83	13,816·10	8,344·77	....

TABLE I.—*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 1941.				TOTAL FOR 1942.				TOTAL PRODUCTION TO 31ST DECEMBER, 1942.			
			Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.
			Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.
Cave Rocks	5645	Goldcoin	....	242·75	38·89	....	....	....	·41	....	....	242·75	39·30	....
	5665	Nornadeen	....	....	....	....	....	214·00	68·63	....	....	214·00	68·63	....
	(5642)	Squeaker	....	185·25	91·23	....	....	....	....	....	....	373·25	146·80	....
		Voided leases	....	....	....	....	....	....	....	....	....	1,928·80	441·38	....
		Sundry claims	....	398·90	134·01	....	....	117·75	32·70	....	50·00	3,415·65	785·28	....
Coolgardie	5637	Caledonia	....	1,016·50	140·09	....	....	35·00	16·41	....	7·30	1,471·50	225·75	....
	5297, etc.	Consolidated Gold Mines of Coolgardie, Ltd.	....	72,507·00	13,174·60	1,111·77	....	43,169·00	8,251·58	884·34	....	227,942·70	43,070·77	4,088·48
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	4·55	1,946·35	547·45	3·22
	(5655)	Dell	....	29·00	9·00	....	....	....	....	....	....	29·00	9·00	....
	(5585)	Gleeson's	....	....	8·06	....	....	....	....	....	·60	513·00	198·72	....
	5653	Gleeson's	....	730·00	400·63	....	....	1,195·00	521·74	....	....	1,925·00	922·37	....
	5638	Grey's Hill	....	77·00	47·84	....	....	21·00	5·61	....	....	129·00	87·50	....
	5577	Iron Duke	....	210·00	112·67	....	....	192·00	75·19	....	....	826·00	589·23	....
	(5644)	Juno	....	47·00	9·57	....	....	13·00	3·95	....	....	94·00	21·77	....
	5598	King Solomon	....	82·50	9·77	....	....	140·00	19·63	....	2·69	561·50	86·32	....
	5643	Lloyd George South	....	....	....	....	....	....	10·25	....	....	....	10·25	....
	5622	Lucky Hit	....	213·50	76·43	....	....	142·00	46·77	....	....	532·50	190·03	....
	(5606)	Lucky Star	....	78·00	22·96	....	....	....	....	....	....	696·00	146·93	....
	5239, etc.	Phoenix Gold Mines, Ltd.	....	33,831·00	9,631·06	....	....	28,214·00	7,942·00	....	....	87,258·00	25,105·28	2·54
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	2·74	167·56	237·80	....
		Voided leases	....	....	....	....	....	....	....	....	5,964·34	569,578·43	325,969·75	·96
		Sundry claims	38·67	1,577·00	348·34	....	25·38	573·00	188·45	....	2,857·76	63,166·28	23,346·45	....
Eundynie	5624	Eundynie	....	....	....	....	....	22·00	16·78	....	....	54·00	71·56	....
		Voided leases	....	....	....	....	....	....	....	....	17·01	31,697·20	16,423·28	1·75
		Sundry claims	....	....	....	....	....	....	....	....	10·18	630·19	311·52	....
Gibraltar	5217	Lloyd George	....	487·00	166·88	....	....	282·00	39·57	....	18·60	5,932·88	3,405·71	....
		Voided leases	....	....	....	....	....	....	....	....	15·28	31,849·75	16,424·07	....
		Sundry claims	....	53·00	22·71	....	....	....	....	....	52·15	2,823·20	1,259·75	....
Gnarlbine		Voided leases	....	....	....	....	....	....	....	....	13·95	2,731·75	1,341·60	....
		Sundry claims	....	58·50	21·75	....	....	....	....	....	4·90	1,186·10	504·18	....
Hampton Plains	P.P.L. 119	Golden Eagle	....	295·00	133·16	....	....	....	....	....	7·63	2,807·59	2,548·42	....
	P.P.L. 319	Lady May	....	....	....	....	....	20·00	24·75	....	....	20·00	24·75	....
	P.P.L. 315	Malvern Star	....	....	....	....	....	....	....	....	....	16·00	10·14	....
	P.P.L. 316	Surprise	....	983·00	461·64	....	....	1,968·00	888·89	....	....	4,248·00	2,135·07	....
		Voided leases	....	....	....	....	....	....	....	....	403·05	8,588·25	7,820·86	....
		Sundry claims	·27	9·00	4·38	....	....	32·00	15·20	....	132·06	1,717·25	780·47	....
Higginsville	5647	Fair Play Gold Mine	....	928·00	264·20	....	....	2,218·00	526·28	....	....	3,146·00	790·48	....
	5616	Milesi Deeps	60·39	·20	19·88	·65	....	49·35	32·82	....	60·39	56·30	54·20	·65
	5662	Sons of Erin	....	....	....	....	....	68·05	139·85	....	....	68·05	139·85	....
	5293	Two Boys	....	80·00	*102·65	....	....	....	*112·10	....	....	7,248·00	3,475·19	....
		Voided leases	....	....	....	....	....	....	....	....	287·26	37,773·25	17,105·03	158·79
		Sundry claims	34·66	221·25	197·21	....	....	333·80	147·65	....	149·47	3,574·73	1,901·47	....
Larkinville	(5236)	Ground Lark	9·41	50·00	5·20	....	....	36·00	37·89	....	18·48	2,035·91	3,185·54	....
		Voided leases	....	....	....	....	....	....	....	....	50·77	63·00	12·55	....
		Sundry claims	13·77	50·25	80·86	....	....	....	....	....	147·20	400·78	697·01	....
Logan's Find	5324, etc.	Spargo's Reward G.M. (1935), N.L.	....	27,182·00	7,467·59	....	....	20,532·50	4,819·89	....	....	105,397·50	26,318·11	....
		Voided leases	....	....	....	....	....	....	....	....	....	1,182·31	531·33	....
		Sundry claims	....	28·25	14·20	....	32·22	19·00	54·46	....	128·95	1,476·90	744·26	....
Londonderry		Voided leases	....	....	....	....	....	....	....	....	93·13	29,817·35	20,886·19	....
		Sundry claims	16·68	33·00	275·20	22·42	....	....	2·45	....	55·40	2,995·67	2,406·90	22·42

Mungar			Voided leases	....	....	....	....	....	....	....	....	....	....	....	17·71	735·00	331·78	....
			Sundry claims	....	....	....	....	16·86	23·00	27·46	....	....	....	2·44	153·11	1,104·44	433·74	....
Paris	5311, etc.		Lister's G.M	....	....	....	....	....	950·00	376·79	....	....	950·00	1,152·22	....	8,922·00	4,881·03	....
	5500		(Paris Central	....	....	....	....	....	....	....	....	....	....	....	....	113·00	24·16	....
	5530		(Paris Extended)	....	....	....	....	....	....	....	....	....	....	....	....	463·00	209·47	....
	5514		Paris	....	....	....	....	....	307·00	163·31	3·24	....	....	....	....	696·00	337·87	3·24
			Voided leases	....	....	....	....	....	....	....	....	....	....	....	4·30	....	....	....
			Sundry claims	....	....	....	....	....	....	....	....	....	....	....	....	2,037·25	501·81	....
Red Hill			Voided leases	....	....	....	....	....	....	....	....	....	....	....	1,566·68	40,797·40	31,070·65	....
			Sundry claims	....	....	....	....	....	....	....	....	....	....	....	105·40	1,306·52	704·47	....
Ryan's Find			Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	54·16	151·69	....
			Sundry claims	....	....	....	....	....	....	....	....	....	....	....	·44	101·69	228·66	....
St. Ive's	5593		Catherine	....	....	....	....	....	97·00	28·35	....	....	46·00	56·71	37·13	222·90	218·66	....
	5617, etc.		Ive's Reward leases	....	....	....	....	....	975·00	273·05	....	....	12·00	33·25	....	1,617·00	450·47	....
	5617		(Rivette)	....	....	....	....	....	....	....	....	....	....	....	....	150·00	28·91	....
			Voided leases	....	....	....	....	....	....	....	....	....	....	....	167·03	37,227·56	15,356·02	....
			Sundry claims	....	....	....	....	....	48·00	8·10	....	....	....	....	1,156·10	4,078·56	1,441·72	....
Wannaway			Voided leases	....	....	....	....	....	....	....	....	....	....	....	19·10	1,813·35	1,047·89	....
			Sundry claims	....	....	....	....	....	....	....	....	....	....	....	175·11	1,101·42	1,150·43	....
Widgemooltha	5576		Cardiff Castle	....	....	....	....	....	2,725·00	1,224·76	....	....	1,135·00	390·70	....	6,097·25	1,945·08	....
	5451		Host Group	....	....	....	....	....	184·75	38·62	....	....	132·00	67·28	....	1,601·00	434·38	....
	5658		Iron Knob	....	....	....	....	....	....	....	....	·88	....	6·43	·88	....	6·43	....
	5664		Three Black Cats	....	....	....	....	....	....	....	....	....	126·00	31·76	....	126·00	31·76	....
			Voided leases	....	....	....	....	....	....	....	....	....	....	....	1,118·34	14,111·20	9,304·86	·17
			Sundry claims	....	....	....	....	6·13	743·65	318·08	....	6·20	344·60	158·57	459·52	15,063·96	6,467·35	....
From District generally :—																		
Sundry parcels treated at :																		
State Battery, Coolgardie				....	....	....	....	....	....	*787·76	....	....	....	*571·85	....	771·01	*29,578·33	9·65
Australian Machinery and Investment Company's Cyanide Plant				....	....	....	....	....	....	*434·09	....	....	....	*350·41	....	....	*2,842·14	86·31
Frank's Cyanide Plant				....	....	....	....	....	....	*157·03	....	....	....	*82·47	....	....	*1,343·17	....
Imperial Cyanide Plant				....	....	....	....	....	....	....	....	....	....	....	....	26·00	*340·76	....
Irwin's Cyanide Plant				....	....	....	....	....	....	*213·59	....	....	....	*63·02	....	....	*622·68	....
James' Cyanide Plant				....	....	....	....	....	....	*105·35	....	....	....	*4·48	....	....	*550·66	....
Lister's Cyanide Plant				....	....	....	....	....	....	*191·58	....	....	....	*77·65	....	....	*269·23	....
Paris Central Cyanide Plant				....	....	....	....	....	....	....	....	....	....	....	....	....	*77·64	....
Parry's Cyanide Plant				....	....	....	....	....	....	*25·45	....	....	....	*23·77	....	....	*1,356·32	....
Prior's Cyanide Plant				....	....	....	....	....	....	*151·48	....	....	....	*7·99	....	....	*167·71	....
Widgemooltha Cyanide Plant				....	....	....	....	....	....	*53·81	....	....	....	*124·64	....	....	*1,155·96	....
Various Works				....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Reported by Banks and Gold Dealers				....	....	....	....	78·44	....	....	....	95·24	10·00	3·60	15,282·73	48·25	64·91	....
Total				....	....	....	....	**291·79**	**148,913·75**	**38,643·41**	**1,138·08**	**159·92**	**102,740·20**	**27,487·46**	**884·34**	**32,081·12**	**2,194,133·01**	**1,206,180·93**	**5,138·10**

KUNANALLING DISTRICT.

