(No. 6.)

TASMANIA

REPORT

OF THE

SECRETARY FOR MINES

FOR

YEAR ENDING 31ST DECEMBER

1937

WITH REPORTS OF THE ACTING GOVERNMENT GEOLOGIST, CHEMIST AND ASSAYER, CHIEF INSPECTOR OF MINES, CHIEF INSPECTOR OF EXPLOSIVES, INSPECTORS OF MINES, AND THE MOUNT CAMERON WATER-RACE BOARD

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

TASMANIA:
H. H. PIMBLETT, GOVERNMENT PRINTER, HOBART

1938

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REPORT OF THE SECRETARY FOR MINES.

Department of Mines,
Hobart.

SIR,

I HAVE the honour to present my report on the Mining Industry of the State for the year ended 31st December, 1937.

APPENDICES.

The following reports and statistical records, are appended:—

Acting Government Geologist.
Chemist and Assayer.
Chief Inspector of Mines.
Chief Inspector of Explosives and Inflammable Liquids.
District Inspectors of Mines.
Mount Cameron Water-race Board.

GENERAL STATEMENT.

Steady production of ore on a sound basis has characterised the progress of the industry during the term under review. The value of output, due chiefly to the higher level market rates for metals, exceeded any previous yearly period.

The sustained output from the Mt. Lyell Mines, and the recently established full capacity operations in the Mt. Read-Rosebery district, together with the output from the Farrell Mine at Tullah, on the West Coast fields, have been the chief contributors. The extension of the State's hydro-electric power-lines to these centres ensured continuity of operations pending completion of the first unit of the Tarraleah scheme.

In the North-east the Briseis, Endurance, Aberfoyle, Storey's Creek, and Siamese Tin Mines have substantially assisted in achieving a record production.

Copper from the Mt. Lyell Mines heads the list in value, amounting to £759,332, including a small lot of 28 tons from another district—exceeding that of last year by £202,598, the quantity raised, 12,419 tons, being less by 621 tons. The average price of the metal, £54 15s. 10d., was the highest reached since 1929. The quantity of ore treated was greater than at any previous period, offsetting the lower grade material dealt with. It was obtained chiefly from open-face workings operated by mechanical appliances of the most modern type.

Next in importance is zinc, obtained from the Electrolytic Zinc Company's Mines in the Mt. Read-Rosebery district, which yielded 23,481 tons valued at £525,824. This output represents production over the first full calendar year since the inception of milling at Rosebery. The quantity of lead produced increased by 1554 tons to 9117 tons, valued at £212,492. The average market price was the highest for eleven years. The output came chiefly from the Mt. Read-Rosebery Mines.

Tin production is again well established in both lode and alluvial mining. Of the former the chief source is from the Aberfoyle and Storey's Creek Mines near Ben Lomond, Avoca district. These mines are operating from shaft workings 200 to 300 feet in depth on well defined, highly payable siliceous ore bodies. In addition to tin ore, wolfram occurs as an associated mineral, enhancing considerably the gross value of output. The Mt. Bischoff Mine, which has been in operation for sixty years, is still a substantial contributor.

The Briseis, Endurance, and Siamese Mines are well equipped to deal efficiently and continuously with the extensive alluvial deposits opened up. These mines provide the greater proportion of stream tin; the many small claims operated by individuals and private interests materially help in maintaining the total quantity raised. The value of the metal produced is estimated at £260,673 from 1089·8 tons, as against £206,656 and 1004 tons in the previous year.

The output of silver amounted to 1,060,785 oz. valued at £95,770, as against 906,458 oz. and £81,036 last year. A considerable proportion of that produced is from Mt. Lyell copper deposits.

The value of wolfram produced was more than double that of the previous year. Two hundred and ninety-one tons were produced of an estimated value of £71,643. The chief source of supply is Avoca district. It is mined in association with tin ore, from which, as a concentrate, it is magnetically separated.

An increase of 2676 oz. of gold is recorded, bringing the total to 20,276 oz., valued at £143,138. The most regular source of production is from the Mt. Lyell Copper Mines and the complex zinc-lead ores of the Mt. Read-Rosebery district. The output, however, was considerably augmented by the treatment of slimes dumps at Beaconsfield.

The alluvial deposits on the Jane River contributed 333 oz. Operations on this field have been on a restricted basis owing to its isolation and inadequate means of access. A pack-track to the locality is under construction; when completed, the field will receive more attention by gold seekers than hitherto. Small quantities of alluvial gold have been raised on old fields from dump heaps, &c., also in association with stream tin.

Cadmium production amounted to 45 tons, valued at £18,161. This metal is recovered as an associated mineral in the treatment of the zinc-lead deposits of Mt. Read-Rosebery district.

Osmiridium mining declined to the lowest output for 26 years, the total raised being 176 oz., valued at £1672. The tendency towards more stabilised prices should result in more attention being given to the fields. A company has been formed, and is preparing to instal a stamper battery and other appliances at Adamsfield, to treat osmiridium-bearing rock formations occurring there.

The export of iron pyrites which is recovered as a by-product in the form of a fine concentrate in the flotation of copper ore at the Mt. Lyell Mines has reached considerable proportions. It is used for production of sulphuric acid in the manufacture of fertilisers. The quantity exported was 40,630 tons, valued at approximately £1 per ton, being a slight increase from last year.

Small quantities of asbestos, barytes and bismuth were raised, amounting in the aggregate to £281.

The limestone industry is an important factor in the State's progress by the manufacture of cement and carbide, as well as in the export of approximately 250,000 tons annually to the Broken Hill steel works at Newcastle, New South Wales. The total value of these products, including what is exported, is estimated at £442,247 from 393,311 tons of stone.

The export of silica sand to the mainland amounted to 7047 tons, realising £3619.

Research work on utilisation of the Tasmanite deposits in the Mersey Valley district for the production of bitumen, plastic resins, shellac, and other products has proceeded with satisfactory results. Considerably more investigational work will be necessary to determine the commercial possibilities of these materials.

Preparations are in hand to instal a digester plant at Latrobe as a preliminary unit for the conversion of the organic concentrate to asphalt. Difficulties have been met with in procuring from engineering firms the parts required. It is expected that, in the ensuing year, definite progress in the experimental treatment of the 20 tons of concentrate produced for that purpose will be made.

The red granite industry is assuming stable conditions. The greater quantity of the stone produced is shipped to the mainland States, where it is used in the form of polished slabs for facing buildings. In this State it is extensively used for monumental purposes as well as veneering in a number of the recently erected business premises in Hobart. The local company operating the quarries at Cole's Bay is preparing to instal improved machinery to ensure a larger output. A good demand exists for the stone.

AID TO MINING.

The administration of the Aid to Mining Act involved a great deal of additional and special work in examination of properties, furnishing reports, &c.

Applications for assistance were received from 68 parties; of these, thirty were granted, approximately half being for purchase of plant, the remainder for mine development, cutting water-races, &c.—giving employment to 70 men. The value of ore raised by assisted parties amounted to £20,000. Repayments on a royalty scale, from 5 per cent. to 10 per cent are made on the proceeds of ore sold.

SUSTENANCE TO PROSPECTORS.

Thirty-eight applications were received, 25 were granted for periods varying from four to 16 weeks. No discoveries of importance were made.

THE AID TO MINING ACT, 1927.

Statement of Receipts and Payments of the Mining Trust Fund for the Year ended 31st December, 1937.

RECEIPTS.	£	s.	d.	PAYMENTS.	£	s.	d.
Balance at 1st January, 1937	7,009	2	5	Sustenance allowance	353	10	0
Tribute royalty	8	14	4	Assistance	1,983	9	6
Repayment of loans	496	18	0	Shale investigations	840	6	3
Hire of engine	6	0	0	Drilling	2,376	6	1
Sale of plant	15	0	0	Miscellaneous expenses	15	14	2
Refund cost drilling under contract	588	2	2	Total payments	5,569	6	0
Refund freight	2	1	3	Excess receipts over payments	2,556	12	2
	£8,125	18	2		£8,125	18	2

THE AID TO MINING (FEDERAL GRANT) TRUST FUND.

Receipts and Payments Statement.

RECEIPTS.	Commencement March, 1935, to 31st Dec. 1937. £	s.	d.	1937. 1st Jan., 1937, to 31st Dec., 1937. £	s.	d.
Provided by Commonwealth £25,750						
Provided by State 9,250						
	35,000	0	0			
Other credits—						
Batteries	73	19	6	29	14	6
Advances	2,766	3	3	1,179	5	1
Plants and operation thereof	11	18	8	11	18	8
Metallurgical investigations	0	7	11	....		
Brought forward, P.E., 31st December, 1936	....			3,746	7	8
	£37,852	9	4	£4,967	5	11

PAYMENTS.	Commencement March, 1935, to 31st Dec. 1937. £	s.	d.	1937. 1st Jan., 1937, to 31st Dec., 1937. £	s.	d.
Prospecting	1,426	6	6	199	15	0
Batteries	1,246	13	1	249	8	11
Advances	19,513	12	6	3,152	17	7
Plants and operation thereof	6,600	0	0	....		
Metallurgical investigations	1,237	3	4	1	12	0
Roads and tracks	5,767	11	10	....		
Transport	500	0	0	....		
Staff	334	15	10	137	6	2
	36,626	3	1	3,740	19	8
Excess receipts over payments	1,226	6	3	1,226	6	3
	£37,852	9	4	£4,967	5	11

THE AID TO MINING (FEDERAL GRANT TRUST FUND, 1936-37.

Receipts and Payments Statement.

RECEIPTS.	Sept., 1936, to 31st Dec. 1937.	1st Jan., 1937, to 31st Dec. 1937.
	£ s. d.	£ s. d.
Provided by Commonwealth	10,400 0 0	....
Other credits—		
Advances	65 10 4	65 10 4
Plants and operation thereof	46 15 5	46 15 5
Transport	5 3 10	5 3 10
Balance brought forward, P.E., 31st December, 1936	....	5,978 6 9
	£10,517 9 7	£6,095 16 4

PAYMENTS.	Sept., 1936, to 31st Dec. 1937.	1st Jan., 1937, to 31st Dec. 1937.
	£ s. d.	£ s. d.
Prospecting	....	....
Advances	3,250 0 0	750 0 0
Plants and operation thereof	3,000 0 0	1,532 10 5
Metallurgical investigations	....	....
Roads and tracks	1,927 14 4	1,661 5 7
Transport	500 15 9	320 12 4
Staff	7 11 6	....
	8,686 1 7	4,264 8 4
Excess receipts over payments	1,831 8 0	1,831 8 0
	£10,517 9 7	£6,095 16 4

Statement of Receipts and Payments of the Aid to Mining (Federal Grant) Trust Fund, 1937-38, *for the year ended 31st December,* 1937.

RECEIPTS.	£ s. d.
Provided by Commonwealth	3,000 0 0
	£3,000 0 0

PAYMENTS.	£ s. d.
Advances	....
Plants and operation thereof	67 14 1
Roads and tracks	38 19 4
	106 13 5
Excess receipts over payments	2,893 6 7
	£3,000 0 0

Statement of Loans under the Aid to Mining Act, 1927.

Year.	EXPENDITURE. Federal Funds.	The Mining Trust Fund.	Total.	Year.	REPAYMENTS. Federal Funds.	The Mining Trust Fund.	Total.
	£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.	£ s. d.
1935	8,398 11 4	1,293 12 1	9,692 3 5	1935	300 4 9	87 10 0	387 14 9
1936	10,462 3 7	2,807 12 10	13,269 16 5	1936	1,286 12 5	138 18 4	1,425 10 9
1937	3,902 17 7	1,983 9 6	5,886 7 1	1937	1,244 15 5	496 18 0	1,741 13 5
Total	£22,763 12 6	£6,084 15 5	£28,848 6 11	Total	£2,831 12 7	£723 6 4	£3,554 18 11

Details of Expenditure on Drilling during Year ended 31st December, 1937.

Plant.	Location.	Amount. £ s. d.
Diamond drill No. 2	Railton (contract)	342 10 3
Diamond drill No. 2	Alberton (contract)	187 10 3
Diamond drill No. 2	Railton, Alberton (diamond bits)	112 6 5
Surge Core	Boobyalla (contract)	147 3 0
Surge Core	Branxholm	64 0 3
Surge Core	Mussel Roe	151 4 9
Diamond drill No. 2	Magnet	304 3 3
Calyx drill	Vicinity of Gladstone	403 0 9
Diamond drill	Lefroy	2,146 2 7
		3,858 1 6
	Miscellaneous items	118 9 1
	Total	£3,976 10 7

DRILLING.

The Department possesses and has in operation one diamond core drill, capacity 2000 feet, one light diamond drill limited to bore to 600 feet, designed for underground work, two mechanically operated drills for testing deep alluvial deposits, boring for water or similar work. These, as well as hand-drilling plants, are available to hirers with trained crews at nominal cost, or, under the provisions of the Aid to Mining Act, to claim holders.

No. 1 Diamond Drill.

Location.—Lefroy (West Volunteer and Golden Era Reefs and Alluvial Areas).
Number of Bores.—9.
Total Depth of Bores.—3404 feet.
Details:—

No. of Bore.	Location.	Depth.	Values.	Bottomed on.
		ft.		
10	West Volunteer	777	—	Hard sandstone and soft slate
11	Golden Era	414	Pyrite conc. 332–335—Au. 7 dwt. 8 gr. per ton Ag. 6 dwt. 19 g. per ton	Schist
12	Golden Era	400	—	Slate and schist
13	Golden Era	459	Pyrite &c. conc. 239–240—Au. 1 dwt. 1 gr. per ton Ag. 1 dwt. 1 gr. per ton Cuttings &c. 343–347 —Au. trace Ag. trace	Sandstone
14	Alluvial Areas	278	—	Black slate
15	Alluvial Areas	277	—	Slate
16	Alluvial Areas	340	—	Slate
17	Alluvial Areas	255	—	Soft sandstone
18	Alluvial Areas	204	—	Basalt

Calyx Drill.

(1) *Location.*—Gladstone, vicinity of Lochaber Mine.
Number of Bores.—25.
Total Depth of Bores.—2756 feet.
Period.—8.1.37-20.4.37 and 12.11.37-23.12.37.
Details:—

No. of Bore.	Depth to Bedrock.		Average Values. Oz. per c. yd. of 70% Conc.	Best Values. Depth.				Oz. per c. yd. of 70 % Conc.
	ft.	in.		ft.	in.	ft.	in.	
88	101	11	12·46	95	4—	101	11	169
89	99	10	17·27	95	4—	99	10	221·45
90	85	8	3·70	80	8—	85	8	38·2
91	80	2	0·32	58	8—	66	0	0·55
92	70	6	4·95	66	0—	70	6	45·9
93	95	4	5·91	88	0—	95	4	44·1
1B	144	0	3·18	139	4—	144	0	85·49
2B	133	6	0·35	132	0—	133	6	11·80
3B	131	6	0·21	124	8	131	6	2·19
4B	117	6	Trace		—			—
5B	112	0	Trace		—			—
6B	137	6	2·72	132	0—	137	6	53·20
7B	105	2	0·75	102	8—	105	2	12·65
8B	94	0	0·87	88	0—	94	0	10·13
9B	88	0	0·17	80	8—	88	0	0·59
10B	91	6	0·86	36	8—	44	0	2·89
11B	107	6	0·45	102	8—	107	6	2·30
12B	133	10	32·53	122	6—	133	10	367·74
13B	118	4	1·27	51	4—	62	10	6·62
14B	70	0	0·24	62	10—	74	4	0·75
15B	120	3	1·84	108	10—	120	3	13·00
16B	83	0	0·42	78	6—	83	0	3·78
17B	130	0	25·25	126	6—	130	0	478·66
18B	121	4	3·24	115	0—	121	4	57·56
19B	109	7	2·57	163	6—	109	7	45·78

Calyx Drill.

(2) *Location.*—Amber Hill, Gladstone.
Number of Bores.—53.
Total Depth of Bores.—3158 feet.
Period.—24.4.37 to 5.11.37.
Details:—

No. of Bore.	Depth to Bedrock.		Average Values. Oz. per c. yd of 70% Conc.	Best Values. Depth.				Oz. per c. yd. of 70 % Conc.
	ft.	in.		ft.	in.	ft.	in.	
1	73	0	16·79	66	0—	73	0	160·85
2	80	3	2·09	73	4—	80	3	11·37
3	56	9	Trace		—			—
4	63	10	6·6	58	8—	63	10	80·48
5	48	3	Trace		—			—
6	29	6	Trace		—			—
7	32	0	Trace		—			—
8	36	0	Trace		—			—
9	63	6	Trace		—			—
10	45	0	Trace		—			—
11	56	3	0·66	51	4—	56	3	7·92
12	53	3	0·43	51	4—	53	3	13·28
13	49	9	Trace		—			—
14	55	10	0·38	51	4—	55	10	4·91
15	65	6	Trace		—			—
16	52	4	0·51	51	4—	52	4	23·98
17	52	6	7·21	51	4—	52	6	350·24
18	48	0	Trace		—			—
19	54	6	0·30	51	4—	54	6	2·71
20	72	7	6·78	66	0—	72	7	55·25
21	55	0	Trace		—			—
22	54	4	19·25	51	4—	54	3	243·47
23	95	9	Trace		—			—
24	73	3	3·32	66	0—	73	3	33·2
25	62	6	Trace		—			—
26	75	6	0·32	73	4—	75	6	11·88
27	84	2	0·59	70	2—	81	2	3·98
28	61	0	Trace		—			—
29	41	6	Trace		—			—
30	38	4	32·32	33	6—	38	4	254·13
31	33	7	7·33	29	4—	33	7	57·89
32	31	4	0·77	29	4—	31	4	10·12
33	19	3	10·62	14	8—	19	3	44·64
34	33	0	5·08	22	0—	29	4	15·24
35	48	7	8·53	40	10—	48	7	49·62
36	62	2	54·60	52	2—	62	2	338·3
37	73	10	19·35	63	10—	73	10	113·32
38	62	6	Trace		—			—
39	52	2	0·45	51	4—	52	2	3·84
40	69	2	10·90	58	8—	69	2	71·76
41	28	0	Trace		—			—
42	44	6	Trace		—			—
43	63	0	Trace		—			—
44	48	3	Trace		—			—
45	20	9	Trace		—			—
46	68	4	Trace		—			—
47	67	4	Trace		—			—
48	36	4	0·51	29	4—	36	4	2·70
49	19	0	0·44	14	8—	19	0	1·91
50	12	3	Trace		—			—
51	64	6	Trace		—			—
52	70	3	Trace		—			—
53	67	0	Trace		—			—

Surge Drill.