Carbine	970s		Carbine	....	....	....	....	....	2,258·25	898·43	....	....	130·00	33·78	....	13,820·00	7,047·96	....
	970s, etc.		Carbine leases	....	....	....	....	....	....	....	....	....	....	....	687·98	51,991·86	39,862·25	....
	(1012s)		Homeward Bound Gold Mines, N.L.	....	....	....	....	....	302·00	300·14	....	....	....	....	....	12,562·00	1,504·43	....
			Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	7,554·00	3,966·38	....
			Sundry claims	....	....	....	....	....	408·50	66·91	....	....	121·50	14·20	230·04	5,851·53	1,946·07	....
Chadwin	(999s)		Magdala	....	....	....	....	....	87·00	15·94	....	....	....	....	....	1,617·50	587·97	....
	1014s		Magdala	....	....	....	....	....	165·00	64·93	....	....	120·50	51·91	....	285·50	116·84	....
	1020s		Question Mark	....	....	....	....	....	27·00	79·87	....	....	20·00	41·31	....	47·00	121·18	....
			Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	1,961·05	3,103·71	2·50
			Sundry claims	....	....	....	....	....	224·75	107·24	....	....	....	....	68·10	4,405·55	2,447·80	....
Dunnsville	(1021s)		Valma	....	....	....	....	....	....	....	....	....	11·50	44·18	....	11·50	44·18	....
			Voided leases	....	....	....	....	....	....	....	....	....	....	....	828·58	17,478·10	8,598·12	....
			Sundry claims	....	....	....	....	63·71	81·00	23·42	....	36·48	....	....	1,023·72	2,291·56	1,687·17	....
Jourdie Hills			Voided leases	....	....	....	....	....	....	....	....	....	....	....	18·00	28,009·74	19,401·09	28·45
			Sundry claims	....	....	....	....	....	....	....	....	....	....	....	51·67	1,648·75	811·80	1·05
Kintore	1019s		Princess Rose	....	....	....	....	3·88	262·00	69·20	....	....	191·00	8·42	3·88	453·00	77·62	....
			Voided leases	....	....	....	....	....	....	....	....	....	....	....	184·15	53,591·64	39,119·69	677·88
			Sundry claims	....	....	....	....	....	39·50	14·11	....	....	24·00	19·19	206·84	2,750·13	1,968·07	....

TABLE I.—*Production of Gold and Silver from all sources, etc.*—continued.

COOLGARDIE GOLDFIELD—*continued.*

KUNUNALLING DISTRICT—*continued.*

Mining Centre.	Number of Lease.	Registered Name of Company or Lease.	Total for 1941.				Total for 1942.				Total Production to 31st December, 1942.			
			Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.
			Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.
Kunanalling	(919S)	Eureka	....	....	....	....	....	....	....	....	....	1,209·00	918·24	....
	(913S)	Golden Bounty Syndicate, Ltd.	....	93·00	9·77	....	....	....	....	....	....	1,100·50	712·11	·29
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	2,946·19	1,730·36	8·86
	1022S	Harry's Reward	....	....	....	....	....	14·00	78·86	....	....	14·00	78·86	....
	987S	Premier	....	825·00	412·68	....	....	420·00	171·93	....	·23	2,871·00	1,361·19	....
	919S, 987S	(Eureka leases)	....	....	....	....	....	....	....	....	....	7,172·50	6,288·07	12·78
	988S	Premier North	....	....	....	....	....	140·00	94·61	....	....	310·00	233·65	....
		Voided leases	....	....	....	....	....	....	....	....	1,820·82	112,408·97	87,883·93	18·84
		Sundry claims	35·13	195·00	150·63	....	7·25	17·00	40·27	....	1,024·65	12,702·32	8,858·68	....
Kundana	....	Voided leases	....	....	....	....	....	....	....	....	....	465·00	68·12	....
		Sundry claims	....	....	....	....	....	....	....	....	....	305·25	34·63	....
	From District generally :—													
		Sundry parcels treated at Treatment Works												
		Goldfields Australian Development	....	....	....	....	....	....	*163·93	....	....	....	*163·93	....
		Various Works	....	....	....	....	....	....	....	....	42·23	1,782·26	*5,061·33	....
		Reported by Banks and Gold Dealers	9·99	....	3·02	....	54·34	....	·45	·49	855·05	....	5·85	·49
		Total	**112·71**	**4,968·00**	**2,216·29**	....	**98·07**	**1,209·50**	**763·04**	**·49**	**7,045·94**	**349,617·40**	**245,811·28**	**751·14**

Yilgarn Goldfield.

Blackborne's		Voided leases	....	....	....	....	....	....	....	....	....	1,282·50	341·37	....
		Sundry claims	....	....	....	....	....	....	....	....	....	340·50	74·59	....
Bullfinch	4020	Birthday	....	8·00	60·05	....	·95	....	....	....	·95	8·00	60·05	....
	4042	Birthday South	....	15·00	50·50	....	....	....	....	....	....	15·00	50·50	....
	3345, etc.	Copperhead	....	593·00	131·62	....	....	....	....	....	....	7,427·32	2,076·32	....
	3378	Copperhead Deeps	....	....	....	....	....	....	....	....	....	13,554·65	4,102·83	....
	3337, 3458	Easter Gift leases	....	47·00	16·56	....	....	....	....	....	....	1,597·00	472·43	....
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	48·03	3,594·26	1,169·82	....
	3400, etc.	Frances May	....	110·00	18·55	....	....	....	....	....	7·74	8,683·55	3,341·69	....
	3397	Goldfinch	....	634·00	161 93	....	....	....	....	....	6·73	6,456·03	2,634·10	....
	(4011)	Irene	1·23	326·00	172·98	....	....	....	....	....	1·23	348·00	197·55	....
	4009	Reynold's Find	....	88·00	49·23	....	....	....	....	....	....	241·00	114·95	....
	3350	Rising Sun	....	5,066·00	823·84	....	....	6,899·00	1,168·20	....	2·30	37,059·53	10,837·80	....
	(4026)	Volcano	....	44·00	19·39	....	....	20·00	25·60	....	....	64·00	44·99	....
		Voided leases	....	....	....	....	....	....	....	....	8·91	489,517·07	185,091·14	27,958·41
		Sundry claims	....	155·00	58·85	....	....	256·00	51·20	....	45·51	7,259·75	3,946·00	....
Corinthian	3398, 3425	Corinthian leases	....	932·17	481·04	....	....	733·66	522·16	....	....	3,071·83	1,746·06	....
	3398	(Corinthian)	....	....	....	....	....	....	....	....	....	7,383·75	2,543·16	....
	3425	(Corinthian North)	....	....	....	....	....	....	....	....	....	3,951·00	1,934·78	....
	3415	Deliverance	....	340·00	316·82	....	....	411·00	172·45	....	....	3,019·40	3,173·07	....
	36P.P.	Lochlee	....	58·00	43·51	....	....	....	....	....	....	162·00	200·47	....
		Voided leases	....	....	....	....	....	....	....	....	....	134,933·00	29,811·29	....
		Sundry claims	....	....	....	....	....	....	....	....	·68	1,022·35	557·63	....
Eenuin	(4021)	Birthday Extended	1·39	....	....	....	....	....	....	....	160·94	10·00	54·45	....
	4067	Lone Pine	....	....	....	....	....	30·00	12·86	....	....	30·00	12·86	....
	4037	Newington	....	50·00	12·79	....	....	35·00	113·64	....	....	85·00	126·43	....
	(4030)	Newington	....	81·00	97·54	....	....	....	....	....	....	81·00	97·54	....
	4060	Star of Eenuin	....	....	....	....	....	61·00	51·80	....	....	61·00	51·80	....
	3893	Trump	....	66·00	46·41	....	....	50·00	52·23	....	....	381·50	277·42	....
	3936, etc.	Yellowdine Gold Areas, N.L.	....	2,455·50	3,046·19	....	....	40·00	*344·70	....	....	7,341·50	7,605·06	....
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	281·00	418·04	....
		Voided leases	....	....	....	....	....	....	....	....	15·19	792·06	1,001·92	....
		Sundry claims	15·25	306·00	119·89	....	4·94	57·50	43·59	....	74·57	2,291·60	1,602·46	....

Evanston	3895		Blue Peter																		
	3868		Evanston						15,284·00	6,218·56	10·14		9,959·00	4,448·45			1,288·00	285·84			
	3870		Evanston East														45,005·30	23,717·32	10·14		
	3869		Evanston North						74·50	21·82			48·27	54·24			34·00	13·59			
	3888		Goldies														1,598·76	1,079·93			
	3997		Gravel Pit					45·99	51·00	24·72		25·95	131·00	63·40		79·27	200·00	43·15			
			Voided leases														217·80	131·87			
			Sundry claims														649·00	230·70			
																4·98	503·35	133·66			
Forrestonia			Voided leases														1,185·00	298·15			
			Sundry claims														372·00	141·78			
Golden Valley	3575		Great Bingin						3,188·00	1,894·03			4,608·00	2,060·78			16,422·00	10,076·78			
	3573		(Marie's Find)														742·00	353·15			
	3822		(Queen Marie)														180·50	164·83			
	4066		Queenslander										242·00	90·51			242·00	90·51			
	2994, etc.		Radio leases						589·00	707·29			734·00	707·45		2·70	15,269·30	36,443·16	7·43		
	3248, etc.		Radio Deeps leases						11·00	36·17				·42			5,260·58	6,171·83			
	3993		Stumpy Doodle						636·00	274·45			387·00	155·64			1,032·00	444·21			
			Voided leases													35·76	10,511·84	10,472·95	2·00		
			Sundry claims					5·45	98·00	51·53			265·00	65·50	1·02	62·41	6,050·77	4,506·78	1·02		
Greenmount	4048		Liberty										14·00	3·08			14·00	3·08			
			Voided leases													67·61	125,008·64	31,572·01	944·50		
			Sundry claims						663·00	118·63			197·00	38·69		4·73	2,856·58	779·67			
Holleton	3788		Brittania										242·00	391·01			242·00	391·01			
	3923		Holleton East						1,610·00	147·29	1·47		670·00	57·62			3,624·00	343·39	2·34		
			Voided leases													9·33	39,808·75	12,554·58	31·79		
			Sundry claims						120·00	69·85			143·00	25·88		3·75	3,414·05	909·30			
Hope's Hill	(4012)		Jean Rose						45·00	6·08							45·00	6·08			
	3414		Pilot						1,534·00	145·49							19,446·12	2,948·68			
	4033		Queen Elizabeth						43·00	20·70			70·00	25·52			113·00	46·22			
			Voided leases													74·78	132,316·55	36,363·61	1·00		
			Sundry claims						144·00	63·22			12·00	1·26		52·03	4,151·02	1,301·77			
Kennyville	3506		Cornishman														92·00	16·10			
	3432, 3664		Coronation Gold Mining Co., Ltd.						854·00	260·49			498·00	192·31			2,455·50	679·93			
			Prior to transfer to present holder														8,037·50	3,240·27			
	3766		Golden Arrow						315·00	39·18			1,539·00	163·62			2,169·00	284·47			
	(3845)		Rainbow						1,145·00	165·15							2,758·00	381·11			
	3875		Victoria						1,130·00	141·79			320·00	133·96			3,592·00	841·55	·63		
			Voided leases													18·76	39,909·63	16,888·93	·59		
			Sundry claims						159·50	33·99			39·00	17·80		5·06	8,237·50	2,137·54			
Koolyanobbing			Voided leases														1,707·05	884·28			
			Sundry claims													·26	580·00	225·46			
Marvel Loch	4046		Banker										50·00	19·67			50·00	19·67			
	3393		Bohemia						228·00	71·11			70·00	34·19			4,721·50	1,939·26			
	3987, etc.		Burbidge Gold Mines, N.L.						38,515·00	4,359·07			29,920·00	2,633·69			68,435·00	6,992·76			
	3987		(Grand National)						6,600·00	747·95							19,739·00	2,647·30			
	4003		Christmas Gift					1·40	75·00	42·76			15·00	3·82		1·40	90·00	46·58			
	3957		Comet						185·00	117·36			90·00	64·70			1,067·00	639·66	6·85		
	13PP		Cricket						59·00	25·05			102·00	29·80			1,616·00	921·75			
	3966		Donovan's Find						20·00	26·20			10·00	9·44			120·05	47·26			
	(4014)		Doris						16·00	7·10							27·00	17·05			
	3942, 3943		Edward's Reward leases						3,484·00	1,756·05			2,775·00	1,608·16			13,782·50	7,212·36			
	3942		(Edward's Reward)														2,080·00	2,016·32			
	3943		(Sunshine)														3,866·00	2,384·79			
	4041		Eveless Eden						61·00	62·41			34·00	12·30			95·00	74·71			
	(3947)		Evelyn Molly						1,560·00	255·60			1,020·00	131·90			3,616·00	610·86			
	(3962)		Firelight						37·00	8·79							1,361·00	249·60			
	4034		Firelight						557·00	95·94			88·00	21·60			645·00	117·54			
	(3917)		Four Threes														187·00	619·83			
	3724		Frances Firness						1,193·00	542·97			980·00	371·45			8,012·00	3,731·76			
	(4063)		Gandine										155·00	59·50			155·00	59·50			
	(3824)		Ganymedes						150·00	6·10						164·56	3,779·00	1,842·61			
	3941		Geelong						36·00	11·47		1·95	12·00	2·93		1·95	378·50	69·00			
	3683		Golden Cube						158·00	100·71		1·88	285·00	117·78		20·27	1,193·00	606·09			
	(3999)		Green Bird						15·00	2·48							25·00	17·02			
	(4031)		Green Bird						127·00	27·79			90·00	25·87			217·00	53·66			
	(3958)		Ireland						105·00	23·20							205·00	34·75			
	(4036)		Jack and Jim						111·00	62·95							111·00	62·95			
	3718		Kurrajong						647·00	94·11			350·00	62·66			9,106·00	3,231·11			
	4047		Lennenberg's Reward										341·00	32·40			341·00	32·40			
	3431, etc.		Lenodo leases						713·00	173·30	·36		568·00	141·90			5,006·00	1,038·86	·36		
			Prior to transfer to present holders														1,056·00	177·67			