Location.—Mussel Roe.
Number of Bores.—15.
Total Depth of Bores.—676 feet.
Period.—1.6.37-23.7.37.

Details:—The tin content of these bores was very poor. In only five holes were traces of tin-oxide found.

QUANTITY AND VALUE OF MINERALS.

RETURN showing the Quantity and Value of Minerals produced in the State of Tasmania during the Year 1937.

Mineral.	Mineral Divisions.						
	Northern and Southern.	Eastern.	North-Eastern.	North-Western.	Western.	Total Quantity.	Value.
							£
Asbestos .....(tons)	2	...	...	...	...	2	29
Barytes.....(tons)	...	...	...	...	76	76	174
Bismuth .....(tons)	...	...	...	·22	...	·22	78
Coal .....(tons)	12,431	71,839	...	6851	...	91,121	66,883
Copper ....(tons)	28·73	...	...	1·19	12,390	12,419·92	759,332
Cadmium.....(tons)	...	...	...	...	45	45	18,161
Carbide, Cement, and Limestone.....(tons)	22,986	...	...	364,646	5679	393,311	442,247
Gold .....(fine oz.)	2781·60	73·94	91·58	221·33	17,107·86	20,276·31	143,138
Granite (Red) ... ...(tons)	...	187	...	...	...	187	923
Iron .....(tons)	...	...	...	61	...	61	36
Lead ....(tons)	...	...	...	7·46	9109·16	9116·62	212,492
Osmiridium .....(oz.)	329·08	...	...	257·34	...	586·42	9077
Pyrites.....(tons)	...	...	...	...	40,630	40,630	43,723
Silver ....(fine oz.)	...	...	...	1121	1,059,664	1,060,785	95,770
Silica ....(tons)	...	...	...	195	6852	7047	3619
Tin .....(tons)	4·354	362·244	520·993	157·758	44·49	1089·839	260,673
Wolfram .....(tons)	...	285·390	...	5·650	...	291·04	71,643
Zinc ..... (tons)	...	...	...	...	23,481	23,481	525,824
Total Value Sterling.....	...	...	...	...	...	...	£2,653,822
Total Value Australian Currency.....	...	...	...	...	...	...	£3,177,567
Average Number of Men Employed	1465	650	685	679	2397	5876	...

The Electrolytic Zinc Co. of Aust. Ltd. recovered 43,254 tons of Zinc, valued at £1,276,470 and 162·2816 tons of Cadmium, valued at £59,042, from other than Tasmanian ores, and employed an average of 1014 men at Risdon.

ASBESTOS.

RETURN showing the Quantity and Value of Asbestos produced from 1899 *to* 1937 *inclusive.*

Year	Quantity.	Value.
	Tons.	£
1899.....	200	363
1900.....	128	113
1901.....	46·5	45
1902-1915	—	—
1916...	15	30
1917.....	271	271
1918.....	2854	5008
1919.....	51	1275
1920–1936	—	—
1937.....	2	29
Total.....	3567·5	£7134

BARYTES.

RETURN showing the Quantity and Value of Barytes Produced during the Years 1916 *to* 1937 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1916.....	83	359
1917.....	52	234
1918.....	217	977
1919.....	399	1160
1920.....	1048	4163
1921–1924	—	—
1925.....	3·5	16
1926–1928	—	—
1929.....	9·5	24
1930-1932..	—	—
1933.....	5	15
1934–1935	—	—
1936.....	33	66
1937.....	76	174
Total.....	1926	£7188

BISMUTH.

RETURN showing the Quantity and Value of Bismuth produced from 1904 *to* 1937 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1904	·3	15
1905	3·5	800
1906	·3	24
1907	·175	27
1908	3·75	462
1909	2·9	980
1910	10·70	4249
1911	14·395	5758
1912	7·59	2646
1913	5·08	1627
1914	5·619	1666
1915	5·5	1203
1916	3·51	1059
1917	4·212	895
1918	4·608	1038
1919	1·77	573
1920	·10	9
1921	·05	21
1922	—	—
1923	—	—
1924	—	—
1925	—	—
1926	—	—
1927	—	—
1928	—	—
1929	—	—
1930	·97	475
1931	1·75	1015
1932	1·02	541
1933	1·32	705
1934	—	—
1935	·328	146
1936	—	—
1937	.22	78
Total.....	79·667	£26,012

CEMENT, CARBIDE, AND LIMESTONE.

The combined value of output from these three industries amounted to £442,247, as compared with £418,832 for 1936.

COAL.

RETURN showing the Quantity and Value of Coal raised from 1880 to 1937 inclusive.

Year.	Quantity.	Value.
	Tons.	£
1880 to 1903 inclusive	767,261·5	659,010
1904	61,109	51,942
1905	51,993	44,194
1906	52,895·75	44,962
1907	58,891	50,057
1908	61,067·75	51,907
1909	66,161·75	56,237
1910	82,445	48,609
1911	57,067	26,214
1912	53,560	24,568
1913	55,043	25,367
1914	60,794	27,853
1915	64,536·25	30,418
1916	55,575	27,736
1917	63,412	38,673
1918	60,163	37,676
1919	66,253	47,004
1920	75,429	64,005
1921	66,476	63,446
1922	69,238	61,016
1923	80,718	70,797
1924	75,988	66,555
1925	81,698	70,424
1926	102,358	90,401
1927	112,056	99,802
1928	128,500	106,558
1929	130,291	105,877
1930	138,716	110,253
1931	123,828	98,004
1932	111,853	86,733
1933	116,573	85,848
1934	113,633	81,262
1935	123,714	86,204
1936	132,264	92,269
1937	91,121	66,883
Total	£5,612,682	£2,798,764

COPPER.

The production for the year was 13,040 tons, valued at £556,734.

RETURN showing the Quantity and Value of Copper in Blister Copper and Copper Ore during the Years 1919 to 1936 inclusive.

Year.	In Blister Copper.		In Copper Ore.		Total	
	Q'ty	Value.	Q'ty.	Value.	Q'ty.	Value.
	Tons.	£	Tons.	£	Tons.	£
1919	5014	503,977	13	984	5027	504,961
1920	4791	528,177	·75	60	4791·75	528,237
1921	6171	462,876	9·843	287	6180·843	463,163
1922	5616	391,535	—	—	5616	391,535
1923	6063	435,282	1·7	131	6064·7	435,413
1924	6698	457,386	—	—	6698	457,386
1925	6539	436,661	—	—	6539	436,661
1926	6915	454,854	—	—	6915	454,854
1927	5811	362,988	—	—	5811	362,988
1928	6421	444,802	—	—	6421	444,802
1929	8689	740,985	—	—	8689	740,985
1930	9940	620,578	—	—	9940	620,578
1931	9833·1	416,309	—	—	9833·1	416,309
1932	10,995	399,646	3·2	116	10,998·2	399,762
1933	10,734	395,109	5	177	10,739	395,286
1934	8202	267,116	6·5	216	8208·5	267,332
1935	13,036	464,007	—	—	13,036	464,007
1936	13,040	556,734	—	—	13,040	556,734
1937	12,382	757,311	37·92	2021	12,419·92	759,332
Total	156,890·1	9,096,333	77·91	3992	156,968·01	9,100,325

The Mount Lyell Mining and Railway Company Limited. Return for the Calendar Year 1937.

Ore and metal-bearing material smelted:—

Source of Material.	Tons (Dry).
Ore:—From the Company's North Lyell Mine	7,450
Concentrates:—From the Company's North Lyell Mine, Lyell Comstock Mine, Royal Tharsis Mine, and Crown Lyell Mine ore	50,396
Purchased ore	....
Total	**57,846**
Limestone delivered to works (tons)	5,679
Silica delivered at works	6,851
Pyritic concentrate shipped from Regatta Point (tons), approximate value £50,790	40,632

Blister copper produced, 12,470 tons, containing:

Copper (tons)	12,381	Approximate value £805,565 (sterling).
Silver (oz.)	83,233	
Gold (oz.)	6,171	

Average number of men employed—

Mining Department—At the Company's North Lyell Mine	362	
Ditto, Lyell Comstock Mine	187	
Ditto, Royal Tharsis Mine	....	
Ditto, Crown Lyell Mine	10	
Ditto, Lyell Tharsis	....	
Ditto, West Lyell	238	
Miscellaneous	155	
		952
Reduction Works Department (including Lake Margaret)		628
Railway Department—Mount Lyell Railway		134
Total		1714

Copper produced from the inception of the Company to the 31st December, 1937, 315,480 tons.

Silver produced from the inception of the Company to the 31st December, 1937, 15,007,884 oz. (fine).

Gold produced from the inception of the Company to the 31st December, 1937, 436,867 oz. (fine).

Dividends paid during the year, £271,250=3s. 6d. per share.

Dividends paid from the inception of the Company to the 31st December, 1937, £5,755,319.

GOLD.

The quantity won was 20,276·31 oz. fine, valued at £143,138, as compared with 17,600·47 oz., valued at £123,383 for 1936.

RETURN showing the Quantity and Value of Gold won from 1880 to 1937 inclusive.

Year.	Quantity.	Value.
	Oz.	£
1880 to 1903 inclusive	1,265,836·95	4,905,706
1904	65,921	280,015
1905	73,540·5	312,380
1906	60,023·4	254,963
1907	65,354·25	277,607
1908	57,085·1	242,482
1909	44,777·366	190,201
1910	37,048·053	157,370
1911	31,100·873	132,108
1912	37,973·252	161,300
1913	33,400·457	141,876
1914	26,243·453	111,475
1915	18,547·338	78,784
1916	15,790·096	67,072
1917	14,496·464	61,577
1918	10,528·930	44,724
1919	7,686·470	32,650
1920	6,246·192	29,796
1921	5,340·094	28,395
1922	3,431·486	15,998
1923	3,684·124	16,639
1924	4,625·600	21,563
1925	3,523·870	15,041
1926	4,222·748	17,936
1927	4860·7	20,646
1928	3603·43	15,306
1929	5596·88	23,772
1930	4466·61	18,976
1931	4759·59	22,118
1932	5937·17	34,943
1933	6672·74	41,783
1934	5622·26	38,930
1935	8342·68	59,255
1936	17,600·47	123,383
1937	20,276·31	143,138
Total	1,984,166·87	£8,139,908

IRON PYRITES.

RETURN showing the Quantity and Value of Iron Pyrites produced during the Years 1923 *to* 1936 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1915	12,835·59	8945
1916	14,005·084	13,597
1917	7,685·549	7137
1918	5,105·600	4667
1919	3,456·95	4288
1920	4,440	7346
1921	606·5	2579
1922	8,276	18,620
1923	11,882	26,737
1924	—	—
1925	—	—
1926	—	—
1927	—	—
1928	—	—
1929	—	—
1930	—	—
1931	506·7	253
1932	274	150
1933	1498	1498
1934	12,030	12,030
1935	25,555	25,555
1936	33,711	33,711
1937	40,630	43,723
Total	182,497·973	£210,856

LEAD.

The output was 9116·62 tons, valued at £212,492, as compared with 7563·04 tons, valued at £134,413 for 1936.

RETURN showing the Quantity and Value of Lead included in Silver-Lead during the Years 1919 *to* 1937 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1919	2357·142	64,403
1920	3855·639	142,268
1921	1434·794	32,241
1922	4925·880	118,257
1923	4784·057	127,542
1924	4559·110	154,881
1925	5525·99	197,452
1926	5892·58	183,167
1927	5583·12	135,403
1928	4786·78	101,616
1929	5983	138,793
1930	4237·84	77,590
1931	2189·47	29,024
1932	2694·06	32,637
1933	2644	30,987
1934	1507	16,723
1935	1488	21,390
1936	7563·04	134,413
1937	9116·62	212,492
Total	81,128·122	£1,951,279

LIMESTONE.

RETURN showing the Quantity and Value of Limestone produced during the Years 1923 *to* 1936 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1923	100,113	122,428
1924	146,140	146,140
1925	124,670	124,670
1926	153,707	153,219
1927	169,522	167,373
1928	98,654	79,050
1929	68,176	66,597
1930	100,251	94,977
1931	55,268	49,490
1932	90,335	18,725
1933	110,347	33,048
1934	174,757	44,877
1935	254,438	68,357
1936	262,301	71,243
Total	1,908,679	£1,240,194

NICKEL.

RETURN showing the Quantity and Value of Nickel produced from 1927 *to* 1937 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1927	86·2	14,656
1928	10	1697
1929	85·44	14,765
1930	11·76	1999
1931	0·2	45
1932	0·55	136
1933	8·65	1948
1934	—	—
1935	—	—
1936	—	—
1937	—	—
Total	202·8	£35,246

OCHRE.

RETURN showing the Quantity and Value of Ochre produced during the Years 1918 *to* 1937 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1918	100	200
1919	—	—
1920	—	—
1921	14	56
1922	—	—
1923	—	—
1924	20	50
1925	—	—
1926	38	69
1927–1937	—	—
Total	172	£375

OSMIRIDIUM.

The quantity of metal won during the year was 586·42 oz., valued at £9077, as compared with 280·6 oz., valued at £3862 for 1936.

RETURN showing the Quantity and Value of Osmiridium produced during the Years 1910 *to* 1937 *inclusive.*

Year.	Quantity.	Value.
	Oz.	£
1910	120	530
1911	271·88	1888
1912	778·77	5742
1913	1261·65	12,016
1914	1018·83	10,076
1915	247·048	1581
1916	222·150	1899
1917	332·079	4898
1918	1606·743	44,833
1919	1669·715	39,614
1920	2009·196	77,114
1921	1750·655	42,935
1922	1173·924	35,512
1923	673·423	19,642
1924	364·805	10,617
1925	3365·543	103,570
1926	3172·5	61,908
1927	632·687	7456
1928	1627·186	42,458
1929	1360	30,624
1930	952·7	16,235
1931	1279·54	18,028
1932	784·95	9075
1933	548	4843
1934	487·7	4622
1935	235	2103
1936	280·6	3862
1937	586·42	9077
Total	28,813·694	£622,758

The following table gives particulars of osmiridium won from Adamsfield since its discovery up to 31st December, 1937:—

Period.	Quantity.			Value.		
Quarter ending—	Oz.	dwt.	gr.	£	s.	d.
30th June, 1925	9	1	12	281	8	11
30th September, 1925	625	19	9	20,144	10	11
31st December, 1925	2238	5	9	68,757	1	4
31st March, 1926	992	13	7	23,339	0	1
30th June, 1926	633	12	20	12,202	18	4
30th September, 1926	862	18	16	8475	8	11
31st December, 1926	555	6	6	5539	1	3
31st March, 1927	203	9	11½	1909	5	7
30th June, 1927	142	3	9	1706	0	6
30th September, 1927	93	16	6	1132	1	6
31st December, 1927	113	10	8	1362	0	0
31st March, 1928	442	8	9	10,509	18	2
30th June, 1928	261	19	7	6529	9	1
30th September, 1928	551	16	2	15,350	18	0
31st December, 1928	293	5	0	7840	11	4
31st March, 1929	168	9	8	4147	6	4
30th June, 1929	262	7	16	5683	4	7
30th September, 1929	292	2	23	7905	14	9
31st December, 1929	313	2	17	6208	3	0
31st March, 1930	186	9	17	3278	17	0
30th June, 1930	67	6	11	1300	12	1
30th September, 1930	126	16	9½	1898	4	10
31st December, 1930	347	12	17	4302	11	5
31st March, 1931	240	19	14	4008	2	4
30th June, 1931	251	9	6	3104	14	9
30th September, 1931	251	10	15	3428	14	6
31st December, 1931	354	12	3	4741	11	10
31st March, 1932	250	5	21	3372	19	9
30th June, 1932	136	12	19	1504	8	9
30th September, 1932	80	19	3	869	2	8
31st December, 1932	123	7	18	1038	2	1
31st March, 1933	161	0	0	1368	0	0
30th June, 1933	162	0	0	1458	0	0
30th September, 1933	153	0	0	1364	0	0
31st December, 1933	60	0	0	540	0	0
31st March, 1934	148	5	0	1408	0	0

Osmiridium Won from Adamsfield—*continued.*

Period.	Quantity.			Value.		
Quarter ending—	Oz.	dwt.	gr.	£	s.	d.
30th June, 1934	107	15	0	969	0	0
30th September, 1934	71	14	0	645	0	0
31st December, 1934	160	0	0	1600	0	0
31st March, 1935	40	0	0	350	0	0
30th June, 1935	12	0	0	108	0	0
30th September, 1935	127	9	10	1147	4	7
31st December, 1935	55	0	0	495	0	0
31st March, 1936	30	0	0	270	0	0
30th June, 1936	30	0	0	285	0	0
30th September, 1936	133	12	0	2004	0	0
31st December, 1936	65	0	0	1105	0	0
31st March, 1937	54	0	0	918	0	0
30th June, 1937	150	10	0	2709	0	0
30th September, 1937	48	10	0	897	0	0
31st December, 1937	76	1	15	723	0	0
Total	13,320	7	14	£262,235	9	2

SCHEELITE.

RETURN showing the Quantity and Value of Scheelite produced during the Years 1917 *to* 1937 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1917	69	12,130
1918	216	39,252
1919	198·98	43,181
1920	105·09	17,905
1921–1937	—	—
Total	589·07	£112,468

SHALE.

RETURN showing the Quantity and Value of Shale produced during the Years 1910 *to* 1937 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1910	364	214
1911	500	250
1912	—	—
1913	130	130
1914	75	75
1915	—	—
1916	1286	1286
1917	—	—
1918	—	—
1919	600	900
1920	140	172
1921	868	1506
1922	40	100
1923	1101	1094
1924	1576	1526
1925	820	559
1926	2127	1475
1927	3150	2050
1928	2595	1297
1929	4299	2982
1930	5428	3490
1931	1402	600
1932	1097	1074
1933	3401	1483
1934	3276	1630
1935	30	15
1936–1937	—	—
Total	34,305	£23,908

RETURN showing the Quantity of Oil distilled from Shale.

Year.	Name of Company.	Gallons.
1910	Tasmanian Shale and Oil Company	4800
1915	Railton-Latrobe Shale Oil Co. N.L.	24,000
1927–1928	Australian Shale Oil Corporation	65,000
1929	Goliath Portland Cement Company	2200
1930	Goliath Portland Cement Company	20,101
	Tasmanite Shale Oil Company Ltd.	35,000
1931	Tasmanite Shale Oil Company Ltd.	31,915
1932	Tasmanite Shale Oil Company Ltd.	79,236
1933	Tasmanite Shale Oil Company Ltd.	56,958
1934	Tasmanite Shale Oil Company Ltd.	37,905
1935	Tasmanite Shale Oil Company Ltd.	—
1936–1937	Tasmanite Shale Oil Company Ltd.	—
	Total	357,115

SILVER.

The output was 1,060,785 oz. (fine), valued at £95,770, as compared with 906,458 oz., valued at £81,036 for 1936.

RETURN showing the Quantity and Value of Silver contained in Silver-Lead and Blister Copper during the Years 1919 to 1937 inclusive.

Year	In Silver-Lead.		In Blister Copper.		Total.	
	Quantity.	Value	Quantity.	Value.	Quantity.	Value.
	Oz.	£	Oz.	£	Oz.	£
1919	296,719·27	71,831	228,624	53,733	525,343·27	125,564
1920	453,411	118,898	169,948	47,869	623,359	166,767
1921	165,637	27,181	183,021	30,395	348,658	57,576
1922	674,886	104,926	119,699	18,511	794,585	123,437
1923	516,073·61	73,742	122,528	17,597	638,601·61	91,339
1924	494,782	75,398	147,376	22,439	642,158	97,837
1925	597,012·67	86,283	133,181	19,226	730,193·67	105,509
1926	632,066	80,597	134,587	17,394	766,653	97,991
1927	640,575	75,135	101,207	11,889	741,782	87,024
1928	564,156	66,386	105,270	12,515	669,426	78,901
1929	714,930	78,252	149,424	16,308	864,354	94,560
1930	528,641	41,485	182,978	14,583	711,619	56,068
1931	242,950	16,104	148,782	9650	391,732	25,754
1932	301,854	24,399	161,634	12,905	463,488	37,304
1933	361,768	29,394	127,562	10,414	489,330	39,808
1934	194,747	18,401	89,940	8726	284,687	27,127
1935	191,044	24,780	132,857	17,543	323,901	42,323
1936	803,369	71,886	103,189	9150	906,458	81,036
1937	977,552	88,252	83,233	7518	1,060,785	95,770
T'tl	9,352,173·55	1,173,330	2,625,040	358,365	11,977,213·55	1,531,695

TIN.

The output was 1089·839 tons, valued at £260,673, as compared with 1004·06 tons, valued at £206,656, for 1936.

RETURN showing the Quantity and Value of Tin exported from Tasmania from 1880 to 1904 (compiled from Customs Returns only), Tin Ore produced during the Years 1905 to 1918 inclusive, and Metallic Tin produced during the Years 1919 to 1937 inclusive.

Year.	Quantity.	Value.
	Tons.	£
1880 to 1904 inclusive	76,708·4	7,167,564
1905	3891·5	362,670
1906	4472·75	557,266
1907	4342·75	501,681
1908	4520·8	421,580
1909	4511·2	418,165
1910	3701·01	399,393
1911	3953·05	513,500
1912	3713·825	543,103
1913	4010·41	531,983
1914	2572·713	259,300
1915	2599·234	292,306
1916	2854·636	350,852
1917	2637·337	427,917
1918	2256·203	488,798
1919	1580·22*	395,794
1920	1310·411*	369,362
1921	790·395*	130,257
1922	679·440*	112,407
1923	1160·390*	236,955
1924	1108·450*	275,014
1925	1129·662*	297,515
1926	1096·16*	322,526
1927	1105·74*	317,593
1928	1140·14*	258,676
1929	640·36*	130,014
1930	511·77*	69,592
1931	588·83*	70,634
1932	793·92*	109,767
1933	957*	190,041
1934	952·49*	219,246
1935	1131*	258,919
1936	1004·06*	206,656
1937	1089·839*	260,673
Total	144,516·115	£17,467,719

* Metallic Tin.

TALC.

RETURN showing Quantity and Value of Talc produced during the Years 1928 to 1937 inclusive.

Year.	Quantity.	Value.
	Tons.	£
1928	32	96
1929	23	45
1930	13·35	53
1931	15	58
1932	5	17
1933	8·75	22
1934	5·5	16
1935	—	—
1936	3	8
1937	—	—
Total	105·6	315

WOLFRAM.

RETURN showing the Quantity and Value of Wolfram produced during the Years 1899 *to* 1937 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1899 to 1903 inclusive	57·25	2157
1904	15·5	1147
1905	32·25	2371
1906	19·75	1465
1907	40·75	4411
1908	4·5	338
1909	28·35	2494
1910	67·35	7280
1911	69·96	7769
1912	66·49	6601
1913	68·07	7040
1914	46·873	4327
1915	94·685	11,115
1916	106·265	16,910
1917	172·190	28,714
1918	155·362	27,239
1919	120·907	26,613
1920	70·89	13,626
1921	10·34	676
1922	19·26	1024
1923	96·86	6150
1924	54	2785
1925	174·170	14,658
1926	83·15	5265
1927	148·57	9886
1928	176·15	12,094
1929	151·86	18,358
1930	112·6	12,216
1931	0·29	16
1932	—	—
1933	104	7,301
1934	194·19	27,375
1935	232	29,345
1936	207·13	28,323
1937	291·04	71,643
Total	3292·912	£418,732

ZINC.

RETURN showing the Quantity and Value of Zinc produced during the Years 1919 *to* 1937 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1919	285	13,110
1920	9·3	334
1921–1923	—	—
1924	2748·75	90,485
1925	3112·69	110,691
1926	5377·75	183,362
1927	6326·2	181,242
1928	7112	188,691
1929	6997	185,964
1930	943	19,322
1931–1935	—	—
1936	18,769	283,105
1937	23,481	525,824
Total	75,161·69	£1,782,130

Electrolytic Zinc Company of Australia Ltd.—

Return for the calendar for 1937:—

	Tons.
Production of slab zinc	43,254
Production of metallic cadmium	162·2799

The above is from ores other than Tasmanian.

The average number of men employed at Risdon was 1014.

West Coast Division.—The production on the West Coast properties during the year was:—

	Tons.
Slab zinc	26,496
Metallic cadmium	40·60

The average number of men employed was 398.

VALUE OF METALS AND MINERALS RAISED.

RETURN showing Value of Metals and Minerals Raised in Tasmania from 1880 *to* 1937 *inclusive.*

Mineral or Metal.	Value.
	£
Asbestos	7134
Barytes	7188
Bismuth	26,012
Cadmium	49,874
Carbide, Cement, and Limestone	442,247
Carbide to 1936 (now under Carbide, Cement, and Limestone)	1,212,207
Cement to 1936 (now under Carbide, Cement, and Limestone)	2,004,014
Coal	2,798,764
Copper (Blister) to 1918 (now shown under Silver and Copper)	13,778,527
Copper Matte	133,736
Copper Ore to 1918 (now under Copper)	577,873
Copper (from 1919)	9,100,335
Gold	8,139,908
Granite (red)	4132
Ilmenite	1256
Iron Ore	25,737
Iron Pyrites	210,836
Lead (from 1919)	1,951,279
Limestone to 1936 (now under Carbide, Cement, and Limestone)	1,240,194
Nickel	35,246
Ochre	375
Osmiridium	622,758
Scheelite	112,468
Silica	6850
Shale	23,908
Silver-Lead to 1918 (now shown as Silver and Lead)	6,429,291
Silver	1,531,695
Talc	315
Tin	17,467,719
Wolfram	418,732
Zinc	1,782,130
Unenumerated prior to 1894	31,988
Total	£70,174,728

STATISTICS OF PRODUCTION.

RETURN showing the Annual Value of Mineral Products for the State of Tasmania from 1880 *to* 1937 *inclusive.*

Year.	Value.	Year.	Value.
	£		£
1880	554,031	1910	1,432,193
1881	602,723	1911	1,349,497
1882	556,306	1912	1,493,502
1883	560,873	1913	1,415,700
1884	468,302	1914	1,007,038
1885	518,885	1915	1,225,575
1886	489,966	1916	1,521,050
1887	593,256	1917	1,582,322
1888	616,733	1918	1,597,694
1889	504,718	1919	1,301,090
1890	444,210	1920	1,421,104
1891	528,388	1921	822,851
1892	526,909	1922	1,013,415
1893	627,909	1923	1,219,456
1894	732,764	1924	1,496,804
1895	575,692	1925	1,700,861
1896	662,058	1926	1,808,847
1897	1,006,140	1927	1,621,027
1898	1,071,084	1928	1,593,828
1899	1,660,622	1929	1,790,653
1900	1,888,695	1930	1,270,114
1901	1,763,896	1931	894,986
1902	1,378,406	1932	897,168
1903	1,354,044	1933	1,053,373
1904	1,379,204	1934	1,037,351
1905	1,729,129	1935	1,387,511
1906	2,257,147	1936	1,979,637
1907	2,277,159	1937	2,653,822
1908	1,650,027	Unenumerated prior to 1894	31,988
1909	1,574,995	Total	£70,174,728

STATISTICS OF MINING COMPANIES.

RETURN showing the Amounts Paid in Dividends by Mining Companies during the Year ending 31st December, 1937.

Mines.	Dividends.
	£
Copper	210,809
Gold	...
Tin	29,720
Silver	4000
Coal	...
Total	£244,529

RETURN showing the Total Area of Land and Number of Sluiceheads of Water Applied for during the Year ending 31st December, 1937.

Mineral.	Number.	Sluiceheads.	Area.
			Acres.
Antimony	...	...	...
Bismuth	...	...	...
Barytes	2	...	84
Clay	1	...	71
Coal	10	...	518
Copper	4	...	190
Gold	30	...	695
Iron	7	...	124
Manganese	7	...	40
Minerals	36	...	1437
Osmiridium	2	...	80
Scheelite	1	...	10
Shell Lime	1	...	2
Silica	1	...	40
Silver	35	...	1514
Stone	2	...	94
Tin	107	...	2318
Wolfram	8	...	230
Machinery Sites and Mining Easements	5	...	25
Water-rights and Dam Sites	74	160	182
Licences to search for Coal	1	...	500
Total	334	160	8154

RETURN showing Total Number and Area of Leases and Licences Issued during the Year ending 31st December, 1937.

Mineral.	Leases.	Sluiceheads.	Area.
			Acres.
Barytes	2	...	84
Clay	1	...	71
Copper, Nickel	1	...	70
Coal	1	...	100
Dolomite	2	...	236
Gold	11	...	287
Iron Ore	4	...	201
Minerals	13	...	332
Scheelite	...	...	...
Silver-Lead	10	...	268
Stone	4	...	149
Tin	94	...	2627
Wolfram	2	...	20
Water-rights and Dam Sites	67	285	421
Licences to Search for Coal and Oil	2	...	700
Mining Easements and Machinery Sites	13	...	114
Total	227	285	5680

RETURN showing the Total Number of Leases and Licences in Force on 31st December, 1937.

Mineral.	Number.	Number of Sluiceheads.	Area.
			Acres.
Antimony	1	...	10
Asbestos	...	...	...
Barytes	4	...	174
Bismuth	...	...	...
Coal	28	...	6067
Clay	3	...	78
Copper-Nickel	6	...	319
Dolomite	3	...	365
Granite	5	...	88
Gold	22	...	2619
Gravel	...	...	...
Iron	4	...	201
Limestone	4	...	240
Molybdenum	...	...	...
Minerals	58	...	6184
Marble	1	...	10
Osmiridium	1	...	10
Scheelite	2	...	271
Shale	3	...	117
Silver	18	...	618
Stone	6	...	178
Tin	505	...	13,157
Wolfram	1	...	59
Mining Easements	112	...	663
Licences to Search	6	...	10,600
Water Licences	467	2049	2243
Total	1260	2049	44,271

RETURN showing the Mining Companies Registered during the Year ending 31st December, 1937.

Number of Companies.	Capital.
2	£51,500

In addition to the above, 3 Agents for Foreign Companies and 1 Syndicate under Part V.A of the Mining Companies Amendment Act, 4 Geo. V. No. 44, were registered.

RETURN showing the Total Amount of Rents, Fees, &c., Received by the Mines Department during the Year ending 31st December, 1937.

Head of Revenue.	Amount.
	£ s. d.
Rent of Auriferous and Mineral Lands	9537 17 2
Fees, Auriferous and Mineral Lands	1059 2 2
Survey Fees	2247 19 11
Fees under the Explosives and Inflammable Liquids Act	1609 10 9
Total	£14,454 10 0

Comparative Statement of Revenue from Mines, being Rents, Fees, Storage of Explosives, &c. (exclusive of Survey Fees), Paid to the Treasury for the Years ending 30th June, from 1882 to 1903, and for Six Months ending 31st December, 1903, and for the Years ending 31st December, 1904 to 1937 inclusive.

Year.	Amount.			Year.	Amount.		
	£	s.	d.		£	s.	d.
1882	23,077	1	9	1910	22,221	18	0
1883	15,439	14	5	1911	20,556	15	10
1884	6981	11	10	1912	17,639	19	11
1885	11,070	5	7	1913	19,410	17	8
1886	12,523	10	4	1914	14,087	0	6
1887	14,611	11	5	1915	17,679	3	6
1888	23,502	8	4	1916	14,678	19	10
1889	17,254	9	0	1917	14,669	7	2
1890	26,955	4	9	1918	17,833	14	9
1891	37,829	16	5	1919	15,388	7	7
1892	17,568	18	4	1920	16,767	11	6
1893	16,971	9	2	1921	11,248	14	11
1894	16,732	7	7	1922	14,184	7	3
1895	15,323	1	9	1923	13,224	11	9
1896	20,901	13	2	1924	14,678	13	11
1897	25,631	0	3	1925	14,229	8	7
1898	33,661	13	9	1926	15,163	15	7
1899	24,696	10	5	1927	16,887	9	9
1900	28,380	11	10	1928	14,313	12	0
1901	21,569	5	2	1929	14,665	10	7
1902	19,471	0	1	1930	11,166	7	2
1903	17,776	14	3	1931	11,520	1	10
1903, 1 July to 31 Dec.	14,758	17	1	1932	10,097	18	6
1904, Jan. to Dec.	16,631	8	2	1933	9459	6	9
1905	20,208	17	0	1934	11,166	2	11
1906	24,136	12	5	1935	10,548	10	0
1907	24,794	7	7	1936	11,023	11	3
1908	20,311	3	0	1937	12,206	10	1
1909	22,804	1	5				

The above Statement does not include Stamp Duties upon Transfer of Leases and Tax payable upon Dividends, from which sources large sums are derived.

RETURN showing the Number and Area of Leases Held under the Mining Act in force on 31st December, 1923 to 1937, inclusive.