TABLE I.—*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 1941.				Total for 1942.				Total Production to 31st December, 1942.			
			Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.
			Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs
	(3413)	Marvel Loch	....	326·00	62·53	....	....	20·00	4·11	....	....	3,433·00	706·62	....
	(3423, etc.)	Marvel Loch Gold Development N.L.	....	....	....	....	....	....	1·64	....	....	87,533·10	12,623·86	1,239·90
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	1,185·00	215·67	....
	3856	Marvel Loch North	....	80·00	8·60	....	....	24·00	2·83	....	....	1,708·00	260·79	....
	3914	May	....	....	....	....	....	....	....	....	....	445·00	45·86	....
	3837	Maydo	....	51·00	34·31	....	....	30·00	12·15	....	....	305·00	187·84	....
	3459	May Queen	....	....	*13·36	....	....	....	....	....	....	3,738·00	6,922 23	....
	(3835)	Mountain King	....	13·00	2·29	....	....	....	....	....	....	1,492·00	807·99	....
	3970	Mountain Queen	....	117·00	82·48	....	....	41·00	49·22	....	....	470·00	188·78	....
	3390, etc.	N.G.M. Ltd.	....	2,848·50	223·65	....	....	719·00	82·10	....	....	4,067·50	351·36	·50
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	2,675·00	459·60	....
	(3404)	New Yilgarn G.M., N.L.	....	....	2·74	....	....	....	....	....	....	8,832·40	4,718·69	355·32
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	2,302·30	1,309·21	95·53
	(3908)	North Comet	....	35·00	4·03	....	....	....	....	....	....	856·00	122·36	....
	(4017)	Outsider	....	33·00	18·28	....	....	....	....	....	....	128·00	41·13	....
	(3960)	Scorpio	....	152·00	51·02	....	....	....	....	....	15·62	376·00	277·90	....
	(3988)	Treasury	3·88	361·00	60·34	....	....	....	....	....	3·88	507·00	72·31	....
	4035	Undaunted	....	240·00	19·11	....	....	250·00	28·62	....	....	490·00	47·73	....
	4006	Union Jack	....	301·00	61·76	1·04	....	....	....	....	....	907·00	177·74	1·04
	(4029)	Vauxhall	....	84·00	27·17	....	....	....	....	....	....	84·00	27·17	....
		Voided leases	....	....	....	....	....	....	....	....	201·54	503,693·86	149,974·66	773·95
		Sundry claims	....	2,024·00	455·02	....	107·48	182·00	82·56	....	225·53	33,085·84	12,805·55	....
Mt. Jackson	3449	Die Hardy	....	....	....	....	....	....	....	....	....	365·50	343·86	....
	(3931)	Dolly Pot Hill	....	26·00	7·30	....	....	....	....	....	10·12	474·00	205·93	2·09
	3859	Great Unknown	1·72	42·00	24·60	....	....	51·50	38·23	....	1·72	642·50	554·08	....
	3418	Clamp's Central	....	....	*33·15	....	....	....	....	....	....	1,232·50	665·35	....
		Prior to transfer to present holder	....	....	....	....	....	....	....	....	....	7,224·00	6,457·63	6·34
	(4005)	Tiger Show	....	56·00	21·98	....	....	....	....	....	10·99	169·00	143·73	....
		Voided leases	....	....	....	....	....	....	....	....	143·49	43,559·28	30,376·77	2,305·34
		Sundry claims	....	314·00	56·60	....	....	89·25	74·69	70·00	59·31	9,811·85	4,453·41	70·74
Mt. Palmer	3544	Yellowdine Gold Development, Ltd.	....	41,097·00	13,711·00	....	....	27,687·00	8,429·61	....	....	285,783·50	147,841·75	....
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	1,564·65	2,540·71	....
		Voided leases	....	....	....	....	....	....	....	....	....	67·25	22·90	....
		Sundry claims	....	46·00	18·58	....	....	37·50	5·82	....	1,661·67	385·25	356·07	....
Mt. Rankin	3555	No Trumps	....	275·00	58·50	....	....	....	....	....	....	5,205·37	819·29	....
		Voided leases	....	....	....	....	....	....	....	....	9·04	496·00	122·17	....
		Sundry claims	....	....	....	....	....	....	....	....	....	491·00	117·59	....
Parker's Range	3520	Centenary	....	100·00	2·82	....	....	....	....	....	....	1,671·00	440·00	....
	3460	Fortuna lease	....	666·00	177·60	....	....	388·00	111·09	....	....	2,714·00	727·38	....
	4060	Groper	....	....	....	....	30·38	31·00	153·53	....	30·38	31·00	153·53	....
	(3959)	Kookaburra	....	217·00	39·16	....	....	....	....	....	3·45	600·00	152·43	....
	4052	McIntosh	....	38·00	27·23	....	....	159·00	72·74	....	....	197·00	99·97	....
	3671	Mundy Hills 1	....	100·00	6·64	....	....	....	....	....	....	1,568·00	317·07	....
	4000	Olga	....	55·00	48·90	....	....	23·00	19·93	....	....	96·00	114·14	....
	2801	Scot's Greys	....	79·00	25·12	....	....	50·00	15·63	....	....	2,071·00	717·22	....
	4062	Victory	....	....	....	....	....	201·00	244·93	....	....	201·00	244·93	....
	3969	White Horseshoe	....	480·00	242·62	·98	....	443·00	296·22	....	....	1,427·60	956·79	25·95
		Voided leases	....	....	....	....	....	....	....	....	114·27	45,930·75	23,926·00	·45
		Sundry claims	10·21	442·00	234·10	....	16·27	10·00	16·49	....	58·32	9,960·75	4,351·53	·08
Southern Cross	4004	Excelsior	....	214·00	86·98	....	....	295·00	82·04	....	....	776·00	241·90	....
	4018	Fraser's	....	925·50	115·17	....	....	....	....	....	....	1,211·50	152·41	....
	(3862)	Fraser's Central	....	982·00	186·18	....	10·43	213·00	101·92	....	10·43	1,501·00	384·85	....
	(3862, etc.)	(Southern Cross United Mines, Ltd.)	....	....	....	....	....	....	....	....	....	13,053·50	1,457·53	....
	4010	Lord Cardigan	....	44·00	3·91	....	....	....	....	....	....	280·00	36·13	....
	3944	Nil Desperandum	....	450·00	50·62	....	....	190·00	28·67	....	....	1,297·00	189·83	....
	(3473)	Queen Ann	....	275·00	19·27	....	....	....	....	....	....	2,957·50	418·78	....
	4032	Queen Ann	....	60·00	3·80	....	....	150·00	19·53	....	....	210·00	23·33	....
	3444, etc.	Three Boys Gold Mines, Limited	....	5,947·00	962·12	....	....	1,208·00	126·79	....	....	9,947·00	1,376·56	1·26
	3444	(Three Boys)	....	....	....	....	....	....	....	....	....	4,180·00	727·75	....