Nature of Lease.	In force on 31st Dec., 1923.		In force on 31st Dec., 1924.		In force on 31st Dec., 1925.		In force on 31st Dec., 1926.		In force on 31st Dec., 1927.		In force on 31st Dec., 1928.		In force on 31st Dec., 1929.		In force on 31st Dec., 1930.		In force on 31st Dec., 1931.		In force on 31st Dec., 1932.		In force on 31st Dec., 1933.		In force on 31st Dec., 1934.		In force on 31st Dec., 1935.		In force on 31st Dec., 1936.		In force on 31st Dec., 1937.	
	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.
		Acres.		Acres.		Acres.		Acres.		Acres.		Acres.		Acres.		Acres.		Acres.		Acres.		Acres.		Acres.		Acres.		Acres.		Acres.
For Minerals, Silver, Tin, &c.	614	21,880	460	23,308	532	23,588	541	22,129	642	25,604	728	28,103	652	27,052	418	18,321	379	17,101	284	13,320	326	16,734	444	18,716	500	19,802	585	21,096	603	21,368
For Coal, Slate, Shale, &c.	66	16,053	27	8901	35	9922	49	13,136	39	11,077	52	15,407	36	11,022	32	9960	25	7223	32	6104	39	7495	51	8439	47	6635	48	7249	50	6778
For Gold Dredging Claims	108	1687	91	1829	70	1340	42	870	38	749	40	830	36	746	40	830	57	999	77	1987	128	3879	167	3987	162	3190	155	3183	22	2619
	33	369	20	289	20	195	42	363	41	502	52	626	60	756	30	353	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mining Easements	81	606	77	592	77	570	68	494	77	484	77	475	55	409	73	504	77	434	48	316	79	475	94	578	107	629	112	634	112	663
Machinery Sites	30	124	26	115	27	112	25	150	21	110	29	169	25	171	18	117	20	209	18	120	17	119								
Licences to search for Coal or Oil	36	34,761	21	38,528	19	14,130	8	10,669	4	5090	7	7200	9	10,844	3	1080	1	800	1	320	2	796	2	3670	2	4200	5	10,900	6	10,600
Water-rights, Mineral and Gold	435	2147 & 1612 sluice-heads	338	1990 & 152 sluice-heads	371	2167 & 1604 sluice-heads	360	2190 & 1591 sluice-heads	394	2246 & 1748 sluice-heads	371	1552 & 1581 sluice heads	486	2359 & 2053 sluice-heads	364	2095 & 1558 sluice-heads	388	2078 & 1546 sluice-heads	391	2448 & 1473 sluice-heads	400	1905 & 1650 sluice-heads	403	2015 & 1760 sluice-heads	447	2092 & 1835 sluice-heads	466	1963 & 2034 sluice-heads	467	2243 & 2049 sluice-heads

TABLE showing the Average Annual Prices for Minerals During Recent Years.

	Average for 1924.	Average for 1925.	Average for 1926.	Average for 1927.	Average for 1928.	Average for 1929.	Average for 1930.	Average for 1931.	Average for 1932.	Average for 1933.	Average for 1934.	Average for 1935.	Average for 1936.	Average for 1937.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Copper – Standard, spot : per ton	63 4 3	61 9 7	58 0 8	59 5 8	72 2 10	75 19 7	54 3 7	38 7 9	31 14 7	32 11 4	30 6 4	31 18 1	36 12 6	60 5 9	Electrolytic
Lead—Soft Foreign : per ton	33 13 11	35 17 3	31 2 2	21 9 6	22 13 6	23 4 11	18 3 1	13 0 7	12 0 9	11 16 1	11 1 0	14 5 8	16 7 9	23 6 1	
Spelter : per ton	33 12 0	36 5 0	34 2 8	26 6 1	25 14 9	24 15 1	16 16 9	12 9 0	13 13 10	15 14 11	13 15 6	14 0 0	14 6 11	22 6 8	
Tin—Standard, spot : per ton	248 17 4	261 1 8	291 3 0	254 17 7	216 6 6	263 18 10	141 19 1	118 9 1	135 18 10	194 13 4	230 7 5	225 14 6	208 6 6	242 6 7	
Silver—Standard, spot : per oz.	s. d. 2 9·97	s. d. 2 8	s. d. 2 4·2	s. d. 2 2·38	s. d. 2 2·15	s. d. 2 0·57	s. d. 1 5·66	s. d. 1 2·593	s. d. 1 5·842	s. d. 1 6·144	s. d. 1 9·208	s. d. 1 9·951	s. d. 1 9·647	s. d. 1 9·65	
			£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Osmiridium : per oz.	...	...	11 13 4	21 16 5	25 9 0	22 18 1	17 0 9	14 7 9	11 11 0	8 16 9	9 11 2	9 0 0	12 10 0	15 12 6	
Wolfram : per ton	...	...	70 0 0	61 10 0	104 5 0	144 5 0	105 0 9	64 0 0	62 16 0	81 2 6	94 0 0	175 0 0	161 5 0	325 19 0	WO_3
Nickel : per ton	...	...	...	...	...	171 0 0	170 0 0	183 15 0	234 7 6	235 0 0	225 0 0	200 0 0	178 4 0	145 0 0	

MINES DRAFTING BRANCH.

The number of working plans in use and which are all kept up to date is 211, as compared with 209 in 1936.

Instructions issued to surveyors	263
Diagrams received from surveyors	187
Diagrams drawn on leases	448
Consolidated and other diagrams drawn	46
Lithographs entered to date	102
Various tracings prepared	40
Tracings for Launceston	243
Manuscripts entered to date	12
New manuscript plans drawn	2
Geological colour work	2
Underground surveys examined	62

STAFF.

The Government Geologist (Mr. P. B. Nye, M.Sc., B.M.E.) was granted a further extension of special leave from 21st September, 1937 to 30th June, 1938, to continue his duties as chief executive officer of an aerial survey being conducted jointly by the Commonwealth, Western Australia, and Queensland Governments in Northern Australia.

Miss L. Broomby was appointed to the position of typist, new office, Lands, Mines, Registration and Treasury Departments, Launceston, as from 20th March, 1937.

Mr. John R. Falconer was appointed to the position of Registrar of Mines, Zeehan (*vice* Mr. L. T. Curtis, resigned), as from 14th May, 1937.

The Chief Inspector of Mines and Explosives (Mr. J. O. Hudson) was retired from the Public Service on 1st November, 1937, having reached the retiring age, but his services were retained in a temporary capacity for a period of three months.

CONCLUSION.

I desire to express my appreciation of the loyal and efficient help rendered by all officers of the Department, including the Mining Drafting Branch, and to the wardens and registrars of mines of the respective districts.

I have the honour to be,

Sir,

Your obedient servant,

J. B. SCOTT,
Secretary for Mines.

APPENDIX I.

REPORT OF ACTING GOVERNMENT GEOLOGIST FOR 1937.

The Acting Government Geologist (Mr. F. BLAKE) reports:—

Field Work.

The principal field examination made was that of the Surveyor and Deception Ranges District, west and adjoining Jane River goldfield (south-west region). Numerous other surveys and examinations were made of districts, mines, mineral deposits, &c.

The following list includes all field work, surveys, &c., which were undertaken during the year, and the officers by whom they were conducted:—

(1) Examination of rock structure at Kingston dam site, by F. Blake.
(2) Inspection of portion of Golconda Goldfield, by F. Blake.
(3) Examination of tin deposits at Ringarooma, by F. Blake.
(4) Examination of gold prospect at Alberton, by F. Blake.
(5) Inspection of Dawn of Peace Mine, Branxholm, by F. Blake.
(6) Survey of Surveyor and Deception Ranges District, by F. Blake, and assisted by T. D. Hughes.
(7) Investigation of limestone deposits at Gunn's Plains and Blythe River, by F. Blake.
(8) Survey of bore-sites at Lefroy, by F. Blake.
(9) Survey of underground workings at Union Mine, Back Creek, by F. Blake.
(10) Examination of McCoy's wolfram prospect, Liena, by F. Blake.
(11) Survey of Law-Kem-Law Mine, Moina, by F. Blake and T. D. Hughes.
(12) Survey of Higgs' Gold Mine, Narrawa Creek, by F. Blake and T. D. Hughes.
(13) Inspection of reported occurrence of iron ore, Wilmot River, by F. Blake.
(14) Survey and levelling boreholes and workings in Tasmanite Shale at Latrobe and Railton, by F. Blake and T. D. Hughes.
(15) Examination of Red Robin Mine, Moina, by F. Blake.
(16) Sampling Tasmanite Shale at China Flats, Railton, by F. Blake.
(17) Examination of Donohue's tin prospect at Mt. Agnew, by F. Blake.
18) Inspection of Montana Western Mine,, Zeehan, by F. Blake.
(19) Inspection of Comstock adit workings, Zeehan, by F. Blake.
(20) Examination of Comet Mine, Dundas, by F. Blake.
(21) Examination of Bailey's galena prospect, North Dundas, by F. Blake.
(22) Inspection of Kynance Mine, Zeehan, by F. Blake.
(23) Track-cutting supervision in Meredith Range District, by Q. J. Henderson.
(24) Examination of various aid-to-mining prospects in vicinity of Zeehan and Dundas, by Q. J. Henderson.
(25) Examination of Cleveland Mine, near Waratah, by Q. J. Henderson.
(26) Examination of gold prospect in vicinity of Blue Peak, near Arthur River, by Q. J. Henderson.
(27) Examination of Golden Hill prospect, vicinity of the Que River, by Q. J. Henderson.
(28) Inspection of aid-to-mining prospects at West Bischoff, by Q. J. Henderson.
(29) Survey of tracks on west side of Meredith Range, by Q. J. Henderson.
(30) Inspection of extended prospecting claim, Adamsfield, by Q. J. Henderson.
(31) Examination of aid-to-mining prospects at Mt. Stronach, Mt. Scott, Bell's Hill, Branxholm, and Wyniford River, by Q. J. Henderson.
(32) Reconnaissance and track-cutting supervision, between Rocky River and Post-office Creek, Meredith Range, by Q. J. Henderson.

Reports.

In connection with the above and other matters, the following reports were prepared:—

(1) Sampling of Tasmanite Shale at China Flats, Railton, by F. Blake.
(2) Alluvial Boring Campaign, Mussel Roe District, by F. Blake.
(3) Track-cutting operations in vicinity of Waratah, by Q. J. Henderson.
(4) Ivanhoe Mine, vicinity of Storey Creek, by Q. J. Henderson.
(5) Geology of the Bell's Plains and Gold Creek Area, by Q. J. Henderson.
(6) McCoy's Wolfram Prospect, Liena District, by F. Blake.
(7) Higgs' Gold Mine, Narrawa Creek, by F. Blake.
(8) Law-Kem-Law Mine, Moina, by F. Blake.
(9) Interpretation of Levels, Borings, &c., with Relation to Faulting of Tasmanite Shale, between between Latrobe and Railton, by F. Blake.
(10) Tanner's Bay Tinfield, Flinders Island, by F. Blake.
(11) Limestone Deposits in the vicinity of Melrose and Paloona, by Q. J. Henderson.
(12) Examination of Union Mine, Back Creek, by F. Blake.
(13) Geological Reconnaissance of Surveyor and Deception Range District, by F. Blake.
(14) Geological Features Controlling the Future of the Cleveland Mine, vicinity of Waratah, by Q. J. Henderson.
(15) Prospecting Operation at Gold Hill in the vicinity of Que River, by Q. J. Henderson.
(16) Drilling at Catamaran Mine, by F. Blake.
(17) Recent Tin Discovery at Queen Hill, Zeehan, by Q. J. Henderson.
(18) The Rio Tinto Iron Deposits, by Q. J. Henderson.
(19) Blythe River Iron Deposits, by P. B. Nye.
(20) Dam Site for Kingston Water-supply, by F. Blake.
(21) Drilling of Lefroy Reefs, by F. Blake.
(22) Boring Campaign on the Arba Lead, Branxholm, by F. Blake.
(23) Boring at Long Struggle Mine, by F. Blake.
(24) Boring Campaign at Amber Hill, Gladstone, by F. Blake.

In addition, numerous departmental reports and recommendations were made in connection with applications for assistance to mining and sustenance for prospecting, &c., in various parts of the State.

Preparation and Publication of Bulletins and Reports.

A bulletin entitled "The Geology and Mineral Deposits of Tasmania" (report, with geological and mineral maps) was completed during the year, and is now in the process of being printed as "Tasmanian Geological Survey Bulletin No. 44.

Arrangements have now been made to publish the numerous short reports, accumulated over a number of years, that have previously been available only in type form. The first of these, arranged geographically, will shortly be issued as Geological Survey Reports (No. 9)—"The North-Eastern District." This will be followed at intervals by No. 10, "The North and North-Western Districts," and No. 11, "The Western District," &c."

Staff.

No alterations have been made to the staff of the Geological Survey during the year.

Mr. P. B. Nye, Government Geologist, was granted extension of leave till June, 1938, to enable him to continue the duties of Executive Officer to the Geological, Geophysical, and Aerial Survey of Northern Australia, in which capacity he has acted during the past three years.

In the absence of the Government Geologist, I have again carried out the work pertaining to that office, and Mr. Q. J. Henderson (Assistant Geologist and Draftsman) has assumed the duties of Field Geologist.

Mr. T. D. Hughes (Geological Draftsman) has assisted me in numerous field examinations and surveys during the past year, and has gained valuable experience for the future.

Track-Cutting and Prospecting Operations.

During the period under review the Officers of the Geological Survey continued to supervise track-cutting and prospecting in selected areas of the western districts during the drier months.

Tracks in the Meredith Range area were extended, but although the geological conditions proved encouraging, no deposits of economic importance were disclosed.

Similar work, in conjunction with geological reconnaissance, was undertaken in Surveyor and Deception Ranges District. There the prospecting proved unsuccessful, though traces of gold were determined in several places.

Routine and Other Duties.

The usual routine duties of interviewing visitors, answering technical correspondence, &c., were undertaken. These were chiefly concerned with the identification of rock and mineral specimens, and furnishing intelligence about mineral deposits, mines, reports, &c., in connection with the mining industry.

Other duties included—

(1) Attendance at meetings of Mine Managers' Board.
(2) Preparation of rock and mineral collections for overseas and interstate exhibitions.
(3) Selection of sites for boring.
(4) Weighing of, and certifying to, parcels of osmiridium being shipped overseas.
(5) Attention and additions to departmental museum.
(6) Setting and correcting papers for mine manager's examination.
(7) Preparation of plans, sections, and maps to accompany reports.
(8) Attention and additions to departmental library.
(9) Completion of boring records.

In conclusion, I desire to acknowledge the assistance given to me at all times, and to record my appreciation of the excellent work carried out by members of the staff of the Geological Survey, who have spared no effort in the administration of their duties for the benefit of the mining industry and the development of the mineral resources of the State.

APPENDIX II.

REPORT OF THE CHEMIST AND ASSAYER.

The Chief Chemist and Assayer (Mr. W. ST. C. MANSON reports:—

During the year the following determinations were made:—Gold, silver, tin, lead, aluminium, arsenic, antimony, beryllium, barium, bismuth, boron, calcium, chlorine, chromium, copper, fluorine, iron, magnesium, manganese, mercury, molybdenum, nickel, osmiridium, phosphorus, platinum, potassium, sodium, sulphur, tantalum, titanium, tungsten, zinc, and zirconium. Analyses were made of ores, minerals, cements, clays, rocks, coal, shale, water, &c.

The number of determinations amounted to, approximately 7600, including 2600 pilot plant determinations. Departmental samples received amounted to 657.

Tasmanite Shale.

From the 30th August to the 18th December, the pilot flotation plant was operated continuously. During this period 40·7 tons of shale were treated—26 from the Goliath Mine and 14·7 from the China Flat area; and the concentrate produced amounted to 10·71 tons. One chemist was totally employed with routine control tests, the number of same amounting to 2600 determinations.

Samples of the China Flat shale were obtained, and the result of tests showed a value of 30 gallons per ton. Shale for pilot plant operation was of a similar grade.

Metallurgical Investigations.

1. *Arsenical Gold Ore from New Golden Gate Mine, Mathinna.*—The sample assayed—

Gold	34·6 dwt. per ton
Silver	14·9 dwt. per ton
Arsenic	3·65%
Iron	5·03%
Sulphide sulphur	2·43%
Sulphate sulphur	0·09%

Amalgamation.—A test at the State battery, Lefroy, extracted 64·4% (20·9 dwt. per ton) of the gold, utilising a 225 battery-screen, and a similar extraction was obtained in the laboratory after grinding to minus 100 mesh.

Treatment of Battery Tailings.—(1) Amalgamation after grinding 96·5% through 200 mesh extracted a further 12·0 dwt., with a residue of 1·5 dwt. Roasting and regrinding before amalgamation did not show any advantage. Total extraction 95·3% (33·1 dwt. per ton).

2. Flotation produced a concentrate representing 10·1% by weight, and assaying 126·7 dwt. per ton. Total extraction, 97·2% (33·6 dwt. per ton). Flotation reagents: soda ash, 1; potassium ethyl xanthate, 0·2; aerofloat (31), 0·16 lb. per ton.

Flotation.—The ore was ground to 98·7% miuus 200 mesh, and with the same reagents as used for flotation of battery tailings, a concentrate weighing 10·86% of the ore, assaying 275·5 dwt. per ton, and a tailing assaying 3·0 dwt. per ton, were obtained. Amalgamation of the flotation tailing extracted a further 5·4%, making the total 97·2%, and cyanidation of the flotation tailing improved the extraction to 98·4%.