	3934	(Three Boys North)	....	....	....	....	....	....	....	....	....	....	....	106·00	14·66	....
	3981	(Three Kings)	....	....	....	....	....	....	....	....	....	....	....	104·00	10·01	....
	3444, etc.	(Yellowdine Options, N.L.)	....	....	....	....	....	....	....	....	....	....	....	8,074·25	2,000·29	....
	(3984)	Three Queens	....	....	....	1·99	....	....	....	....	....	....	1·99	....	....	....
		Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	....	....
		Sundry claims	....	....	....	38·66	207·00	92·69	....	1·74	194·00	33·96	....	737·99	8,099·66	2,609·39	....
Westonia	3308, etc.	Edna May (W.A.) Amalgamated G.Ms., N.L.	....	....	....	....	17,371·00	9,367·09	1,077·59	....	11,797·00	5,683·97	493·05	....	81,239·00	37,390·93	3,371·11
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	....	....	....	4,092·00	2,867·26	....
	4023	Greenfinch	....	....	....	....	264·00	175·22	....	....	25·00	41·89	....	....	462·00	424·02	....
	(4022)	Westonia Advance	....	....	....	....	49·50	6·52	....	....	....	....	....	....	49·50	6·52	....
		Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
		Sundry claims	....	....	....	....	....	....	....	....	16·00	·98	....	4·06	445,445·99	314,453·11	21·78
														74·47	3,353·41	2,487·34	....
	From Goldfields generally :—																
	Sundry Parcels treated at :																
	Battler Cyanide Plant	....	....	....	....	....	....	*3·53	....	....	....	....	....	....	....	*663·65	....
	Butcher Bird Cyanide Plant	....	....	....	....	....	....	*344·89	....	....	....	*59·37	....	....	4·50	*3,251·56	....
	Centenary Cyanide Plant	....	....	....	....	....	....	*35·43	....	....	....	....	....	....	....	*428·28	....
	Copperhead Cyanide Plant	....	....	....	....	....	....	*631·30	....	....	....	*583·06	....	....	....	*15,323·58	....
	Coronation G.M. Co's. Cyanide Plant	....	....	....	....	....	....	*17·34	....	....	....	....	....	....	....	*272·27	....
	Evelyn Molly Cyanide Plant.	....	....	....	....	....	....	*120·46	....	....	....	....	....	....	....	*455·70	....
	Holleton Cyanide Plant	....	....	....	....	....	....	*16·91	·35	....	....	*224·78	....	....	....	*518·08	47·46
	Howlett's Cyanide Plant	....	....	....	....	....	....	*809·74	....	....	....	*134·77	....	....	110·00	*12,934·78	....
	Invermay Cyanide Plant	....	....	....	....	....	....	*103·85	....	....	....	*56·25	....	....	....	*597·71	3·57
	Kurrajong Cyanide Plant	....	....	....	....	....	....	*302·35	....	....	....	*107·22	....	....	....	*409·57	....
	Pilot Cyanide Plant	....	....	....	....	....	....	*158·08	....	....	....	*3·58	....	....	....	*3,745·95	....
	Queen Ann Treatment Works	....	....	....	....	....	....	*71·12	....	....	....	*23·99	....	....	....	*146·99	....
	Radio Deeps Cyanide Plant	....	....	....	....	....	....	*4·74	....	....	....	....	....	....	....	*1,185·17	....
	Rainbow Cyanide Plant	....	....	....	....	....	....	*105·07	....	....	....	*80·96	....	....	....	*380·62	....
	Scots Grey's Cyanide Plant	....	....	....	....	....	....	....	....	....	....	....	....	....	....	*922·45	....
	Three Boys' Cyanide Plant	....	....	....	....	....	....	*949·26	....	....	7·00	*293·66	....	....	7·00	*2,236·25	....
	E. C. Wesley's Marvel Loch Cyanide Plant	....	....	....	....	....	....	....	....	....	....	....	....	....	....	*188·65	....
	L. C. Wesley's Hope's Hill Cyanide Plant	....	....	....	....	....	....	*75·62	....	....	....	*247·67	....	....	....	*954·43	....
	Various Works	....	....	....	....	....	....	....	....	....	....	....	....	....	156·78	55,265·29	36·54
	Reported by Banks and Gold Dealers	....	....	....	....	5·39	....	....	....	3·70	....	....	....	374·59	....	7·74	....
	Total	....	....	....	....	**132·56**	**171,208·17**	**55,470·44**	**1,091·93**	**205·67**	**110,197·68**	**34,316·53**	**564·07**	**4,989·07**	**3,505,233·81**	**1,610,285·22**	**37,690·42**

Dundas Goldfield.

Buldania	....	Voided leases	....	....	....	....	....	....	....	....	....	....	3·02	846·05	708·99	....
		Sundry claims	....	....	....	....	55·00	12·77	·12	....	....	....	36·53	1,281·02	837·20	·12
Dundas	(1642)	Albion	....	....	....	25·55	12·75	7·60	....	....	131·25	36·11	·22	25·55	144·00	43·71	·22
	(1550)	May Bell	....	....	....	....	9·00	2·96	·20	....	....	....	....	4·35	1,350·50	222·60	154·80
		Voided leases	....	....	....	....	....	....	....	....	....	....	....	....	4,608·98	2,279·07	....
		Sundry claims	....	....	....	24·03	341·25	178·22	6·84	....	55·50	85·79	5·81	414·61	1,710·25	948·08	12·68
Norseman	1596	Abbotshall	....	....	....	....	625·25	167·08	192·00	....	341·75	214·45	10·14	....	1,984·20	720·83	735·14
	1382, etc.	Blue Bird Gold Mines, N.L.	....	....	....	....	3,569·00	4,214·34	824·02	....	1,590·00	1,516·56	487·50	1,663·32	10,773·00	24,073·66	1,471·69
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	....	....	....	864·25	1,277·32	....
	1468	Bronzewing	....	....	....	33·89	340·00	389·69	14·66	....	43·25	89·20	....	33·89	523·25	646·49	19·67
	1617	Caesar	....	....	....	....	54·00	42·72	....	....	....	....	....	....	54·00	42·72	....
	1319, etc.	Central Norseman Gold Corporation, N.L.	....	....	....	....	121,212·70	53,913·28	36,620·41	....	89,085·00	39,994·06	25,448·52	....	537,726·20	200,105·05	211,055·63
	1386	(Valkyrie South Extended)	....	....	....	....	....	....	....	....	....	....	....	....	15·25	5·68	....
	1319, etc.	Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	....	....	....	19,487·58	14,657·87	2,305·45
	(1524, etc.)	Copeland Mines, N..L	....	....	....	....	6·45	*115·66	171·00	....	....	....	....	....	6·45	153·45	171·00
	(1524)	Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	....	....	....	3,062·50	1,081·65	411·56
	1452	Cumberland Central	....	....	....	....	6·50	5·13	....	....	....	....	....	....	265·25	72·77	·19
	1462	Cumberland Central West	....	....	....	....	....	....	....	....	....	....	....	....	118·00	36·75	....
	1619	Dunkerque	....	....	....	....	173·25	185·37	·86	....	29·75	32·83	2·18	....	203·00	218·20	3·04
	1637	Ellen Terry	....	....	....	....	25·00	73·43	....	....	124·25	185·07	15·83	....	149·25	258·50	15·83
	1421, (1534)	Empress Gold Mines, N.L.	....	....	....	....	567·50	516·08	54·61	....	....	....	....	....	567·50	516·08	54·61
	(1560, etc.)	Groundlark Gold Mines, N.L.	....	....	....	....	280·00	50·43	4·23	....	79·75	58·28	4·73	....	1,673·75	667·19	38·96
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	....	....	....	629·00	238·51	....
	(1627)	Ironstone	....	....	....	....	25·00	·94	....	....	....	....	....	....	25·00	·94	....
	1364	Lady Mary	....	....	....	....	....	....	....	....	....	....	....	....	99·00	15·45	....
	(1636)	Lady Verona	....	....	....	....	50·75	36·14	3·37	....	....	....	....	....	50·75	36·14	3·37
	(1583)	New Moon	....	....	....	....	....	1·89	·21	....	....	....	....	....	20·65	9·48	·45
	1490, etc.	Norseman Associated G.Ms., Ltd.	....	....	....	....	2,931·00	589·25	925·00	....	....	....	....	....	17,917·00	3,216·75	4,981·00
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	....	....	....	83·25	23·47	....
	1453, etc.	Norseman Developments, N.L.	....	....	....	....	4,914·00	753·00	1,169·00	....	....	....	....	....	38,102·00	7,532·50	12,586·00
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	....	....	....	40·50	9·68	....
	1315, etc.	Norseman Gold Mines, Ltd.	....	....	....	....	138,813·00	26,220·50	38,695·00	....	80,428·00	18,731·00	38,318·00	....	778,367·00	210,257·95	293,860·54
		Prior to transfer to present holders	....	....	....	....	....	....	....	....	....	....	....	....	2,656·75	669·38	....
	1588	O.K.	....	....	....	....	223·00	102·09	2·37	....	45·25	26·67	....	....	288·00	133·72	2·37

TABLE I.—*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 1941.				Total for 1942.				Total Production to 31st December, 1942.			
			Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens	Ore Treated.	Gold therefrom.	Silver.	Alluvial, Dollied and Specimens.	Ore Treated.	Gold therefrom.	Silver.
			Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.	Fine ozs.	Tons (2,240 lbs.).	Fine ozs.	Fine ozs.
	(1590)	O.K. East	....	....	·79	....	....	....	....	....	21·36	31·50	11·41	2·12
	1422	Onkaparinga	....	55·00	171·16	10·79	....	109·25	134·50	13·52	....	164·25	305·66	24·31
	1468, 1422	Bronzewing and Onkaparinga	....	....	....	....	....	....	....	....	....	843·00	1,396·98	3·62
		Prior to cancellation of Amalgamation	....	....	....	....	....	....	....	....	....	....	....	....
	1530	Second Try	....	17·00	14·81	·81	....	23·00	18·67	7·90	4·37	191·75	71·20	8·80
	(1613)	Stella May	....	14·00	7·08	·42	....	....	....	....	....	50·50	41·84	·42
	(1618)	Sun	....	....	....	....	....	115·50	66·37	6·68	....	115·50	66·37	6·68
	1624	Valhalla	....	135·00	88·89	3·85	....	47·25	50·82	2·12	....	182·25	139·71	5·97
	(1633)	Welcome	1·91	18·50	8·54	·19	....	7·25	3·17	....	1·91	25·75	11·71	·19
	(1612)	White Reef	....	10·00	19·04	2·22	....	....	....	....	....	102·75	58·50	2·48
		Voided leases	....	....	....	....	....	....	....	....	10,537·41	885,608·37	583,590·41	36,001·70
		Sundry claims	23·91	1,269·25	918·59	36·61	29·90	673·25	350·67	20·46	4,418·86	43,130·91	20,610·14	105·82
Peninsula	1616	Day Dawn	....	268·00	300·85	1·17	....	44·75	28·35	....	....	364·75	414·21	3·60
	1597	Peninsula North	....	90·75	30·12	·49	....	10·00	14·42	1·02	....	191·75	231·07	7·54
		Voided leases	....	....	....	....	....	....	....	....	24·29	8,817·14	5,373·87	....
		Sundry claims	....	....	....	....	....	23·00	33·06	·97	....	203·00	108·18	·97
	From Goldfield generally :—													
	Sundry parcels treated at :													
	State Battery, Norseman		....	....	*3,132·27	....	....	....	*562·07	....	....	405·39	*23,782·76	885·41
	Bullen's Treatment Works		....	....	*3·41	·14	....	....	....	....	....	....	*3·41	·14
	Davies' Cyanide Plant		....	....	*81·64	3·73	....	....	*57·98	....	....	....	*1,350·20	121·69
	Hill's Cyanide Plant		....	....	*61·00	16·29	....	....	....	....	....	....	*298·75	16·29
	Princess Royal Cyanide Plant		....	....	*235·14	250·98	....	....	*121·86	90·02	....	....	*1,817·77	1,498·05
	Various Works		....	....	....	....	....	....	....	....	54·52	483·14	*11,204·88	706·24
	Reported by Banks and Gold Dealers		1·34	....	7·19	·43	2·00	....	....	....	1,220·00	47·50	18·62	·43
		Totals	**110·63**	**276,111·90**	**92,659·09**	**79,012·02**	**31·90**	**173,007·00**	**62,411·96**	**64,435·62**	**18,463·99**	**2,366,652·33**	**1,122,634·48**	**567,286·79**

Phillips River Goldfield.