2. *Tin Ore from Zeehan Tin Development, No Liability.*—The sample assayed:

Tin	2·71%
Sulphur	26·5

The tin occurs entirely as cassiterite. As preliminary examination of the sample showed the cassiterite to be of extremely small particle size, several samples were prepared to ascertain the actual size of the mineral in the ore. Of 118 particles examined microscopically, 90 were smaller than 20 microns, and consequently a low recovery can be anticipated by table concentration.

Separation of the sulphide minerals from the cassiterite and non-metallic gangue minerals by flotation produced a tailing representing 48% of the ore and containing 83·6% of the cassiterite. Concentration of the flotation tailing resulted in a concentrate containing 48% tin with an overall recovery of only 35%.

Gold-bearing Sandstone from Lisle (Tobacco Creek).

The sample assayed 7 dwt. 4 gr. of gold, and by cyanidation (minus 40 mesh) 92% of the gold was extracted, with consumption of 0·3 lb. and 5 lb. of potassium cyanide and lime respectively.

Mill tailings from Mathinna, assaying 1·6 dwt. per ton of gold were tested by cyanidation by agitation and percolation. Screening analysis showed 61% plus 85 mesh. Percolation resulted in an extraction of 75%, and by agitation 81%.

Tin Ore from Mt. Cleveland.

The sample assayed:

	Per Cent.
Tin	1·3
Sulphur	13·6
Iron	27·1
Copper	0·5

The predominant sulphide was pyrrhotite; chalcopyrite and pyrite were also present.

Microscopical examination showed the cassiterite sizes as ranging from 400 to under 25 microns, a fair proportion being between 25 and 64 microns. Flotation tests were desired.

The sample was ground to 96% minus 200 mesh, and a concentrate was obtained representing 35·2% by weight, assayed 0·1% tin and 37·6% sulphur, and contained 97·3% of the tin. The reagents used were soda ash, copper sulphate, potassium ethyl xanthate, and cresylic acid, the amounts being 1·0, 1·0, 0·2 and 0·1 lb. per ton respectively. A vanning assay of the flotation tailing resulted in an overall recovery of 40%, with a concentrate assaying 50% tin. The sample was ground to the above fineness to obtain the maximum separation of the tin, and with a coarser grinding an improvement in concentration of the flotation tailing would be anticipated.

Slimes from Golden Gcte Lease No. 1201, *Mathinna.*

Flotation, Cyanidation, and treatment by the Edquist process desired. The sample assayed:

Gold	2·0 dwt. per ton
Arsenic	0·57%
Sulphate	1·14%
Sulphide sulphur	0·25%

Water soluble salts—

Lime	0·51%
Magnesia	0·39%
Sulphate	1·14%

The sample consisted of a mixture of sand and slimes, 79% being minus 200 mesh.

Flotation resulted in a concentrate assaying 58 dwt./ton with a recovery of approximately 50%.

Extraction for 20 hours with lime and cyanide was 1·7 dwt. per ton, with consumptions 1·7 lb. KCN and 18 lb. CaO per ton.

A concentrate, assaying 73·6 dwt. per ton, representing a recovery of 81%, was obtained by the Edquist process. Reagents were— lime 18, potassium cyanide 1·7, charcoal 10, reagent (301) 0·4, pine oil 0·1, lb. per ton.

General.

The usual routine work was attended to, and information supplied relative to methods of ore treatment, sampling, &c. In conclusion I wish to place on record my appreciation of the services rendered by the staff.

Appendix III.

REPORT OF THE CHIEF INSPECTOR OF MINES.

The Chief Inspector (Mr. W. H. Williams) reports:—

I have the honour to furnish the following report upon the administration of the provisions of the Mines and Works Regulation Act for the year ended on the 31st December, 1937:—

The average number of persons employed in mining, metallurgical, and quarrying operations was 5876, representing an increase of 444 compared with the previous year.

The appended tables reveal—

(1) Fatalities and casualties attended with non-fatal injuries, at the mines, works, and quarries in the State.

(2) The rate per 1000 of fatalities and non-fatal injuries in the different mineral divisions, and the average number of men employed in each division.

(3) The average price of metals for the years 1923 to 1937 inclusive.

Accidents.

The total number of accidents recorded under the provisions of Section 26 of the Act was 107, representing an increase of 10, compared with the number registered for the previous year.

The 107 accidents resulted in injury to 108 persons.

There was an increase of one accident in the Northern and Southern Division, and a decrease of one accident in the North-Eastern Division. Four additional accidents occurred in the Eastern Division, and an increase of a similar number in the North-Western Division, whilst two additional accidents occurred in the Western Division.

Five accidents were attended, with fatal injuries to a like number of persons; as against three accidents, involving four fatalities, recorded for the previous year.

The non-fatal accidents totalled 102, and involved injury to 103 persons; compared with 94 accidents, involving injury to 96 persons, recorded during 1936.

The rate per 1000 persons employed, killed and injured, was 18·379; as against 18·409 for the previous year.

The rate per 1000 persons employed, fatally injured, was 0·85; compared with 0·736 for 1936.

The rate per 1000 persons employed, incapacited for more than 14 ordinary days, was 17·529; compared with 17·673 for the previous year.

Two of the fatal accidents were due to falls of ground in surface workings; three were associated with underground operations, one being due to a miner boring with a rock-drilling machine into an unexploded charge of nitro-compound, a second being due to a person falling from a ladderway, and the third resulting from a fall of roof in a colliery.

Of the non-fatal accidents, 45 occurred underground, 44 were associated with surface operations at mines, and 13 happened at metallurgical and other works. Thirty-six of the underground accidents were of a miscellaneous nature, six were due to falls of ground, one was due to a person falling down a shaft, one was the result of an explosion of a detonator during other than blasting operations, and one was caused by the explosion of an acetylene-gas lamp. Fifty-two of the surface accidents were of a miscellaneous nature; two were due to falls of ground in opencut workings; one was due to the explosion of a detonator during other than blasting operations; one accident, involving serious injury to two persons, was the result of hand-drilling into an unexploded charge of nitro-compound; and one person was injured as the result of loose rock falling and striking a quantity of explosives, causing the latter to explode, in an open-cut workings.

Prosecutions.

Legal proceedings were instituted against four persons for failing to use water to allay dust during rock-drilling operations. Fines were imposed in two cases, and convictions were recorded in the other two.

In one case the person in immediate charge was proceeded against for failing to enforce the use of water during rock-drilling operations, but the case was dismissed.

Convictions were obtained against a shift-boss, a miner, and a powder-monkey, for carelessness in the use of explosives. Fines, ranging from £2 to £3, with costs, were imposed.

A shift-boss was convicted for riding in a cage with mining tools, in a main shaft, and was ordered to pay a fine and costs amounting to £3 14s.

Operations—Southern Division.

The Electrolytic Zinc Company operated continuously at Risdon, and the recorded production from other than Tasmanian ores was 43,254 tons of zinc, valued at £1,276,470; and 162·2816 tons of metallic cadmium, valued at £59,042.

In addition, 26,496 tons of slab zinc, valued at £792,272, and 40·6 tons of metallic cadmium, valued at £14,455, were extracted from zinc calcines recovered from the treatment of Tasmanian ores.

Operations gave employment to an average of 1014 men.

Continuous operations by the Australian Commonwealth Carbide Company resulted in an output of 6322 tons of carbide, valued at £126,440. The return of limestone was 12,664 tons, valued at £10,580. The average number of men employed was 140.

Productive mining was continuous at the Catamaran Coal Mine, and accounted for an output of 10,200 tons of coal, valued at £8160, operations giving employment to 36 men.

Six men were engaged at the Sandfly Colliery, and produced 1342 tonsof coal, valued at £933.

Latterly, attention was again directed to the coal series at Langloh, and preparations are being made for the establishment of productive operations.

Adamsfield.—The average pice of osmiridium inclined to £15 12s. 6d., and the recorded output from alluvial operations was 329·08 oz., valued at £5247. Latterly, the Osmiridium (Tas.) No Liability was formed to exploit a lode occurrence, and initial progress was made in regard to the installation of a treatment plant and developmental operations at the mine.

Cox Bight.—Miscellaneous parties, operating on alluvial occurrences, accounted for an output of 3·53 tons of tin oxide, containing 2·475 tons of metallic tin, valued at £602.

Quarries.—The bluestone quarries and quarries for the production of shale and other material, for the manufacture of bricks, worked continuously during the year.

COMPARATIVE Table of Statistics of Accidents in and about the Mines of Tasmania from 1st July, 1892, to 31st December, 1937.

Period.	Number of Miners Employed.	Number of Accidents.	Number of Persons		Total Killed and Injured.	Average per 1000 Killed and Injured.	Average per 1000.	
			Killed.	Injured.			Killed.	Injured.
1 July, 1892, to 30 June 1893	3295	28	4	25	29	8·8001	1·214	7·586
„ 1893 „ 1894	3403	25	7	20	27	7·934	2·057	5·877
„ 1894 „ 1895	3789	26	4	24	28	7·390	1·058	6·332
„ 1895 „ 1896	4160	22	7	16	23	5·529	1·682	3·847
„ 1896 „ 1897	4303	36	7	31	38	8·831	1·627	7·204
„ 1897 „ 1898	5530	36	13	33	46	8·318	2·351	5·967
„ 1898 „ 1899	6180	35	9	34	43	6·957	1·456	5·501
„ 1899 „ 1900	6834	19	7	16	23	3·365	1·024	2·341
„ 1900 „ 1901	7017	29	8	23	31	4·417	1·140	3·278
„ 1901 „ 1902	6438	38	7	35	42	6·524	1·088	5·437
„ 1902 „ 1903	6484	44	6	43	49	7·557	0·925	6·632
„ 1903, to 31 Dec., 1903	5604	27	8	20	28	4·977	1·428	3·569
1 Jan., 1904 „ 1904	6192	73	9	65	74	11·951	1·454	10·497
„ 1905 „ 1905	6586	34	7	30	37	5·618	1·063	4·555
„ 1906 „ 1906	7004	65	4	61	65	9·280	0·571	8·708
„ 1907 „ 1907	7516	68	6	64	70	9·314	0·798	8·515
„ 1908 „ 1908	6464	60	6	58	64	9·900	0·928	8·972
„ 1909 „ 1909	6054	54	6	49	55	9·085	0·991	8·093
„ 1910 „ 1910	5770	63	8	57	65	11·265	1·386	9·878
„ 1911 „ 1911	5247	80	4	77	81	15·437	0·762	14·675
„ 1912 „ 1912	5566	60	53*	53	106	19·044	9·522	9·522
„ 1913 „ 1913	6106	64	6	60	66	10·809	0·982	9·826
„ 1914 „ 1914	4741	69	9	62	71	14·977	1·896	13·081
„ 1915 „ 1915	3908	71	6	67	73	18·679	1·535	17·144
„ 1916 „ 1916	3864	53	2	51	53	13·716	0·517	13·198
„ 1917 „ 1917	4050	50	2	48	50	12·345	0·493	11·852
„ 1918 „ 1918	4279	50	5	45	50	11·684	1·168	10·516
„ 1919 „ 1919	4413	58	1	57	58	13·143	0·226	12·917
„ 1920 „ 1920	5364	52	2	50	52	9·694	0·372	9·322
„ 1921 „ 1921	4011	40	3	37	40	9·972	0·748	9·224
„ 1922 „ 1922	3835	31	4	27	31	8·083	1·043	7·040
„ 1923 „ 1923	4785	64	2	63	65	13·584	0·417	13 166
„ 1924 „ 1924	5264	72	1	73	74	14·057	0·189	13·867
„ 1925 „ 1925	5110	62	2	61	63	12·328	0·391	11·937
„ 1926 „ 1926	5309	54	5	52	57	10·736	0·941	9·794
„ 1927 „ 1927	5044	70	5	65	70	13·877	0·991	12·886
„ 1928 „ 1928	5170	47	1	46	47	9·090	0·193	8·897
„ 1929 „ 1929	4986	59	17	55	72	14·440	3·409	11·031
„ 1930 „ 1930	4606	55	4	52	56	12·158	0·868	11·289
„ 1931 „ 1931	4391	38	8	35	43	9·792	1·821	7·970
„ 1932 „ 1932	4605	71	4	67	71	15·418	0·868	14·549
„ 1933 „ 1933	4510	77	7	71	78	17·295	1·552	15·742
„ 1934 „ 1934	4843	108	4	105	109	22·506	0·826	21·680
„ 1935 „ 1935	5409	142	1	141	142	26 252	0 184	26·067
„ 1936 „ 1936	5432	97	4	96	100	18·409	0·736	17·673
„ 1937 „ 1937	5876	107	5	103	108	18·379	0·850	17·529

* Mount Lyell disaster.

TABLE showing Rate per Thousand Killed and Injured in different Divisions for the Year 1937.

Division.	Average Number of Men Employed.	Number of Accidents.	Number of Persons		Total Number Killed & Injured.	Average per 1000 Killed and Injured.	Average per 1000.	
			Killed.	Injured.			Killed.	Injured.
Northern and Southern	1465	5	1	4	5	3·412	0·682	2·730
North-Eastern	685	7	1	6	7	10·218	1·459	8·759
Eastern	650	8	...	8	8	12·307	...	12·307
North-Western	679	15	...	16	16	23·659	...	23·659
Western	2397	72	3	69	72	30·037	1·251	28·786
Total	5876	107	5	103	108	18·379	0·850	17·529

ANALYSIS of Statistics of Accidents for Western Division.

Division.	Number of Miners Employed.	Number of Accidents.	Number of Persons		Total Number Killed & Injured.	Average per 1000 Killed and Injured.	Average per 1000	
			Killed.	Injured.			Killed.	Injured.
Mount Lyell	1714	54	1	53	54	31·505	·583	30·922
Zeehan, &c.	683	18	2	16	18	26·354	2·928	23·426
Total	2397	72	3	69	72	30·037	1·251	28·786

APPENDIX IV.

REPORT OF THE CHIEF INSPECTOR OF EXPLOSIVES AND INFLAMMABLE MATERIALS.

The Chief Inspector of Explosives (Mr. W. H. WILLIAMS) reports:—

I have the honour to furnish the following report upon the administration of the provisions of the Explosives Act and the Inflammable Liquids Act for the year ended on the 31st December, 1937:—

The imports of explosives were as follows:—

	Pounds.
Monobel	151,000
Gelignite	590,250
Ligdyn	95,950
Blasting gelatine	5,700
Blasting powder	13,000
Sporting powder	1,375
	Number.
Detonators	673,000

Importations were controlled to ensure that compounds were of good chemical and physical condition, and recorded deterioration of compounds was confined to small isolated quantities affected by local conditions of storage subsequent to importation.

Accidents.

Five accidents were associated with the handling and use of explosives. In one case a miner sustained injuries, to which he ultimately succumbed, as the result of boring, with a rock-drilling machine, into an unexploded charge. In a second case a quantity of nitro-compound was exploded by two persons proceeding to deepen, by hand-drilling, a hole, which accidentally contained an unexploded charge. Both were seriously injured. A powder-monkey located a stray 6-inch length of fuse, with a detonator attached, and, with the object of destroying the detonator, ignited the fuse, but the detonator exploded prematurely and injured his right hand. An underground employee sustained a mutilated hand as the result of the explosion of a detonator, which was alleged to have been attached to a fuse and to have exploded when he withdrew it from a heap of broken ore in a stope. At an open-cut workings a quantity of rock fell on explosives being used for blasting operations, and caused an explosion, which injured the powder-monkey.

The behaviour and quality of imported fireworks was kept under surveillance, and one class, traded as "spitfires," was prohibited owing to dangerous explosive characteristics.

Prosecutions.

Legal proceedings were instituted, and convictions were obtained in eight instances, three of which concerned the careless use of explosives.

A pump attendant and the customer were prosecuted for servicing a car whilst the latter person was smoking. A pump attendant was proceeded against for committing a dangerous practice of servicing a motor-cycle equipped with unextinguished acetylene lights, and action was instituted against an attendant for servicing a motor-vehicle whilst the engine was running.

Two cases were directed against the storage of mineral spirit in unlicensed premises.

Revenue.

The following licences were issued, and fees received thereon for the appended periods:—

Explosives Act (1st January to 31st December, 1937).

	No.	£	s.	d.
Magazine licences	70	68	10	0
Permits to sell explosives	275	68	10	0
Permits to import explosives	13	26	0	0
Permits to convey explosives	50	12	10	0
Permits to sell fireworks only	121	15	2	6
		£190	12	6

Inflammable Liquids Act (1st July, 1937, to 30th June, 1938).

	No.	£	s.	d.
Licences for stores	648	972	15	0
Registration of premises	255	63	5	0
Permits to import	7	1	15	0
Increased storage	21	10	10	0
Transfer fees	5	1	5	0
Alteration of licences	30	7	10	0
		£1,057	0	0
Magazine rents		103	15	0
Total revenue		£1,351	7	6

The total revenue represents an increase of £104 13s. 7d., compared with that for the previous year.

Appendix V.

REPORTS OF INSPECTORS OF MINES.

Inspector W. H. Williams reports:—

I have the honour to furnish the following report upon the work of inspection and administration of the provisions of the Mines and Works Regulation Act, the Explosives Act, and the Inflammable Liquids Act, for the year ended on the 31st December, 1937:—

The average number of persons engaged in mining and metallurgical operations inclined to 1409, and the increased employment was associated with a pronounced increase in the quantity and value of the various minerals, other than coal, produced during the year.

Fifteen accidents, involving one fatality and fourteen casualties, attended with non-fatal injuries, were registered under the provisions of the Mines and Works Regulation Act. Seven accidents occurred underground, and eight were associated with surface operations, seven of the latter being connected with the mining of alluvial tin.

The fatal accident occurred at a miner's right claim on Cape Barren Island, and was the result of a fall of face-ground whilst the miner was unnecessarily venturing under the face of alluvial workings, which had been undermined by nozzling, to ascertain the ensuing prospects for tin oxide.

The manager of an alluvial mine sustained a broken leg as the result of being struck by a boulder which had been resting precariously on a heap of fallen face-ground and which he attempted to move, in a different direction, with a shovel. An employee at an alluvial workings sustained a fracture of an ankle-bone as the result of the ankle being jammed between spars that were being unloaded from a motor-lorry. A fourth person sustained concussion and shock as the result of slipping and falling a distance of 15 feet whilst engaged on the erection of race-trestling. Several persons were carrying a length of column-pipe at an alluvial workings when one slipped and caused the pipe to strike one of the other employees and fracture his right fibula.

With one exception, the underground accidents were not of serious moment, and the limited number of this class of accident continued to reflect creditably upon the conduct of operations.

Material advances were made in the control of the dust nuisance at two plants, where dry processes were necessarily in application, and an inception of the means prescribed for dust suppression was rewarded with commendable results.

Facilities for rendering first aid, bathing and changing accommodation, latrine arrangements, crib-houses, and shelter-sheds were maintained at the principal mines, but the appointments in several cases are still of a mean order, and material innovations are possible and would add to the contentment of employees. At one mine a new and commodious change-house was provided, with gratification to both employer and employees.

Continued expansion of storage requirements, and the maintenance of existing units for the handling and keeping of inflammable liquids again commanded considerable attention, but these matters were controlled with reasonable certitude, and no untoward incident was encountered.

In one instance, exception was taken to the condition of the earth embankment of a dam used for mining purposes, and, as a result, the Chief Inspector of Mines directed that the dam be emptied and the embankment repaired. The former requirement was partially observed, but the embankment has not yet been repaired.

In addition to the duties ordinarily performed under the provisions of the foregoing Acts, examinations were made of mining properties for the purposes of the Aid to Mining Act, advice was rendered on the conduct of mining operation, special visits were made to the Magnet Mine, and an investigational visit was made to the Jane River Goldfield in connection with the litigation and other matters under the provisions of the Mining Act, all of which occupied an appreciable amount of the time normally available for inspectorial duties.

Mining Operations and Production.

Coal.

Industrial troubles reacted upon productive mining, and the total output declined from 111,167 tons to 72,728 tons, valued at £52,859 at the mine bins.

Operations at the Cornwall Colliery gave employment to 102 men, and the output was 28,691 tons, valued at £20,876. This colliery was affected to the greatest extent by industrial troubles, the total production of coal being 27,596 tons less than that for the previous year. The

output principally accrued from an advancement of gaining places, bords, and cut-throughs in the No. 3 tunnel workings, where the seam maintained its normal width and quality. Latterly, attention was directed to the development of the upper "blue" seam from the major workings, and with the application of longwalling it is anticipated that the future production will comprise an increasing percentage of coal from this seam.

The output of coal from the Mount Nicholas Colliery declined to 22,224 tons, valued at £17,422, and 85 men were employed. Troubled seam conditions continued to hamper normal operations, and portion of the output accrued from developmental and productive mining on the 4-ft. 9-in. seam, 108 feet below the major workings. Recently the colliery was acquired by the Cornwall Coal Company, and mining was suspended, all equipment being withdrawn from the major workings, which have been abandoned.

The Jubilee Company employed 42 men and produced 13,669 tons of coal, valued at £8708, representing a reduction of 5090 tons on the output recorded for the previous year. Activities were characterised by continued splitting and extraction of pillars, advancement of bords, installation of an endless ropeway to replace the main-and-tail-rope haulage, and the direction of attention to reopening the workings of the Cardiff seam, which accounted for a small percentage of the total output of coal.

Operations were more active at the Fingal Colliery, and the output increased to 3202 tons, valued at £1600. Production was again derived from an advancement of gaining bords and cut-throughs northerly from the main heading.

Although troubled seam conditions continued to react against production of a sufficient quantity to satisfy the market offering for the quality of coal producible from the seam at the Stanhope Colliery, the output advanced to 4053 tons, valued at £3141, and operations gave regular employment to an average of 8 men.

Modified longwalling was less active on the dip seam at the York Plains Colliery owing to the partial introduction of other means to serve the fuel requirements that had been satisfied by this class of coal, and the output receded to 889 tons, valued at £1112.

Gold.

The estimated production of fine gold was 2945·1 oz., valued at £20,757·98, as against 1293·3 oz., valued at £9084·7, recorded for the previous year.

The increase was due to the inception of continuous treatment of complex slimes at Beaconsfield by the Grosvenor Gold Mines N.L., operations accounting for 2359·4 oz., valued at £16,655·4. A total of 75·3 oz. were recovered by mechanically and chemically processing battery sands and debris, 95·5 oz. accrued from the milling of mine dumps, 80 oz. were recovered as reef gold, 63·3 oz. were extracted from tin oxides recovered from the sluicing of stanniferous alluvials, and 271·6 oz. resulted from operations on auriferous alluvials.

A total of 136·8 oz. of alluvial gold, containing 125·4 oz. of fine gold, valued at £885, was recovered by miscellaneous parties operating on the auriferous alluvials in the Lisle Basin.

Sluicing was intermittently pursued by a party of tributers at the Cradle Creek Mine, and an output of 39 oz., valued at £275, resulted.

Prospecting and investigational operations on the Camden, Denison, and Golconda fields were not attended with any development of moment. The Wallis Company reopened some old workings on the Denison field, but an official examination discounted the earlier reports upon reefing prospects, and the project was abandoned.

Despite the absence of pronounced activities, interest continued to be directed to the possibilities of a restoration of productive mining at Alberton, and results of diamond drilling from the crosscut off the bottom adit at the Long Struggle Mine were sufficiently encouraging to induce the owners to continue the crosscut to ultimately qualify the drilling prospects.

Operations on the Mount Victoria leases were principally confined to the installation of crushing units, and the treatment of 4 tons of quartz and 50 tons of battery sands, from which 12·7 oz. of bullion, containing 9·28 oz. of fine gold, valued at £65·8, was recovered.

A trial parcel of 15 tons of quartz from the Forest King reef returned 3·36 oz. of fine gold, valued at £23·68, and afforded no encouragement for further mining.

Prospecting and productive operations on the New River alluvials and reefing series were not attended with material developments. Although encouraging prospects were occasionally obtained, the general results of scout boring of the alluvial flats were not sufficiently attractive to induce mainland interests to attach economic importance to any area that might be available for the establishment of productive operations.

Small scale sluicing by the New River Gold Development accounted for 30·5 oz. of fine gold, valued at £215. Operations on the alluvials and reefing series were, however, insufficiently encouraging to induce any pronounced activity.

Developments at Heathorn's Prospect were disappointing. A total of 2·17 oz. of fine gold, valued at £15·25, accrued from the milling of 26·5 tons of quartz, and interest in the prospects waned.

Trial parcels of quartz, aggregating 10 tons, were produced from the reefing occurrence at the Linton P.A., Forester, and returned 1·89 oz. of gold, valued ot £13·25. The result was an indifferent one, and operations were not persisted with.

No developments of moment are to be attached to mining activities at Mathinna, productive operations being restricted to an output of 12·36 fine oz., valued at £158·37, from the mechanical processing of battery sands at the Golden Gate Mine; to a return of 21·37 fine oz., valued at £150·85, from gold recovered from crushing 97·5 tons of quartz at the Old Boy's Mine; to a return of ·87 fine oz. from gold recovered from crushing a trial parcel of 17·3 tons of quartz from a reefing occurrence prospected by Messrs. Brock Brothers; and to a production of alluvial gold, containing 9·11 fine oz., valued at £64·23, by miscellaneous operators.

Operations in the Beaconsfield area were principally centred in developments at Golden Horseshoe Mine and in the continued application of flotation practices to the treatment of the complex slimes at the site of the old Tasmania battery. Alluvial mining and miscellaneous treatment of sands and battery debris accounted for 74·37 oz., valued at £525·8.

Impoverished values, irregularities, and faulting of the reefing occurrence, and lack of finance precluded developmental operations below the 60 feet level at the Golden Horseshoe Mine, and attention was principally concerned with surface detritals and formations at and northerly from the productive workings. A total of 59 tons of material was crushed for a return of 21·5 oz. of fine gold, valued at £151·95.

Operations by the Grosvenor Gold Mines N.L., in connection with the continued treatment of the complex slimes, were of major importance at Beaconsfield, but the quantity of material available for treatment is approaching exhaustion. A total of 16,197 tons of slimes was subject to flotation and calcination of the recovered concentrate returned 842·38 tons of calcine, containing 2359·4 oz. of fine gold, valued at £16,655·4, and 36 tons of copper, nominally valued at £1965·6. Twenty-six men were employed.

Productive operations in the Lefroy area were mainly concerned with the milling of mine dumps and exploitation of alluvials at Lefroy and Back Creek. A total of 95·5 oz. of fine gold, valued at £674, resulted from the milling of approximately 889 tons of material selected from the Volunteer, Chums, and Pinafore dumps. Operations by miscellaneous parties on the auriferous alluvials at Lefroy, Slaty Creek, and Back Creek accounted for 39 oz. of fine gold, valued at £275.

At the Perpetual Mine (Harris and Lathey) the western drive at the 100 feet level was advanced along the reef to faulted country at the western extremity of the shoot of gold-bearing quartz, after which overhand stoping was pursued, and 55·25 tons of quartz was crushed at the State Battery for a return of 20 oz. of fine gold, valued at £141. Results gave no cause for optimism, and attention was then directed to the old Perpetual workings in which encouraging values were reported to have been left by the previous operators. The main shaft was reconditioned, and the workings were reopened to the bottom level when an official investigation was made and discounted the value of reports upon prospects and economic possibilities. Operations were then suspended at this locality, and the party pursued investigational operations in old workings on the Clansman lode channelling with indifferent results.

Prospecting was pursued by W. Cowie in the locality of the old Industry workings, and an auriferous quartz vein was located from which 3 tons of quartz returned 3·2 oz. of fine gold, valued at £22. The lateral and depth persistence was limited, and the discovery did not merge into importance.

A trial parcel of 10 tons of quartz was produced from the Leura workings, but the crushing return of 1·3 oz. of gold, valued at £9, was not encouraging, and operations were not continued.

Tin.

The recorded production of metallic tin was 884·9 tons as against 750·9 tons for the previous year. The average quotation for metallic tin was £242·3 per ton, an incline of £37·73, and, on the basis of average prices, the value of the output was £211,641.

Piper River.—Tabling of beach sands, near the mouth of the Piper River, was continued by V. J. Miller, and an output of 3·68 tons of concentrate, containing 1·9 tons of metallic tin, valued at £457, resulted from the treatment of 969 cubic yards of material.

Storey's Creek Tin Mining Company.—As a consequence of improved prices for tungsten ores, operations were more concerned with the production of wolfram and the development of the wolfram-tin lode on Nos. 2, 3, and 4 levels in the northern section of the mine.

No. 4 level was driven northerly on No. 2 lode 310 feet to 500 feet from the auxiliary haulage, and the Company was gratified with the persistence of lode-widths and values. No. 3 level was advanced 185 feet, and No. 2 level 210 feet, northerly, and as No. 4 level is appreciably in advance of the other levels, this development augurs well for the future productive capacity of the mine. The developments discount earlier local opinion upon the lateral persistence of No. 2 lode, and this continued persistence adds to the prospective possibilities of the ore zone. Southern developments, by rising between Nos. 3 and 1 levels on the same lode, were satisfactory in regard to ore-widths and values. On No. 1 level south the drive on the cross lode was extended 130 feet, and the last 100 feet revealed good values.

Stoping and developmental operations equally contributed to an output of 11,736 tons of ore, from which was recovered 27 tons of tin oxide, containing 17·8 tons of metallic tin, valued at £4195, and 239·2 tons of wolfram, valued at £57,436.

Plant improvements and general electrification to supplant the existing power units is characterising the inception of a forward policy commensurate with the possibilities of the lode series, a policy that was not evinced by the earlier operators.

Aberfoyle Tin N.L.—Electrification of the operating plant, further development of the ore-vein system on the producing levels, and the driving of No. 2 adit for the future development of the ore zone below No. 2 level of the productive workings, again exemplified the progressive policy of this Company.

No. 2 adit was driven 1519 feet to 2460 feet, and is approaching the objective distance of approximately 3000 feet. Numerous cassiterised veins were intersected, and this persistence favours possible developments below the productive workings.

At No. 1 level the eastern lode was crosscutted and driven on 151 feet northerly and 139 southerly, the average width being 11 inches. The same lode was intersected from No. 2 crosscut, off No. 26 lode, and maintained the average width.

At No. 2 level the main crosscut was extended to the eastern lode, which was driven on 125 feet northerly and 214 feet southerly, the northern width averaging 13·73 inches and the southern width 20·3 inches. Developmental operations on the northern and southern persistence of No. 26 lode revealed average ore-widths of 24·8 and 20·6 inches respectively. The "back" vein was cross-cutted from No. 26 south and driven on 72 feet northerly and 106 feet southerly, the average ore widths being 12 and 14·3 inches respectively. The developmental drive on the No. 40 lode was extended 137 feet southerly, the ore width averaging 16·8 inches.

Stoping was pursued on Nos. 1 and 2 levels within the margin of economic requirements, and 13,489 tons of ore was mined and milled for a recovery of 269·5 tons of tin concentrate, 384·25 tons of "seconds" and 35·5 tons of wolfram concentrate. Finished products were stocked, and sales effected were 238·48 tons of tin oxide, containing 161·65 tons of metallic tin, valued at £38,405, and 45·8 tons of wolfram, valued at £12,221.

Brookstead Tin Mines (P. D. Beard Pty. Ltd.).—An incomplete effort to establish productive operations on the lode series at Main Creek terminated in failure. Five tons of ore were milled for a reported recovery of ·158 ton of concentrate, containing ·08 ton metallic tin, valued at £16. Active sluicing of the alluvial occurrences was not persisted with, and, latterly, was pursued by a tribute party at Bailey's Marsh. A total of 6·38 tons of tin oxide, containing 4·58 tons of metallic tin, valued at £1068, was reported to have been recovered from the treatment of 8900 cubic yards of ground.

Foster's Freehold.—Intermittent sluicing of a narrow run of alluvial ground was pursued by Fitzallen and party, and an output of 3 tons of tin oxide, containing 2·26 tons of metallic tin, valued at £534, accrued.

Miscellaneous.—Operations by miscellaneous parties in the Storey's Creek and Gipp Creek areas were less active, and the output from surfacing and shallow ground sluicing declined to 2·05 tons of oxide, estimated to contain 1·435 tons of metallic tin, valued at £346·8.

Siamese Tin Syndicate.—A reduced yardage of ground was sluiced during operations on the alluvials flanking the George River, at Priory, and on the Argonaut area, but the average value improved, and the output from the treatment of 369,200 cubic yards increased to 97·5 tons of tin oxide, containing 67·7 tons of metallic tin, valued at £16,737. Seventy-two men were employed.

George's Bay Tin Mine.—Eight men were employed, and, operating on the relatively shallow ground at the Saxelby area, an increased yardage of drifts, aggregating 92,888 cubic yards, was sluiced for an improved output of 16·57 tons of oxide, containing 12 tons of metallic tin, valued at £2931.

Goshen Tin Mine.—A local syndicate was constituted to work a known area of river flats along the course of the Groom River, and, with a reasonably well-equipped plant hydraulically treated 38,500 cubic yards of ground for a recovery of 6·6 tons of tin oxide, containing 4·7 tons of metallic tin, valued at £1068. Operations gave employment to 8 men.

Miscellaneous.—Convergences and infrequency of values mitigated the merits of exploiting the lode formations in the granites at Priory, and the project was abandoned. Thirty-five tons of ore were crushed for a recovery of ·6 ton of concentrate, containing ·43 ton of metallic tin, valued at £110.

A party of 4 men persisted with small-scale sluicing at the Hunt Tin Mine, and produced 5·6 tons of oxide, estimated to contain 4 tons of metallic tin, valued at £981.

Activities by miscellaneous parties on shallow alluvials and terrace ground, in the St. Helens district, gave employment to an average of 23 persons and accounted for 15·15 tons of tin oxide, estimated to contain 10·6 tons of metallic tin, valued at £2603, but there are no developments of moment to be recorded.

Tasman Tin N.L.—Innovations and additions to the classification, tabling and vanning units, to increase the through-put and reduce the milling losses, were completed, and 24,982 tons of ore were quarried and milled. Exclusive of 85 bags in stock at the close of the period 45·15 tons of concentrate were sold and returned 31·2 tons of metallic tin, valued at £7634. Operations gave employment to an average of 40 men.