Hatter's Hill	....	Voided leases	....	....	....	....	....	....	....	....	4·38	1,499·55	1,182·75	....
		Sundry claims	....	192·00	120·07	....	....	31·50	91·51	24·84	96·60	5,208·60	2,688·32	26·09
Kundip	249, etc.	Beryl Gold Mines, Ltd.	....	....	*1,167·51	164·00	....	....	*299·00	....	....	2,365·00	*2,330·52	197·78
	262	Beryl West	....	50·00	10·90	....	....	40·00	8·00	....	....	90·00	18·90	....
	261	Gem Restored	....	68·00	10·29	....	....	....	....	....	....	68·00	10·29	....
	258	Harbour View	....	244·00	27·43	....	....	....	....	....	....	519·00	105·59	3·80
	247	Little Mary	....	465·00	35·70	....	....	....	....	....	....	10,584·50	1,050·51	....
		Voided leases	....	....	....	....	....	....	....	....	669·45	70,916·08	†57,021·98	3,807·23
		Sundry claims	....	381·00	79·69	....	....	264·50	57·64	1·66	163·11	6,404·18	†1,939·25	54·65
Mt. Desmond		Voided leases	....	....	....	....	....	....	....	....	1·40	9·00	†3,905·46	6,891·59
		Sundry claims	....	....	....	....	....	....	....	....	....	....	†32·81	51·01
Ravensthorpe	14PP	Floater Gold Mine	....	37·00	21·73	....	....	38·00	15·34	....	....	112·50	56·57	....
		Voided leases	....	....	....	....	....	....	....	....	141·80	24,611·05	†26,014·37	4,384·07
		Sundry claims	....	302·00	36·78	....	....	23·00	5·20	....	171·64	7,235·57	†3,189·93	41·12
West River		Voided leases	....	....	....	....	....	....	....	....	....	....	†10·34	31·06
		Sundry claims	....	....	....	....	....	....	....	....	....	....	†3·29	3·44
	From Goldfield generally :—													
	Sundry Parcels treated at :													
	Cordingup Cyanide Plant		....	....	*315·61	....	....	....	*224·83	....	....	....	*893·30	4·36
	Floater Cyanide Plant		....	....	....	....	....	....	*7·04	....	....	12·00	*236·15	....
	Daw and Toleman's Cyanide Plant		....	....	*30·48	....	....	....	....	....	....	....	*337·35	....
	Kundip Cyanide Plant		....	15·00	13·52	....	....	....	....	....	....	15·00	15·25	....
	Various Works		....	....	....	....	....	....	....	....	....	....	*1,925·45	493·66
	Reported by Banks and Gold Dealers		....	....	....	....	....	....	....	....	173·73	....	....	....
		Totals	....	**1,754·00**	**1,869·71**	**164·00**	....	**397·00**	**708·56**	**26·50**	**1,422·11**	**129,650·03**	**102,968·38**	**15,989·88**

Outside Proclaimed Goldfield.

Burracoppin	....	Voided leases	....	....	....	....	....	....	....	....	....	....	710·85	706·38	....
		Sundry claims	....	....	....	....	....	....	....	....	....	....	372·75	213·97	....
Donnybrook	....	Voided leases	....	....	....	....	....	....	....	....	....	23·24	1,613·30	816·23	....
		Sundry claims	1·58	....	....	....	....	....	....	....	....	86·30	119·50	15·71	15·18
Jimperding	45PP	Hillsdale	....	547·00	150·70	....	....	350·00	85·52	....	....	....	1,261·75	298·05	....
Roebourne	5PP	Shaw's Shaft	....	58·00	48·58	7·01	....	25·00	21·40	....	....	....	329·00	353·92	23·62
	68H and 70H	Corderoy's Mines, Limited	....	958·00	253·83	10·79	....	236·00	61·06	....	....	....	1,954·50	451·44	10·79
		Voided leases	....	....	....	....	....	....	....	....	....	270·95	19,646·11	21,751·98	1,234·54
		Sundry claims	1·69	376·00	180·36	2·58	....	31·00	17·63	....	....	135·36	1,074·35	845·13	99·11
		Reported by Banks and Gold Dealers	19·98	....	....	....	....	....	....	....	....	6,234·20	103·50	228·32	....
		From State Generally :—													
		Sundry Parcels treated at :													
		Fremantle Smelting Works	....	....	*78·40	....	....	....	....	....	....	....	....	*1,879·08	1,109·06
		Weerianna Cyanide Plant	....	....	*32·84	4·90	....	....	....	....	....	....	....	*102·39	4·90
		Various Works	....	....	2·38	....	....	....	....	....	....	....	27·00	*7,130·67	30,412·67
		Sundry specimens	....	....	....	....	....	....	....	....	....	61·09	....	....	....
		Voided leases and sundry claims	....	....	....	....	....	....	....	....	....	259·58	201·60	43·58	....
		Reported by Banks and Gold Dealers	74·11	....	....	....	133·91	....	28·48	....	....	1,717·05	....	240·14	59·99
		Total	**97·36**	**1,989·00**	**747·09**	**25·28**	**133·91**	**642·00**	**214·09**	....		**8,787·77**	**27,414·21**	**35,076·99**	**32,969·86**

† Includes Gold and Silver from smelted copper ore.

TABLE II.

PRODUCTION OF GOLD AND SILVER FROM ALL SOURCES, SHOWING IN FINE OUNCES THE OUTPUT, AS REPORTED TO THE MINES DEPARTMENT DURING THE YEAR 1942.

Goldfield.	District.	District.						Goldfield.					
		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	... ...	...	...	...	...	...	...	494·85	...	863·50	473·32	968·17	...
Pilbara	Marble Bar ...	52·30	15·38	17,117·10	15,824·12	15,891·80	...	129·53	31·93	20,053·35	16,739·81	16,901·27	...
	Nullagine ...	77·23	16·55	2,936·25	915·69	1,009·47	...						
Ashburton	... ...	...	...	...	...	...	...	42·53	...	74·50	35·21	77·74	...
Gascoyne	... ...	...	...	...	...	...	...	...	...	...	...	...	...
Peak Hill	... ...	...	...	...	...	...	...	39·10	...	778·75	312·80	351·90	...
East Murchison ...	Lawlers ...	4·32	...	31,215·75	10,308·90	10,313·22	17·12	11·21	236·28	702,661·25	106,674·39	106,921·88	778·20
	Wiluna ...	6·89	2·77	664,636·90	92,190·46	92,200·12	...						
	Black Range ...	...	233·51	6,808·60	4,175·03	4,408·54	761·08						
Murchison	Cue	138·51	33·01	412,608·30	58,756·83	58,928·35	17,352·64	242·01	231·46	479,246·63	85,973·43	86,446 90	17,500·11
	Meekatharra ...	63·22	138·36	11,388·50	5,631·95	5,833·53	1·42						
	Day Dawn ...	19·91	29·01	1,910·75	1,320·99	1,369·91	...						
	Mt. Magnet ...	20·37	31·08	53,339·08	20,263·66	20,315·11	146·05						
Yalgoo	... ...	...	...	...	...	...	...	8·56	8·02	5,306·50	3,581·79	3,598·37	2·78
Mt. Margaret ...	Mt. Morgans ...	63·18	60·22	5,255·50	4,943·60	5,067·00	...	106·37	208·10	132,543·20	48,749·62	49,064·09	2,452·80
	Mt. Malcolm ...	35·26	18·84	101,564·50	32,801·27	32,855·37	2,243·85						
	Mt. Margaret...	7·93	129·04	25,723·20	11,004·75	11,141·72	208·95						
North Coolgardie ...	Menzies ...	19·03	88·02	15,504·00	10,172·21	10,279·26	1,307·56	21·97	124·75	59,010·75	18,823·64	18,970·36	1,352·56
	Ularring ...	1·72	33·83	2,076·50	2,345·52	2,381·07	...						
	Niagara ...	...	...	1,417·50	630·63	630·63	...						
	Yerilla ...	1·22	2·90	40,012·75	5,675·28	5,679·40	45·00						
Broad Arrow ...	... ...	...	...	...	...	...	...	30·04	105·61	28,224·50	9,343·88	9,479·53	...
N.E. Coolgardie ...	Kanowna ...	34·94	25·63	1,648·25	664·48	725·05	...	45·90	110·50	1,679·75	690·37	846·77	...
	Kurnalpi ...	10·96	84·87	31·50	25·89	121·72	...						
East Coolgardie ...	East Coolgardie	108·23	704·49	1,406,640·90	424,693·67	425,506·39	108,092·55	123·96	707·60	1,407,067·90	424,782·34	425,613·90	108,092·55
	Bulong ...	15·73	3·11	427·00	88·67	107·51	...						
Coolgardie	Coolgardie ...	95·24	64·68	102,740·20	27,487·46	27,647·38	884·34	149·58	108·41	103,949·70	28,250·50	28,508·49	884·83
	Kunanalling ...	54·34	43·73	1,209·50	763·04	861·11	·49						
Yilgarn	... ...	...	...	...	...	...	...	4·84	200·83	110,197·68	34,316·53	34,522·20	564·07
Dundas	... ...	...	...	...	...	...	...	10·55	21·35	173,007·00	62,411·96	62,443·86	64,435·62
Phillips River ...	... ...	...	...	...	...	...	...	...	...	397·00	708·56	708·56	26·50
Outside Proclaimed Goldfields ...		...	...	...	...	...	...	133·91	...	642·00	214·09	348·00	...
		...	...	...	...	...	...	**1,594·91**	**2,094·84**	**3,225,703·96**	**842,082·24**	**845,771·99**	**196,090·02**

TABLE III.

RETURN SHOWING TOTAL PRODUCTION REPORTED TO THE MINES DEPARTMENT, AND RESPECTIVE DISTRICTS AND GOLDFIELDS FROM WHENCE DERIVED, TO 31ST DECEMBER, 1942.