Mount Michael Tin Mine.—An effort was made by O. J. Walsh to rehabilitate productive operations on the tin-granites at old workings of the Mount Michael Tin Mine, but recoveries were below expectations, and the project was ultimately abandoned. A total of 610 tons of granitic ore were quarried from island ground and from the base of the old quarry workings. The quarried ore was crushed at the Michael-Moon battery for a recovery of 1·75 tons of concentrate, containing 1·2 tons of metallic tin, valued at £274.

A total of 2750 cubic yards of alluvial ground was sluiced for an output of 1·8 tons of tin oxide, estimated to contain 1·2 tons of metallic tin, valued at £311, after which operations were suspended.

Cambria Tin Mine.—Seven men were engaged, and operations were confined to sluicing quartz-leader granites and old dumps and to crushing material refractory to dissolution by normal sluicing. The tonnage of concentrate recovered was 7·6, and this was estimated to contain 5·4 tons of metallic tin, valued at £1327.

Lafer Tin Mine.—Operations of a restricted nature were pursued on leader country and decompose, and the reported production from the sluicing of 11,200 cubic yards of material was 2·75 tons of oxide, containing 1·78 tons of metallic tin, valued at £426. In addition ·025 ton of wolfram, valued at £5·4, was recovered.

Circle Hydraulic Tin Mine.—The project of exploiting areas of alluvial ground and quartz-greisen-leader country at the rises of Main Creek was discounted by recoverable values and abandoned. The reported production of tin oxide was 5·8 tons, containing 4·2 tons of metallic tin, valued at £1042.

F.B. Tin Mine.—Symons and party continued with the open-cutting and underhand stoping of a granitic-lode occurrence at the Frome River, but the limits of the safe application of the method of working were reached and compelled the party to transfer operations to a northern extension of the formation. A total of 1348 tons of ore were milled for a recovery of 6·56 tons of concentrate, containing 4·5 tons of metallic tin, valued at £1134.

Weld Tin Mine.—Sluicing was continued on a run of relatively shallow ground forming part of the Weld River flats, and resulted in an output of 13·73 tons of oxide, containing 10·5 tons of metallic tin, valued at £2582.

Miscellaneous.—Miscellaneous parties, operating on shallow alluvials, terrace drifts, and granitic formations in the Lottah-Weldborough-Moorina areas accounted for an output of 56 tons of tin oxide estimated to contain 39·25 tons of metallic tin, valued at £9454, and the collective importance of these operations may be assessed from the fact that an average of 65 men were afforded employment.

Waugh Tin Mine.—Productive operations were more active in shallow ground and in relatively deep drifts flanking the Wyniford River. A total of 10,500 cubic yards of ground were sluiced for an output of 5·37 tons of oxide, containing 3·8 tons of metallic tin, valued at £832·6.

Rajah Tin Mine.—Sluicing was continued on the Wyniford River flats, and operations gave employment to an average of 10 men. The recorded production was 11·1 tons of tin oxide, containing 8 tons of metallic tin, valued at £1999.

Miscellaneous.—Operations were more continuous by Ponting and party at the Eastern Leads Mine, and 11,200 cubic yards of alluvial ground was sluiced for a recovery of 5·37 tons of concentrate, estimated to contain 4 tons of metallic tin, valued at £960. Alluvial gold extracted from the concentrate returned 5·6 fine oz., valued at £39.

Remunerative operations were pursued by Shean and party on the Wyniford River alluvials, and 22·8 tons of tin oxide, containing 16·8 tons of metallic tin, valued at £3834, were recovered from the sluicing of 29,500 cubic yards of ground.

Preparatory work was undertaken by the Romsey Tin Development on an area of alluvial ground flanking Mount Cameron, but, exclusive of a small clean-up from initial operations, production was not established.

Endurance Tin Mining Company.—Operations by this Company were again characterised by a progressive advance in the output of tin oxide from operations directed to the exploitation of the deep lead at South Mount Cameron. A total of 371,150 cubic yards of ground were sluiced, and the recorded output was 171·67 tons of concentrate, containing 127·2 tons of metallic tin, valued at £30,853. Alluvial gold, extracted from the tin oxide, returned 47·8 fine oz., valued at £336. In furtherance of the working policy, and to facilitate operations in the deep ground, a low level tail-race has been excavated from the flat flanking the Ringarooma River to the productive workings. Operations gave employment to an average of 55 men.

Tribute parties, operating on the Company's tenements at South Mount Cameron, Pinoneer, and Moorina, recovered 8·2 tons of oxide, which returned 5·9 tons of metallic tin, valued at £1320.

Miscellaneous.—Stevens and party continued with mechanically controlled nozzling and elevation of drifts at the Clifton Extended and sluiced 10,600 cubic yards of ground for an output of 4·55 tons of concentrate, containing 3·16 tons of metallic tin, valued at £731.

Johnson and party persisted with the sluicing of deep drifts overlying the soft granites at Simpson's Estate workings and recovered 2·64 tons of tin oxide, containing 2 tons of metallic tin, valued at £558, from the treatment of 12,000 cubic yards of ground.

The metallic content of 14·76 tons of oxide recovered from the sluicing of 37,500 cubic yards of alluvials and leader-granites at the Star Hill and Deep Creek Mines was 10·7 tons of tin, valued at £2537. Operations gave employment to seven men.

Approximately 8800 cubic yards of alluvial ground were sluiced at the Lanka Mine for a reported recovery of 3·2 tons of concentrate, estimated to contain 2·3 tons of metallic tin, valued at £511. Headwater dams were constructed and preparations made for greater activity than was evinced.

Remunerative sluicing was pursued by Watt and party on a relatively shallow run of alluvials at Boobyalla. A total of 7·3 tons of oxide was recovered from the treatment of 10,000 cubic yards of ground, and returned 5·4 tons of metallic tin, valued at £1275.

The Mount Cameron race continued as an important factor in mining operations at Gladstone. An average of 11 parties, aggregating 23 men, were serviced in the sluicing of tin alluvials on a royalty basis, and these operations accounted for an output of 26·8 tons of tin oxide, estimated to contain 18·8 tons of metallic tin, valued at £4675.

Sluicing was established by a local syndicate at the Black Duck below the old Scotia workings, and 3 tons of concentrate were recovered from 7000 cubic yards of alluvial ground, the metallic content being 2·2 tons of tin, valued at £443. Operations gave employment to six men.

Miscellaneous parties and individual operators continued to be engaged in productive mining on relatively shallow alluvials, terrace drifts, and granitic formations in the Pioneer-South Mount Cameron-Gladstone areas. There are no developments of moment to be recorded, but these operations afforded employment to 65 men and accounted for a production of 40·2 tons of tin oxide, estimated to contain 30 tons of metallic tin, valued at £7427.

Briseis Consolidated N.L.—Operations by this Company were characterised by a continued prosecution of the reconstructional policy inaugurated after the destructive flood of the previous year. Recovery of the river-diversion works, cleaning out of the major workings, restoration of No. 1 pumping unit, and general equipment were sufficiently advanced to enable productive mining to be resumed and continued during the latter half of the year, when 121,000 cubic yards of basaltic overburden and 331,000 cubic yards of tin-drifts were hydraulically removed for an output of 206 tons of tin oxide, containing 148·34 tons of metallic tin, valued at £33,990. In addition, 13 tons of oxide, containing 8·3 tons of metallic tin, valued at £2362, were recovered from flood debris. Operations gave employment to an average of 128 men.

Miscellaneous.—Sluicing was less active at the Lone Brother Mine, and the output declined to 3·4 tons of oxide, which returned 2 tons of metallic tin, valued at £491.

Miscellaneous parties continued to operate on shallow alluvials along the Cascade River and Main Creek and at South Boobyalla, and accounted for a production of 25·36 tons of tin oxide, estimated to contain 17·75 tons of metallic tin, valued at £4296. These operations afforded employment to 37 men.

Arba Tin Mine.—Operations were continued by tribute parties, and 72,000 cubic yards of ground were sluiced for a recovery of 22·2 tons of oxide, containing 15·5 tons of metallic tin, valued at £3594.

Ormuz Tin Mine.—Sluicing of the high face of drifts was less active, and the production declined to 2·2 tons of concentrate, which returned 1·55 tons of metallic tin, valued at £360.

Ruby Flat Tin Mines.—Productive sluicing of shallow alluvials and altered granites resulted in the treatment of 23,000 cubic yards of ground for a recovery of 14·2 tons of tin oxide, estimated to contain 10·2 tons of metallic tin, valued at £2539. Operations afforded employment to eleven men.

Mount Paris Tin Mines.—The application of hydraulic mining on a scale not previously possible in the exploitation of the stanniferous granites and greisen resulted in the treatment of 99,600 cubic yards of material for a recovery of 30·88 tons of oxide, containing 22·6 tons of metallic tin, valued at £5655. A high percentage of tinstone and rock was refractory to dissolution by normal sluicing, and the incurrence of manual dumping added to the cost of normal sluicing and to the yardage loss of tin oxide. The economic possibilities of milling the tinstone were discounted by investigations. Latterly the Company suspended operations, and the mine is to be worked by a tribute party. An average of 26 men were employed.

Miscellaneous.—Productive operations were more active at the Baker's Discovery Mine as the result of innovated headwater facilities for sluicing the tin-granites and small areas of alluvial ground. Seven men were employed, and the recorded output of tin oxide was 9·6 tons, containing 6·76 tons of metallic tin, valued at £1592.

Miscellaneous parties, aggregating 26 men, were occupied in sluicing shallow alluvials and granitic formations in the Branxholm area, and produced 14·2 tons of oxide, estimated to contain 10 tons of metallic tin, valued at £2345.

Tin mining in the Ringarooma area was concerned with activities by miscellaneous parties on shallow ground at the Star of Peace and Pera Flats. Operations afforded employment to 26 men, and accounted for an output of 11·75 tons of tin oxide, containing 8·23 tons of metallic tin, valued at £2004.

Strait Islands.—Productive mining was less active on the Strait Islands, and was principally confined to the tin alluvials at Rooke River on Cape Barren Island and, to a lesser extent, at Pat's River and other areas on Flinders Island. As hitherto, production was hampered by a paucity of head-water for sluicing requirements. On Cape Barren Island two men were engaged at the Lode Hill Mine and recovered 1·7 tons of oxide, containing 1·05 tons of metallic tin, valued at £250, whilst miscellaneous parties, averaging six men, accounted for an output of 3·33 tons of concentrate, which returned 2·17 tons of metallic tin, valued at £512. With the water available, 1800 cubic yards of alluvial ground were sluiced at the

Northolm Mine on Pat's River, Flinders Island, for an output of ·44 ton of oxide, containing ·31 ton of metallic tin, valued at £74, whilst miscellaneous parties accounted for ·31 ton of tin oxide, which returned ·21 ton of metallic tin, valued at £50.

Wolfram.

Wolfram producers were favoured with a marked incline in market prices for tungsten ores, and no difficulty was encountered in marketing the high-grade wolfram concentrate from the Story Creek and Aberfoyle Mines, which accounted for an increased output of 285 tons, valued at £69,657. Operations at those mines have been reviewed under "Tin."

The average quarterly price of £3·26 per unit for tungsten ores incited renewed interest in the occurrences of wolfram at Gipp Creek and Upper Scamander and to the selective separation of wolfram concentrate from the quartz-leader zones of stanniferous granites on the East Coast. A commencing output from miscellaneous operations approximated ·5 ton of wolfram concentrate, valued at £101.

Asbestos.

Renewed interest in the occurrences at Beaconsfield presented the possibility of a limited revival of asbestos mining. Selected samples of the amphibole variety were despatched to the mainland from Charriol's old workings, and a following shipment of 2 tons realised approximately £29. A further order for 5 tons is to be satisfied, and additional interest in the occurrences has been displayed by other manufacturers of asbestic products who are directing attention to the economic utilisation of the associated picrolites and asbestic rock as additional to the selected fibre. Material developments in this respect will have an important influence on the economic exploitation of the occurrences, and the result of the experiments now being conducted on the mainland is awaited with interest.

Inspector H. A. VAUDEAU reports:—

The average number of men engaged during the year was—North-Western Area, 642; Western Area (excluding Mt. Lyell Area), 683; total, 1335, being 204 more than last year.

There were 33 accidents registered, an increase of 10 over last term. Two men were fatally injured, and 31 were incapacitated for 14 days and over. Sixteen accidents occurred on the surface workings and 17 underground. One fatal accident occurred through a person falling down a safe ladder-way. Another fatality was caused through two miners drilling into a hole, in which an explosive charge had misfired, of which they were unaware. A serious accident occurred to two men by an explosion caused through drilling into an unexploded part of a charge in hole that had been fired. Another accident was caused in a quarry, a worker being seriously injured by a lump of loose rock falling on a charge of explosive about to be loaded in a drill-hole.

Ventilation.

Occasionally instances were observed where conditions were not satisfactory. These were of a temporary nature, and were remedied as requested. Most of the mines depend on natural ventilation, and, at times when the wind is from the north or east, conditions are not satisfactory. It is usual when such exist to blast at knock-off time only. This practice is encouraged, as it tends to better working conditions.

Explosives.

Due consideration regarding safe handling and storage was given. Legal proceedings have been taken against men and those in charge for disregarding regulations. One shift-boss was fined £3, with 14s. costs, for failing to see that explosives were removed to a place of safety. For having explosives in the workings not intended for immediate use, a man was fined £2, with 14s. costs. A powder-monkey was fined a total of £2 1s. 6d. for leaving detonators, tails, and gelignite in the same magazine over the week-end.

The system in practice at one mine was not satisfactory regarding the way in which the explosive canisters were left about after loading on the travelling-ways and not returned immediately to place of storage.

All steamers bringing explosives to Burnie were attended, and the unloading and despatching supervised. The explosives going to Devonport are dealt with by the Harbour authorities there.

At one mine a shift-boss was reported by the manager as having been riding with some drills in a cage in a main shaft. He was proceeded against and was fined a total of £3 14s.

Health and Sanitation.

At two quarries it was found that regulations relating to use of water in suppression of dust were not being observed. Necessary action was taken with desired effect.

Two men were proceeded against for breach of General Rule 13 for failing to use, when necessary, appliance provided for the prevention of dust. They were each fined £2 15s.

At two mines more attention was requested regarding wetting ore after blasting operations to effect its removal without dust arising. Miners themselves realise the necessity of such precautions being taken.

The Inflammable Liquids Act.

Considerable increases in pump installations have taken place. For non-observance of the Act in the matter of licence renewals, two persons were fined £3 15s. and £6 6s. respectively.

Proceedings were also taken against an attendant and a person being supplied with petrol from a pump while the latter was smoking. The person was fined 8s. court costs, and a conviction recorded; the attendant, 11s. court costs and a conviction also recorded.

Workers' (O.D.) Relief Fund Act.

A considerable increase of work has been entailed this term owing to new mines starting, and the men from old ones being examined, as required by the Act. Several men have applied for compensation, five having been reported by medical officer to have from 20 to 50 per cent. disability.

General.

In addition to the duties ordinarily performed under the provisions of the Mines and Works Regulation Act, the Inflammable Liquids Act the Explosives Act, and the Mining Act, examinations were made of various mining properties and prospects under the Aid to Mining Act, and reports furnished thereon.

I would like to express my appreciation of the help rendered by managers and foremen of the various mines, works, and quarries, and men engaged thereon, who have materially assisted me in the performance of my duties.

Operations and Production.

Tin.

Mt. Bischoff Tin Mine, Waratah.—During the period 17,778 tons of crude ore were crushed, and 8689 tons of slimes re-treated, for a return of 181·4 tons of tin oxide containing 123 tons of metallic tin. In addition, 13,898 cubic yards of alluvial were sluiced, for a return of 9·25 tons of tin oxide, containing 5·8 tons of tin. An average of 130 men were employed—90 on the surface and 40 underground. Company's value for ore sold, £35,219·8.

A considerable amount of developmental work has been carried on by tributors during the year.

On the Queen lode, the intermediate drive above 7A level was extended 254 feet south-easterly and north-westerly 75 feet. Work was stopped in these workings at the end of the year owing to lowness of grade for market price of tin.

North Valley Lode Tribute Workings.—The No. 4 level was extended 64 feet south, a total distance from approach of 326 feet. Good-grade milling ore has been won from the stopes above this level, and the lode in face was very encouraging at the end of the term, assaying 1·4 per cent tin. The No. 2 level was cleaned out and retimbered for a distance of 440 feet. The lode averages 50 inches in width, assaying 1 per cent. tin. It is all pyritic material, and was discarded in earlier years owing to the difficulty of treatment. This tribute party is doing well.

Thompson's Lode.—Payable grade ore was won from the stopes. The Company assisted the men to drive a lower adit 250 feet to intersect the lode 70 feet vertically below the deepest workings.

Stanhope Workings.—The south-east end of level driven from main tunnel was picked up and retimbered for a distance of 60 feet, and a winze 15 feet in depth sunk on lode. In the level, the average width was 64 inches, average value 0·8 per cent. tin, whilst in the winze it assayed 1 per cent. tin. Water was troublesome in winze, operations were therefore suspended pending arrangements being made to attack the lode from the Stanhope level 120 feet deeper.

Queen Lode Dyke.—The intermediate below 75-feet level was extended a few feet and 28 feet in the opposite direction. Average width of lode 4 inches; average value 3·8 per cent. tin.

A small tonnage of ore was won from the No. 2 Wheal workings, also from the cross lode workings.