Goldfield.	District.	DISTRICT.						GOLDFIELD.					
		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	... ...	...	...	...	...	...	...	7,561·95	142·43	21,998·15	16,774·10	24,478·48	93·00
Pilbara	Marble Bar ...	14,685·14	4,292·50	231,053·28	246,357·51	265,335·15	755·05	24,151·91	4,895·44	301,152·72	334,883·15	363,930·50	783·72
	Nullagine ...	9,466·77	602·94	70,099·44	88,525·64	98,595·35	28·67						
Ashburton	... ...	...	...	...	...	...	...	9,203·88	406·39	5,649·25	2,371·19	11,981·46	8,183·68
Gascoyne	... ...	...	...	...	...	...	...	677·52	41·57	387·00	517·29	1,236·38	...
Peak Hill	... ...	...	...	...	...	...	...	3,352·36	4,972·34	608,650·18	290,347·42	298,672·12	2,311·33
East Murchison ...	Lawlers ...	6,855·69	2,277·48	1,871,804·08	785,073·62	794,206·79	26,279·64	8,679·07	21,240·25	10,887,968·75	3,368,442·01	3,398,361·33	51,630·99
	Wiluna ...	206·01	1,235·82	7,299,023·70	1,642,920·44	1,644,362·27	2,889·42						
	Black Range ...	1,617·37	17,726·95	1,717,140·97	940,447·95	959,792·27	22,461·93						
Murchison	Cue	3,973·59	7,437·15	3,341,897·64	905,889·76	917,300·50	117,828·96	23,495·72	56,167·48	8,845,749·76	4,107,782·36	4,187,445·56	294,079·67
	Meekatharra ...	14,146·87	17,425·79	2,219,119·74	1,259,077·20	1,290,649·86	5,042·27						
	Day Dawn ...	2,936·03	11,045·83	2,012,080·03	1,326,754·25	1,340,736·11	169,210·44						
	Mt. Magnet ...	2,439·23	20,258·71	1,272,652·35	616,061·15	638,759·09	1,998·00						
Yalgoo	... ...	...	...	...	...	...	...	1,733·62	2,917·05	424,578·35	253,339·90	257,990·57	1,409·82
Mt. Margaret ...	Mt. Morgans ...	3,234·87	9,214·77	1,193,416·36	689,838·53	702,288·17	5,781·64	10,870·14	32,329·36	9,212,686·38	4,325,699·23	4,368,898·73	210,108·13
	Mt. Malcolm ...	3,717·21	13,961·92	5,556,081·38	2,502,403·93	2,520,083·06	142,733·31						
	Mt. Margaret...	3,918·06	9,152·67	2,463,188·64	1,133,456·77	1,146,527·50	61,593·18						
North Coolgardie ...	Menzies ...	1,603·90	6,127·53	1,429,597·44	1,158,267·92	1,165,999·35	29,563·95	4,726·39	18,137·04	2,967,379·84	2,154,259·50	2,177,122·93	42,101·45
	Ularring ...	107·04	6,455·26	367,081·35	341,758·72	348,321·02	6,098·46						
	Niagara ...	1,704·65	1,811·27	924,112·02	512,728·57	516,244·49	5,603·42						
	Yerilla ...	1,310·80	3,742·98	246,589·03	141,504·29	146,558·07	835·62						
Broad Arrow ...	... ...	...	...	...	...	...	...	21,837·10	25,649·77	1,248,400·85	682,284·22	729,771·09	5,262·41
N.E. Coolgardie ...	Kanowna ...	106,319·03	12,554·15	995,308·21	620,822·80	739,695·98	2,583·91	119,138·53	20,615·14	1,008,429·78	639,175·38	778,929·05	2,595·13
	Kurnalpi ...	12,819·50	8,060·99	13,121·57	18,352·58	39,233·07	11·22						
East Coolgardie ...	East Coolgardie	33,103·77	39,185·58	47,501,066·58	25,980,470·86	26,052,760·21	3,202,537·64	60,462·67	55,127·98	47,678,827·88	26,110,746·05	26,226,336·70	3,202,550·56
	Bulong ...	27,358·90	15,942·40	177,761·30	130,275·19	173,576·49	12·92						
Coolgardie	Coolgardie ...	16,557·12	15,524·00	2,194,133·01	1,206,180·93	1,238,262·05	5,138·10	18,024·78	21,102·28	2,543,750·41	1,451,992·21	1,491,119·27	5,889·24
	Kunanalling ...	1,467·66	5,578·28	349,617·40	245,811·28	252,857·22	751·14						
Yilgarn	... ...	...	...	...	...	...	...	2,178·88	2,810·19	3,505,233·81	1,610,285·22	1,615,274·29	37,690·42
Dundas	... ...	...	...	...	...	...	...	2,232·23	16,231·76	2,366,652·33	1,122,634·48	1,141,098·47	567,286·79
Phillips River ...	... ...	...	...	...	...	...	...	604·68	817·43	129,650·03	102,968·38	104,390·49	15,989·86
Outside Proclaimed Goldfields ...		...	...	...	...	...	...	7,516·67	1,271·10	27,414·21	35,076·99	43,864·76	32,969·86
		...	...	...	...	...	...	**326,448·10**	**284,875·00**	**91,784,559·68**	**46,609,579·08**	**47,220,902·18**	**4,480,936·06**

* By-product from treatment of auriferous ore, with exception of yield from Ashburton G.F. and outside Proclaimed Goldfield.

TABLE IV.

TOTAL OUTPUT OF GOLD (BULLION AND CONCENTRATES ENTERED FOR EXPORT AND GOLD RECEIVED AT THE ROYAL MINT, PERTH), FROM 1ST JANUARY, 1886, TO 31ST DECEMBER, 1942; SHOWING IN FINE OUNCES THE QUANTITY CREDITED TO THE RESPECTIVE GOLDFIELDS.

Year.	Export.	Mint.	Total.	Export.	Mint.	Total.
		KIMBERLEY.			PILBARA.	
	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.
Prior to 1939	22,422·06	10,097·76	32,519·82	147,308·65	223,668·55	370,977·20
1939	....	823·84	823·84	47·36	17,143·60	17,190·96
1940	....	767·82	767·82	....	19,164·69	19,164·69
1941	....	806·73	806·73	128·64	20,330·75	20,459·39
1942	....	605·88	605·88	127·94	15,747·25	15,875·19
Total	22,422·06	13,102·03	35,524·09	147,612·59	296,054·84	443,667·43
		(*a*) WEST PILBARA.			ASHBURTON.	
Prior to 1939	4,351·11	26,760·61	31,111·72	4,104·96	3,470·51	7,575·47
1939	....	....	....	....	924·08	924·08
1940	....	....	....	....	716·86	716·86
1941	....	....	....	....	551·08	551·08
1942	....	....	....	....	95·42	95·42
Total	4,351·11	26,760·61	31,111·72	4,104·96	5,758·95	9,863·91
		(*b*) GASCOYNE.			(*c*) PEAK HILL.	
Prior to 1939	304·55	998·79	1,303·34	41,102·62	197,504·57	238,607·19
1939	....	38·96	38·96	....	1,638·92	1,638·92
1940	....	23·50	23·50	·14	1,483·74	1,483·88
1941	....	2·64	2·64	....	1,332·11	1,332·11
1942	....	....	....	....	253·82	253·82
Total	304·55	1,063·89	1,368·44	41,102·76	202,213·16	243,315·92
		EAST MURCHISON.			MURCHISON.	
Prior to 1939	236,561·74	2,323,739·07	2,560,300·81	1,546,625·18	2,453,205·32	3,999,830·50
1939	4,566·11	141,301·92	145,868·03	23,507·54	115,162·86	138,670·40
1940	4,249·40	135,235·82	139,485·22	834·90	133,094·08	133,929·98
1941	2,864·92	108,328·38	111,193·30	1,324·84	103,960·74	105,285·58
1942	3,850·32	82,262·14	86,112·46	853·58	85,325·67	86,179·25
Total	252,092·49	2,790,867·33	3,042,959·82	1,573,146·04	2,890,748·67	4,463·894·71
		(*d*) YALGOO.			(*e*) MT. MARGARET.	
Prior to 1939	12,602·95	166,453·40	179,056·35	651,664·86	3,300,315·26	3,951,980·12
1939	903·00	7,827·79	8,730·79	13,634·40	94,803·91	108,438·31
1940	....	5,749·11	5,749·11	11,920·81	71,974·46	83,895·27
1941	37·98	4,864·43	4,902·41	12,357·47	52,765·11	65,122·58
1942	6·80	2,981·14	2,987·94	1,867·53	41,497·11	43,364·64
Total	13,550·73	187,875·87	201,426·60	691,445·07	3,561,355·85	4,252,800·92
		(*f*) NORTH COOLGARDIE.			(*g*) BROAD ARROW.	
Prior to 1939	262,651·33	1,874,298·24	2,136,949·57	122,195·89	332,538·74	454,734·63
1939	124·33	23,887·79	24,012·12	33·96	20,379·58	20,413·54
1940	211·62	23,331·75	23,543·37	71·47	22,171·68	22,243·15
1941	74·33	24,708·48	24,782·81	22·91	16,164·60	16,187·51
1942	12·82	19,339·58	19,352·40	69·14	8,950·04	9,019·18
Total	263,074·43	1,965,565·84	2,228,640·27	122,393·37	400,204·64	522,598·01
		(*f*) NORTH-EAST COOLGARDIE.			(*f*) EAST COOLGARDIE.	
Prior to 1939	235,788·33	452,131·55	687,919·88	6,875,681·85	18,619,906·10	25,495,587·95
1939	8·00	1,184·43	1,192·43	36,968·29	548,187·12	585,155·41
1940	10·29	746·57	756·86	53,037·94	538,917·99	591,955·93
1941	5·38	1,102·87	1,108·25	47,377·28	524,307·42	571,684·70
1942	19·42	494·60	514·02	7,246·74	443,509·94	450,756·68
Total	235,831·42	455,660·02	691,491·44	7,020,312·10	20,674,828·57	27,695,140·67
		(*h*) COOLGARDIE.			YILGARN.	
Prior to 1939	662,187·81	984,718·00	1,646,905·81	216,485·67	1,248,449·53	1,464,935·20
1939	112·04	25,963·53	26,075·57	144·70	61,728·24	61,872·94
1940	185·83	40,136·71	40,322·54	299·17	63,192·45	63,491·62
1941	87·60	45,060·80	45,148·40	495·43	54,327·48	54,822·91
1942	58·32	32,199·57	32,257·89	929·82	30,765·37	31,695·19
Total	662,631·60	1,128,078·61	1,790,710·21	218,354·79	1,458,463·07	1,676,817·86
		(*i*) DUNDAS.			(*j*) PHILLIPS RIVER.	
Prior to 1939	149,935·49	817,945·88	967,881·37	40,195·24	55,338·89	95,534·13
1939	18,137·02	51,071·06	69,208·08	218·66	2,309·83	2,528·49
1940	304·54	60,263·49	60,568·03	155·12	1,261·98	1,417·10
1941	437·48	80,771·37	81,208·85	2·14	2,453·97	2,456·11
1942	74·13	66,630·78	66,704·91	23·50	964·46	987·96
Total	168,888·66	1,076,682·58	1,245,571·24	40,594·66	62,329·13	102,923·79
		¶ DONNYBROOK.			OUTSIDE PROCLAIMED GOLDFIELDS.	
Prior to 1939	282·21	557·53	839·74	18,634·65	30,153·57	48,788·22
1939	....	....	....	218·66	2,309·83	2,528·49
1940	....	....	....	155·12	1,261·98	1,417·10
1941	....	....	....	709·54	1,553·00	2,262·54
1942	....	....	....	536·42	881·20	1,417·62
Total	282·21	557·53	839·74	20,614·32	35,275·45	55,889·77

(*a*) Prior to 1st May, 1898, included with Pilbara, and abolished 12th July, 1929. (*b*) Prior to March, 1899, included with Ashburton. (*c*) From 1st August, 1897. (*d*) Prior to 1st April, 1897, included with Murchison. (*e*) From 1st August, 1897. (*f*) Prior to 1st May, 1896, included with Coolgardie. (*g*) From 1st September, 1897. (*h*) Declared 5th April, 1894, to which date included with Yilgarn. (*i*) Prior to 1893, included with Yilgarn. (*j*) Prior to 1902, included in Outside Proclaimed Goldfields. ¶ Abolished 4th March, 1908.

TABLE V.

TOTAL OUTPUT OF GOLD BULLION, CONCENTRATES, ETC., ENTERED FOR EXPORT AND RECEIVED AT THE PERTH BRANCH OF THE ROYAL MINT.

Year.	Export.	Mint.	Total.	Estimated Value.
	fine ozs.	fine ozs.	fine ozs.	£A.
1886	270·17	...	270·17	1,147
1887	4,359·37	...	4,359·37	18,518
1888	3,124·82	...	3,124·82	13,273
1889	13,859·52	...	13,859·52	58,871
1890	20,402·42	...	20,402·42	86,664
1891	27,116·14	...	27,116·14	115,182
1892	53,271·65	...	53,271·65	226,284
1893	99,202·50	...	99,202·50	421,385
1894	185,298·73	...	185,298·73	787,099
1895	207,110·20	...	207,110·20	879,749
1896	251,618·69	...	251,618·69	1,068,808
1897	603,846·44	...	603,846·44	2,564,977
1898	939,489·49	...	939,489·49	3,990,697
1899	1,283,360·25	187,244·41	1,470,604·66	6,246,732
1900	894,387·27	519,923·59	1,414,310·86	6,007,610
1901	923,686·96	779,729·56	1,703,416·52	7,235,654
1902	707,039·75	1,163,997·60	1,871,037·35	7,947,661
1903	833,685·78	1,231,115·62	2,064,801·40	8,770,719
1904	810,616·04	1,172,614·03	1,983,230·07	8,424,226
1905	655,089·88	1,300,226·00	1,955,315·88	8,305,654
1906	562,250·59	1,232,296·01	1,794,546·60	7,622,749
1907	431,803·14	1,265,750·45	1,697,553·59	7,210,750
1908	356,353·96	1,291,557·17	1,647,911·13	6,999,881
1909	386,370·58	1,208,898·83	1,595,269·41	6,776,274
1910	233,970·34	1,236,661·68	1,470,632·02	6,246,848
1911	160,422·28	1,210,445·24	1,370,867·52	5,823,075
1912	83,577·12	1,199,080·87	1,282,657·99	5,448,385
1913	86,255·13	1,227,788·15	1,314,043·28	5,581,701
1914	51,454·65	1,181,522·17	1,232,976·82	5,237,352
1915	17,340·47	1,192,771·23	1,210,111·70	5,140,228
1916	26,742·17	1,034,655·87	1,061,398·04	4,508,532
1917	9,022·49	961,294·67	970,317·16	4,121,646
1918	15,644·12	860,867·03	876,511·15	3,723,183
1919	6,445·89	727,619·90	734,065·79	3,618,509
1920	5,261·13	612,581·00	617,842·13	3,598,931
1921	7,170·74	546,559·92	553,730·66	2,942,526
1922	5,320·16	532,926·12	538,246·28	2,525,812
1923	5,933·82	498,577·59	504,511·41	2,232,186
1924	2,585·20	482,449·78	485,034·98	2,255,927
1925	3,910·59	437,341·56	441,252·15	1,874,320
1926	3,188·22	434,154·98	437,343·20	1,857,715
1927	3,359·10	404,993·41	408,352·51	1,734,572
1928	3,339·30	390,069·19	393,408·49	1,671,093
1929	3,037·12	374,138·96	377,176·08	1,602,142
1930	1,753·09	415,765·00	417,518·09	1,864,442
1931	1,726·66	508,845·36	510,572·02	2,998,137
1932	3,887·07	601,674·33	605,561·40	4,403,642
1933	2,446·97	634,760·40	637,207·37	4,886,254
1934	3,520·40	647,817·95	651,338·35	5,558,873
1935	9,868·71	639,180·38	649,049·09	5,702,149
1936	55,024·58	791,183·21	846,207·79	7,373,539
1937	71,646·91	928,999·84	1,000,646·75	8,743,755
1938	113,620·06	1,054,171·13	1,167,791·19	10,363,023
1939	98,739·88	1,115,497·76	1,214,237·64	11,842,964
1940	71,680·47	1,119,801·08	1,191,481·55	12,696,503
1941	65,925·94	1,043,391·96	1,109,317·90	11,851,445
1942	15,676·48	832,503·97	848,180·45	8,865,495
Total	11,503,111·60	37,233,444·96	48,736,556·56	260,675,468

	1941. £	1942. £
Estimated total par value of above production	203,416,851	207,019,690
Premiums received on sales of gold during 1920–1924 and 1930–1942 (approximate)	48,393,122	53,655,778
Estimated Total	£A251,809,973	£A260,675,468
Gross estimated value of gold won (including £161,448, bonus paid under the Commonwealth Bounty Act, 1930)	£A251,971,421	£A260,836,916

TABLE VI.—MINERALS OTHER THAN GOLD.

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 1942, AND PREVIOUS YEARS.

Period.	ANTIMONY.								FELSPAR.					
	East Murchison Goldfield.		Pilbara Goldfield.		State generally.		Total.		Coolgardie Goldfield.		State generally.		Total.	
	Tons.*	Value.*	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		£		£		£		£		£		£		£
Prior to 1938	562	9,196	3	39	21	491	586	9,726	10,997	21,891	....	....	10,997	21,892
1938	339	3,859	....	....	....	....	339	3,859	2,873	5,746	....	....	2,873	5,746
1939	364	3,234	....	....	....	....	364	3,234	†3,792	†7,584	....	....	†3,792	†7,584
1940	264	10,180	....	....	....	....	264	10,180	‡3,505	‡7,010	....	....	‡3,505	‡7,010
1941	308	12,484	1	55	....	....	309	12,539	3,990	11,970	117	220	4,107	12,190
1942	†2,370	60,068	†13	169	....	....	†2.383	60,237	3,241	9,712	11	22	3,252	9,734
Totals, 1941	1,837	38,953	4	94	21	491	1,862	39,538	25,157	54,201	117	220	25,274	54,422
1942	**4,207**	**99,021**	**17**	**263**	**21**	**491**	**4,245**	**99,775**	**28,398**	**63,913**	**128**	**242**	**28,526**	**64,156**

* By-product from Moonlight Wiluna G.Ms. † Concentrates.
Note:—Metallic content only shown to 194.1

† Includes 250 tons valued at £500 from State generally.
‡ Includes 48 tons valued at £96 from State generally.

Period.	ASBESTOS.								GYPSUM.						GLAUCONITE.	
	Ashburton Goldfield.		Pilbara Goldfield.		State generally.		Total.		Yilgarn Goldfield.		State generally.		Total.		State generally.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		£		£		£		£		£		£		£		£
Prior to 1938	10	959	1,214	55,583	1,151	26,588	2,375	83,130	7,664	7,664	55,094	73,882	62,758	81,546	1,467	7,335
1938	....	....	76	3,321	54	1,585	130	4,906	2,296	2,296	11,139	10,113	13,429	12,409	183	915
1939	....	....	....	....	*32	*1,118	32	1,118	....	....	14,340	13,492	14,340	13,492	142	710
1940	....	....	355	14,200	9	334	364	14,534	1,359	850	11,661	13,232	13,020	14,082	200	†4,823
1941	....	....	5	175	56	2,793	61	2,968	132	159	9,381	10,086	9,513	10,245	156	3,888
1942	....	....	....	....	**119**	**5,788**	**119**	**5,788**	....	....	**2,878**	**3,136**	**2,878**	**3,136**	**260**	**6,500**
Totals, 1941	10	959	1,650	73,279	1,302	32,418	2,962	106,656	11,451	10,969	101,615	120,805	113,060	131,774	2,148	17,671
1942	**10**	**959**	**1,650**	**73,279**	**1,421**	**38,206**	**3,081**	**112,444**	**11,451**	**10,969**	**104,493**	**123,941**	**115,938**	**134,910**	**2,408**	**24,171**

* Includes 5 tons valued at £20 from East Coolgardie. † Reviewed F.O.B. cost figure accepted.

Period.	*ARSENIC.		TIN.													
	E. Murchison Goldfield (Wiluna District).		Pilbara Goldfield (Marble Bar District).				Greenbushes Mineral Field.				Total.					
			Quantity.			Value.	Quantity.			Value.	Quantity.			Value.		
	Tons.	Value.	Lode.	Stream.	Total.		Lode.	Stream.	Total.		Lode.	Stream.	Total.			
		£	tons.	tons.	tons.	£	tons.	tons.	tons.	£	tons.	tons.	tons.	£		
Prior to 1938	14,184	255,306	372·62	5,519·12	5,891·74	544,899	378·05	10,821·07	11,199·12	978,305	751·27	16,345·06	†17,096·33	†1,523,625		
1938	3,999	71,982	....	·60	·60	75	41·25	10·65	51·90	6,253	41·25	11·25	52·50	6,328		
1939	1,416	25,488	....	1·15	1·15	202	10·78	....	10·78	1,447	10·78	1·15	11·93	1,649		
1940	3,332	59,977	....	2·95	2·95	547	32·90	·65	33·55	4,627	32·90	3·60	36·50	5,174		
1941	3,378	70,938	....	5·86	5·86	1,105	4·13	·95	5·08	769	4·13	6·81	10·94	1,874		
1942	**2,727**	**57,267**	....	**10·70**	**10·70**	**2,265**	**9·26**	**3·45**	**12·71**	**2,369**	**9·26**	**14·15**	**23·41**	**4,634**		
Totals, 1941	26,309	483,691	372·62	5,529·68	5,902·30	546,828	467·11	10,833·32	11,300·43	991,401	840·33	16,367·87	17,208·20	1,538,650		
1942	**29,036**	**540,958**	**372·62**	**5,540·38**	**5,913·00**	**549,093**	**476·37**	**10,836·77**	**11,313·14**	**993,770**	**849·59**	**16,382·02**	**17,231·61**	**1,543,284**		

* By-product from Wiluna G.Ms'. Ltd. † Includes 4·72 tons valued at £360; 15 tons valued at £15; and ·60 tons valued at £46, the product from Cue, Coolgardie, and Yilgarn Goldfields respectively.

Period.	COAL.		COPPER ORE.													
	Collie Coalfield.		West Kimberley Goldfield.		Pilbara Goldfield.				West Pilbara Goldfield.		Ashburton Goldfield.		Peak Hill Goldfield.		E. Murchison Goldfields (Lawlers District).	
					Marble Bar District.		Nullagine District.									
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		£		£		£		£		£		£		£		£
Prior to 1938	*13,272,500	8,767,652	109	1,709	33	386	14	480	82,745	748,482	351	6,408	*1,014	32,212	238	4,364
1938	604,792	375,082	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1939	557,535	362,811	....	....	....	....	....	....	....	....	1	23	....	....	....	....
1940	539,427	364,500	....	....	....	....	....	....	....	....	....	....	15	152	....	....
1941	556,574	389,278	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1942	**581,176**	**461,495**	....	....	....	....	....	....	....	....	....	....	**12**	**268**	**10**	**152**
Totals, 1941	*15,530,828	10,259,323	109	1,709	33	386	14	480	82,745	748,482	352	6,431	1,029	32,364	238	4,364
1942	**16,112,004**	**10,720,818**	**109**	**1,709**	**33**	**386**	**14**	**480**	**82,745**	**748,482**	**352**	**6,431**	**1,041**	**32,632**	**248**	**4,516**

* Adjusted since previous report.

TABLE VI.—*Minerals other than Gold*—continued.

Period.	COPPER ORE—*continued.*															
	Murchison Goldfield.		Yalgoo Goldfield.		Northampton Mineral Field.		Yandanooka Mineral Field.		Mt. Margaret Goldfield.		N. Coolgardie Goldfield (Menzies District).		E. Coolgardie Goldfield (E. Coolgardie District).		Phillips River Goldfield.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		£		£		£		£		£		£		£		£
Prior to 1938	1,024	11,236	39	413	24,019	119,451	172	1,889	47,861	230,846	6	51	51	330	95,727	588,115
1938	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	85
1939	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1940	....	....	....	....	7	46	....	....	....	....	....	....	....	....	14	159
1941	....	....	....	....	....	....	....	....	....	....	....	....	....	†49	6	105
1942	....	....	....	....	....	....	....	....	....	....	....	....	....	....	**9**	**241**
Totals, 1941	1,024	11,236	39	413	24,026	119,497	172	1,889	47,861	230,846	6	51	51	379	95,749	588,464
1942	**1,024**	**11,236**	**39**	**413**	**24,026**	**119,497**	**172**	**1,889**	**47,861**	**230,846**	**6**	**51**	**51**	**379**	**95,758**	**588,705**

† Metallic Content Value. * Adjusted since previous Report.

Period.	COPPER ORE—*continued.*						BISMUTH ORE.		CLAYS.						GADOLINITE.	
	Yilgarn Goldfield.		State Generally.		Total.		State Generally.		Collie Mineral Field.		State Generally.		Total.		Pilbara Goldfield. (Marble Bar District).	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons	Value.	Tons	Value.	Tons.	Value.	Tons.	Value.
		£		£		£		£		£		£		£		£
Prior to 1938	....	....	19	249	253,423	1,745,621	....	....	1,051	738	....	....	1,051	738	1	112
1938	....	....	3	161	5	246	....	....	....	....	....	....	....	....	....	....
1939	....	....	....	....	1	23	*·45	138	....	....	830	522	830	522	....	....
1940	....	....	....	....	36	357	1·90	891	....	....	3,070	1,990	3,070	1,990	....	....
1941	....	....	....	....	6	154	....	....	....	....	1,400	894	1,400	894	....	....
1942	**16**	**77**	....	....	**47**	**738**	....	....	**798**	**449**	....	....	**798**	**449**	....	....
Totals, 1941....	....	....	22	410	253,471	1,747,401	2·35	1,029	1,051	738	5,300	3,406	6,351	4,144	1	112
1942....	**16**	**77**	**22**	**410**	**253,518**	**1,748,139**	**2·35**	**1,029**	**1,849**	**1,187**	**5,300**	**3,406**	**7,149**	**4,593**	**1**	**112**

* Adjusted from previous Report.

Period.	‡ MAGNESITE		MAGNESITE.				MANGANESE.		GLASS SAND.		GRAPHITE.		PHOSPHATIC GUANO.	
	E. Coolgardie Goldfield (Bulong District).		Coolgardie. Goldfield.		Total.		Peak Hill Goldfield.		State generally.		State generally.		State generally.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		£		£		£		£		£		£		£
Prior to 1938	825	1,053	....	....	825	1,053	77	436	....	....	....	....	....	....
1938	....	....	10	12	10	12	....	....	....	....	....	....	....	....
1939	....	....	....	....	....	....	....	....	16	18	....	....	....	....
1940	....	....	257	230	257	230	....	....	14	15	1·10	12	38	265
1941	100	87	....	....	100	87	....	....	22	25	....	....	21	41
1942	....	....	25	100	25	100	....	....	**111**	**141**	**6·00**	**30**	....	....
Totals, 1941	925	1,140	267	242	1,117	1,382	77	436	52	58	1·10	12	59	306
1942	**925**	**1,140**	**292**	**342**	**1,217**	**1,482**	**77**	**436**	**163**	**199**	**7·10**	**42**	**59**	**306**

Period.	TANTALITE.												BERYL.	
	Pilbara Goldfield (Marble Bar District).				Greenbushes Mineral Field.				Total.				State generally.	
	Quantity.			Value.	Quantity.			Value.	Quantity.			Value.		
	Lode.	Stream.	Total.		Lode.	Stream.	Total.		Lode.	Stream.	Total.		Quantity.	Value.
	tons.	tons.	tons.	£	tons.	tons.	tons.	£	tons.	tons.	tons.	£	tons.	£
Prior to 1938	52·50	160·67	213·17	68,854	....	3·94	3·94	2,009	62·50	164·61	217·11	70,863	....	....
1938	19·71	....	19·71	27,557	....	....	....	....	19·71	....	19·71	27,557	....	....
1939	8·28	....	8·28	12,073	....	....	....	....	8·28	....	8·28	12,073	7	60
1940	3·82	....	3·82	5,471	....	....	....	....	*6·32	....	*6·32	7,811	2	16
1941	....	....	....	....	....	....	....	....	....	....	....	....	1	7
1942	·68	....	·68	314	....	·17	·17	157	·68	·17	·85	471	....	....
Totals, 1941	84·31	160·67	244·98	113,955	....	3·94	3·94	2,009	86·81	164·61	251·42	118,304	10	83
1942	**84·99**	**160·67**	**245·66**	**114,269**	....	**4·11**	**4·11**	**2,166**	**87·49**	**164·78**	**252·27**	**118,775**	**10**	**83**

* Includes 2·50 tons valued at £2,340 from Coolgardie.

TABLE VI.—*Minerals other than Gold*—continued.

Period.	Lead Ore.						Ironstone.							
	Northampton Mineral Field.		State generally.		Total.		West Pilbara Goldfield.		E. Coolgardie Goldfield (E. Coolgardie District).		State generally.		Total.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		£		£		£		£		£		£		£
Prior to 1938	416,365	1,279,617	107	1,529	416,472	1,281,146	100	300	450	247	57,280	36,148	57,830	36,695
1938	350	590	....	....	350	590	....	....	....	....	....	....	....	....
1939	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1940	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1941	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1942	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Totals, 1941	416,715	1,280,207	107	1,529	416,822	1,281,736	100	300	450	247	57,280	36,148	57,830	36,695
1942	**416,715**	**1,280,207**	**107**	**1,529**	**416,822**	**1,281,736**	**100**	**300**	**450**	**247**	**57,280**	**36,148**	**57,830**	**36,695**

Period.	Limestone.								Silver Lead Ore.					
	Murchison Goldfield (Cue District).		Yilgarn Goldfield.		State generally.		Total.		Pilbara Goldfield (Marble Bar District).		Ashburton Goldfield.		Total.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		£		£		£		£		£		£		£
Prior to 1938	298	772	2,548	1,607	90,859	15,911	93,705	18,290	195	3,658	2,974	35,796	3,169	39,454
1938	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1939	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1940	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1941	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1942	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Total, 1941	298	772	2,548	1,607	90,859	15,911	93,705	18,290	195	3,658	2,974	35,796	3,169	39,454
1942	**298**	**772**	**2,548**	**1,607**	**90,859**	**15,911**	**93,705**	**18,290**	**195**	**3,658**	**2,974**	**35,796**	**3,169**	**39,454**

Period.	Tungsten Ores.																	
	Wolfram.								Scheelite.									
	Broad Arrow Goldfield.		Yalgoo Goldfield.		State generally.		Total.		Broad Arrow Goldfield.		Coolgardie Goldfield (Coolgardie District).		Dundas Goldfield.		N. Coolgardie Goldfield (Menzies District).		Total.	
	Units.	Value.	Units.	Value.	Units.	Value.	Units.	Value.	Units.	Value.	Units.	Value.	Units.	Value.	Units.	Value.	Units.	Value.
		£		£		£		£		£		£		£		£		£
Prior to 1938	....	....	....	....	521	1,295	521	1,295	*70	175	*62	155	*4	10	*377	942	*513	1,282
1938	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1939	....	....	....	....	....	....	....	....	....	....	....	....	....	....	*11	28	11	28
1940	....	....	....	....	70	211	70	211	....	....	*784	1,960	....	....	....	....	*784	1,960
1941	....	....	....	....	....	....	....	....	....	....	34	101	....	....	....	....	34	101
1942	**16**	**88**	**5**	**28**	....	....	**21**	**116**	....	....	**58**	**321**	....	....	**10**	**36**	**68**	**357**
Total, 1941	....	....	....	....	591	1,506	591	1,506	70	175	880	2,216	4	10	388	970	1,342	3,371
1942	**16**	**88**	**5**	**28**	**591**	**1,506**	**612**	**1,622**	**70**	**175**	**938**	**2,537**	**4**	**10**	**398**	**1,006**	**1,410**	**3,728**

* Approximate.

Period.	Mica.		Vermiculite.						Diamonds.		Emeralds.		Bentonite.		Emery.	
	State Generally.		E. Coolgardie Goldfield (Bulong District).		State Generally.		Total.		Pilbara Goldfield (Nullagine District).		Murchison Goldfield (Cue District).		State Generally.		State Generally.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	lbs.	£	Tons.	£	Tons.	£	Tons.	£	Carats.	£	Carats (Cut and Rough).	£	Tons.	£	Tons.	
Prior to 1938	....	....	....	....	....	....	....	....	....	24	18,373	1,609	....	....	....	....
1938	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1939	444	196	30	250	....	....	30	250	....	....	....	....	....	....	....	....
1940	*2,408	311	65	427	44	330	109	757	....	....	....	....	....	....	....	....
1941	†6,160	25	....	....	160	962	160	962	....	....	....	....	....	....	....	....
1942	**389**	**115**	....	....	**178**	**1,070**	**178**	**1,070**	....	....	....	....	**16**	**33**	**13**	**130**
Totals, 1941	9,012	532	95	677	204	1,292	299	1,969	....	24	18,373	1,609	....	....	....	....
1942	**9,401**	**647**	**95**	**677**	**382**	**2,362**	**477**	**3,039**	....	**24**	**18,373**	**1,609**	**16**	**33**	**13**	**130**

*Includes 1,708 lbs. Crude Mica. †Crude Mica

TABLE VI.—*Minerals other than Gold*—continued.

Period.	IRON ORE.		PYRITES.		RED OXIDE.						SOAPSTONE.						TALC.	
	State Generally.		Dundas Goldfield.		Pilbara Goldfield (Nullagine District).		State Generally.		Total.		Greenbushes Mineral Field.		State Generally.		Total.		E. Coolgardie Goldfield.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£	Tons.	£	Tons.	£	Tons.	£	Tons.	£	Tons.	£	Tons.	£	Tons.	£
Prior to 1938	....	....	....	....	....	....	26	78	26	78	....	....	....	....	....	....	....	....
1938	....	....	....	....	62	598	....	....	62	598	....	....	....	....	....	....	....	....
1939	....	....	....	....	80	800	....	....	80	800	....	....	....	....	....	....	....	....
1940	....	....	....	....	238	2,384	....	....	238	2,384	....	....	....	....	....	....	....	....
1941	....	....	....	....	287	2,870	....	....	287	2,870	....	....	....	....	....	....	....	....
1942	150	225	368	607	....	....	143	1,360	143	1,360	255	950	10	25	265	975	38	57
Total, 1941	....	....	....	....	667	6,652	26	78	550	5,370	....	....	....	....	....	....	....	....
1942	150	225	368	607	667	6,652	169	1,438	693	6,730	255	950	10	25	265	975	38	57

By Authority: ROBERT H. MILLER, Government Printer, Perth.