Open Cuts.—An increased tonnage was won from the Gossan and White faces. The Slaughter face was brought into production again during the last quarter. A five-head stamper battery, motor driven and equipped with the necessary classifiers, tables, &c., has been erected by the company.

The Don section and the Happy Valley tributors have contributed a small tonnage of low-grade ore.

North Valley Alluvial.—A tribute was let on these workings in the early part of the year after the company had shifted the sluice-boxes and turned the Waratah River to the eastern side of the flats. Poor ground was encountered, and the tributors ceased operations after sluicing for a period of seven weeks. Since the resumption of these workings by the company they have worked out this poor ground, and it is reported that better values are now showing in the face. It is the company's intention to shift the pipe column and sluice-boxes into a new position during the dry months so that everything will be in readiness for resumption when the rainy season arrives.

Construction Work.—Beside the five-head battery erected by the company, as mentioned above, another five-head unit on the No. 2 level below the north alluvial face, with the necessary tables, &c., is being erected. A centrifugal pump has been installed to supply water for dressing purposes, and dams built for water-storage for both plants, the idea being to save transport to the old concentrating mill. These mills are being rented to tributors.

Mt. Cleveland Tin Mine, Whyte River.—Work was suspended by the company in all faces other than No. 1 level below Hall's cut on 12th April, as, with the exception of this level, the grade of ore found was just below the profitable basis. The No. 1 level below Hall's cut was extended south-west to 117 feet. The grade of ore in this level showed an improvement during the last 54 feet, the average assay value being 0·85 per cent. tin, while the first 63 feet of it was 0·63 per cent. This is considered to be the main ore-body of the mine, but, owing to its hardness, and slow progress made with hand-drills, the work was suspended pending arrangements being made to further test the lodes by diamond drilling. Eleven men were employed during the first quarter, an average of three for the next and 2 for next, when operations ceased.

G.P.S. Syndicate, Waratah.—During the term, 3065 tons of old Mt. Bischoff Extended Company's tailings were reground in grinding pan, yielding 5·2 tons of tin oxide, containing 3·6 tons of metallic tin. An average of three men was employed. The dump is nearing depletion on the 5-acre lease, and it is thought to run the tailings down from the 16-acre section to treat it in their plant, rather than go to the cost of shifting it up on this ground.

On the 21-acre lease, being portion of the old Extended Mine, two parties of tributors were working underground for a short time, producing 42 tons of crudes, yielding 0·8 ton of tin oxide, containing 0·6 ton of tin, valued at £149·25 net; average of two men being employed for the last three quarters.

H. Stanley's Tin Mine, Waratah.—This is portion of the old Extended Mine. An average of seven men have been employed working in the old stopes. They have produced 12 tons of tin oxide, containing 5·9 tons of tin, value being £1628.

C. Dunstan's Tin Mine, Waratah.—This is also portion of the old Extended Mine. An average of nine men have been employed working in the old stopes. They have produced 12·7 tons of tin oxide, containing 9·2 tons of tin, value being £1842.

Tin Stone Creek, Waratah.—Brooks and Carpenter, during the first two quarters won from alluvial ground 1 ton of tin oxide, containing 0·65 ton of tin, valued at £163·3.

Bozich and Leach, during the year won 1·9 tons of tin, containing 1·2 tons metallic tin, valued at £316 7s.

Coghlan and Dunn, during one quarter they won 0·1 ton of tin from alluvial ground, containing 0·07 ton of tin, value being £20.

Vicinity of Ritchie's Creek, Waratah.—Seven men working at different places obtained 1 ton of tin oxide from alluvial ground, containing ·7 ton of tin.

Wombat Flat, Waratah,—The Big Dipper Syndicate: By hydraulic sluicing 4·7 tons of tin oxide, containing 2·8 tons of tin, were obtained, valued at £704·3. Two men at work.

W. A. Betts and Son.—By ground sluicing, 0·18 ton of tin oxide, containing 0·1 ton of tin, were obtained; value £30·6.

Creeks Running into Ramsay River, Waratah.—Messrs. R. W. Pryde and Son obtained 0·74 ton of tin oxide, containing 0·5 ton of tin from alluvial ground; value £125.

E. Littler won 0·4 ton of tin oxide, containing 0·3 ton of tin, valued at £62·4.

W. J. North won 0·5 ton of tin oxide, containing 0·3 ton of tin, valued at £75.

Parson's Hood Track, Waratah.—J. Sullivan obtained 0·2 ton of tin oxide, containing 0·08 ton of tin, valued at £17·6, by ground-sluicing.

8-Mile Creek, Corinna-Waratah-road.—B. Whyman hydraulically sluiced 150 yards for 0·15 ton of tin oxide, containing 0·08 ton of tin, valued at £17.

Federation Tin Mine, South Heemskirk, Zeehan.—A new formation was found in the vicinity of the Black face workings, and was developed only during the first two quarters; output, 255 tons. Active production was commenced, and during last two quarters, 4543 tons were broken and milled. Total tin won, 25 tons for 15·4 tons of tin, valued at £3440. An average of 22 men employed.

A. Fairfield, South Heemskirk, carried out some developmental work, and won 0·2 ton of zinc oxide, containing 0·12 ton of tin, valued at £30·3.

Higgins and Donoghue have been prospecting up in Pike's Creek. A considerable amount of work has been done to try and locate the source of the rich ground on the flat below.

J. Geason has done very little on his property during the year. He has been prospecting in the vicinity of the old Montagu Mine of late; prospects encouraging.

North Heemskirk Area.—C. Richardson has won 0·2 ton of zinc oxide, containing 0·14 ton of tin. He has also been prospecting to follow the deep alluvial lead, and has had a party from the mainland to investigate it. His tin brought £37·5.

J. Dixon won from his claim 0·8 ton of tin oxide, containing 0·6 ton of tin, valued at £145·4.

H. G. Watson won 0·6 ton of tin oxide, containing 0·5 ton of tin, valued at £122·5.

R. Smith obtained 0·9 ton of tin oxide by ground sluicing, containing 0·6 ton of tin, valued at £150·4.

Cook Bros., from their hydraulic sluicing claim, won 1·4 tons of tin oxide, containing 0·9 ton of tin, valued at £250. Two men at work for about nine months.

Zeehan Tin Development No Liability, Zeehan.—The Manager, Mr. H. Tomkins, reports that the following work was carried out during the term:—Surface work: trenching on No. 1 lode and sinking prospecting shaft on same; No. 2 lode, trench 30 feet long by 6 feet deep; No. 3 lode, trenching in two places across lode on to pyrites, also stripping off overburden for approximately 40 feet long by 30 feet wide; Vaudeau's lode, trench 8 feet deep showing good values; sinking prospect holes in wash from No. 1 lode up to No. 3 lode from 1 to 10 feet deep (approx. 20 holes).

No. 1 working adit was driven east 228 feet. At 160 feet a rise was put up to the surface 55 feet, under where good ore was (known as No. 2 lode). No. 2 working adit was driven 91 feet to open up No. 3 lode. It has since done so, and found to be carrying good values. Dunn and Hill's adit: this was cleaned out and retimbered where necessary to 250 feet. This tunnel is to the north of where the good ore was found on the surface, and should be very useful to develop the ore-channels to the north-east. Some other trenching was carried out on the eastern end of lease, six in all cutting across No. 4 lode.

Concentrating Mill.—A five-head stamper battery was installed, with two Wilfley and one Curvilinear tables, with necessary classifiers and settlers and forward down grinding-pan; with a 20-horsepower crude oil engine and one 6-horsepower kerosene engine to drive same; also three 30-feet strakes and the necessary buildings, &c.

Heywood and Cornish, to the south-east have been doing some prospecting work, and, from indications to date, it would appear that there are similar possibilities as at the Zeehan Tin Development Mine. This party also carried out some prospecting on their property to the north, and indications are favourable.

Dundas (Tas.) Tin Limited, Dundas.—A good deal of prospecting work was carried out until the 11th June, when all operations ceased. Some ore was crushed, and 0·4 ton of tin oxide won, containing 0·3 ton of tin, valued at £60·34.

Renison Association Tin Mines, Renison Bell.—The Manager, Mr. P. O'Dea, reports as follows:—

Mill.—During 1937 ore-production and treatment were carried on intermittently. Some 5331 tons of ore were broken and treated through the mill, for a recovery of 24·9 tons of tin oxide, containing 16·2 tons of tin, valued at £4262·85. The work carried out has been mostly of a research nature, the principal feature being the definite results obtained through the pilot flotation plant, as in every instance where flotation treatment has been applied the results obtained have been most satisfactory. During the last two months of the year dense sulphide ore was broken from the battery faces at the Boulder Mine and mixed with siliceous ore, also from the Boulder, giving a mill feed of 0·9 per cent tin, and carrying 25 per cent. pyrites. This feed was first concentrated, and the pyritic heads from the tables, going as high as 38 per cent. sulphur, treated through the flotation cell, in which a clean separation of pyrites from the tin was made. The tin, on bagging, assayed 71·1 per cent. tin, and the pyritic concentrate from the flotation cell averaged 44 per cent. sulphur. The mill recovery over the period was 66·6 per cent. Innovations to milling practices have been effected, to enable a better recovery of the fine tin to be made. It has been found that rotary tables are highly efficient machines for the purpose. It was found, however, that in concentrating the sulphide ore prior to flotation, more of these tables will be required. The second five-head of stampers, new grinding-pan, 2 percussion tables reconditioned, six new rotary tables, together with settlers, dewatering pits, &c., have been put into commission during the past 12 months.

It is proposed to instal a flotation plant capable of treating 800 tons of crude ore weekly. This will be undertaken forthwith. The treatment will then be altered to float the pyrites away immediately after grinding, and concentrate the siliceous gangue from the flotation plant for the recovery of the tin oxide. Under this practice there will be ample concentrating plant already installed to treat the proposed tonnage, and will not only give better tin recoveries, but will also make a marketable product for the pyrites.

Mine.—In addition to ore-production, a considerable amount of developmental work has been carried out on the Dreadnought and Boulder leases. A rise of 102 feet was put through from G tunnel to the surface of the open-cut on the Dreadnought section. The faces were made ready to supply ore to the mill. An aerial ropeway connects this part of the mine with the main Boulder tramline. This has been reconditioned to allow easier handling of the ore. At the Boulder lease two hoppers have been constructed, one at the Cable ore-body and the other at Luck's face. The Cable hopper has been connected with the ore body by a self acting gravity haulage. From the send-off of this haulage tramlines have been put in round the hill to the battery, sulphide and siliceous faces and another gravity tram haulage has been put in connecting the upper battery faces. In all, there are now six faces connected with the mill on this lease.

General.—To allow for better haulage of ore to the mill an alteration has been made to the Renison Bell tramway.

The policy for the immediate future is to repair the dam and complete the constructional programme on hand, which includes the erection of a hopper at mill, a new crossing over the railway-line, the installation of a stone-crusher and a conveyor from the crusher to the battery hoppers, the opening and connection of two faces on the Renison Bell Mine, and the installation of a flotation plant. When completed, this will enable 400 to 500 tons to be treated weekly. The plant will later be brought to its full capacity of 800 tons per week.

Tasmanian Amalgamated Tin Mines, Renison Bell.—During the year operations were started, and some mine development work put in hand in Dunn's workings, making available payable ore. A concentrating mill was erected, consisting of a five-head battery, a Watson & Denny grinding-pan, three-compartment Vertex hydraulic classifier, two No. 6 Wilfley, one Desiter-Overstrom diagonal deck, and a James concentrating table, also two canvas strakes. The plant is being driven by a 30-35-horsepower Super Diesel engine. Water is being pumped 1700 feet by a three throw Gould pump, which delivers 6000 gallons per hour. The pump is driven by a 15-horse-power Diesel engine.

During the latter part of October, active production was begun, and up to the end of the year approximately 800 tons of ore were treated, for a recovery of 10·6 tons of tin oxide, containing 6·8 tons of tin, valued at £1418·6. An average of 10 men were employed, with 18 during the last quarter.

On Various Mines in the Locality the following men have been intermittently at work:—G. Cox, who won by hydraulic sluicing 0·93 ton of tin oxide, containing 0·6 ton of tin, valued at £154. J. Pepper, by ground-sluicing 0·3 ton of tin oxide, containing 0·18 ton of tin, valued at £46. Abel, Mears, Riley, and Maine, by ground-sluicing, raised 1·2 tons of tin oxide, containing 0·76 ton of tin, valued at £213.

Anglo-Tasman Development Company, Renison Bell.—Towards the end of the year a 5-ton parcel was broken from the underground workings of the old Federal section, and a similar amount from the surface was treated at the Tasmanian Amalgamated Tin Company's mill, yielding 0·18 ton of concentrate, containing 0·12 ton of tin, valued at £23·4. This was done to test percentage recovery under normal working conditions.

A. J. Salmon. Exe River Gorge.—Only a little work has been carried out, 0·24 ton of concentrate being won by hand-crushing a small quantity of stone, containing 0·13 ton of tin, valued at £31·6.

F. J. Fenton, Exe River.—By ground-sluicing, produced 1·3 tons of concentrate, containing 0·7 ton of tin, valued at £158.

J. Copping and E. Williams won a little tin working occasionally at the Exe River field.

G. Wallace, at Melba Flat, did a little trenching, cut a small race to bring water on to some alluvial ground, and then, owing to fall in price of tin, discontinued operations.

H. E. Brock carried out a considerable amount of developmental work on and adjoining the old Grand Prize Mine at North Dundas. Encouraging prospects have been met with; the lode-formations are irregular, varying considerably.

At Balfour four men have been ground-sluicing and prospecting, and have sent to market 1 ton of tin ore, containing 0·7 ton of tin, valued at £154.

King Island Tin Lodes, King Island.—It is reported that for the first half-year 11 men were employed on developmental work. Operations then ceased, three men being at work during the last quarter of the year. It is now stated that the erection of a milling plant is contemplated.

King Island Barrier Lodes, No Liability, King Island.—The management reports that five men were working during the first half of the year, when 690 cubic yards of alluvial ground were sluiced for 0·3 ton of tin concentrate, containing 0·2 ton of tin, valued at £53·7.

Kaolin Mine (L. F. Clark and Party), Kara, Upper Natone, also Trial Flat.—A considerable amount of prospecting work, including sinking a small shaft 50 feet and driving from same was done during the term. Some very promising occurrences of tin stone were met with, which proved to be very erratic. In the vicinity of the shaft workings the ground is faulted, rendering it difficult to deal with.

Zinc-Lead Ore.

Electrolytic Zinc Company of Australia Limited, Rosebery, Williamsford, and Zeehan—

Hercules Mine.—Sixty-three thousand one hundred and forty-four tons of ore were broken and treated, 19 men being employed on the surface and 66 underground. Some 671 feet of driving and crosscutting,, 196 feet of rising and 3827 feet of diamond-drilling,, was carried out. "G" lode, on the No. 5 level, has opened up very satisfactorily, both as to length, width, and value, being over 300 feet in length, and still continuing.

The diamond-drill has given very valuable data in connection with the extension of known ore-bodies, and disclosed several small seams of payable ore. These may not be considered of major importance, but, in the aggregate, are an appreciable addition to the probable ore reserves. This also applies to the Rosebery Mine.

Rosebery Mine.—Some 86,250 tons of ore were treated, 189 men being employed on the surface and 152 underground; 1566 feet of driving and crosscutting and 542 feet of rising was carried out. In addition a considerable amount of work in preparation for sinking an internal underlay shaft was done; this has been completed and sinking is now in progress. Two small diamond-drilling plants are kept working constantly, one at each mine. Two electric storage locomotives have replaced horses for haulage

underground at the Rosebery Mine. After an extended test, jackbits have been adopted for drilling at both mines.

Zeehan Calcining Works.—Twenty-two men were employed.

The flotation mill at Rosebery dealt with 149,394 tons of ore, from which was recovered 50,576 tons of zinc concentrates, 11,317 tons of lead concentrates, containing 10,522 oz. of gold, 794,264 oz. of silver, 7492 tons of lead,23,481 tons of zinc, and 45 tons of cadmium; the total being valued at £914,498.

Silver-Lead Ores.

Farrell Mining Company Ltd., Tullah.—Some 2100 tons of marketable ore were produced, containing 157,467 oz. of silver and 1466·6 tons of lead, valued at £55,329. A consignment of zinc flotation concentrate of 655 tons, containing 12,445 oz. of silver, 52·4 tons of lead, and 275·1 tons of zinc, was shipped to market.

The Manager reports as follows:—Main shaft: this was lowered 100 feet and No. 5 level opened up. A crosscut was driven west and intersected a lode-channel, which is being driven on. No. 5 level north drive was advanced 133 feet; the lode-channel is disturbed, and so far has not intersected payable ore; continued driving northerly in order to intersect payable ore. At No. 5 level, south drive, the lode-channel was explored 83 feet, and, although at times showing nice ore underfoot, nothing of a payable nature was intersected.

No. 4 level drive north was advanced 180 feet, the lode for the greater distance driven proving highly payable The stope above this drive produced highly payable ore over an average width of 2 feet. A branch lode was driven on 60 feet, and proved payable.

No. 4 level drive south was advanced 200 feet. Although patches of seconds were showing in the drive, the lode generally was poor. This end is being continued.

No. 3 level north drive was advanced 150 feet, producing payable ore over a length of 100 feet. A small seam of ore going in the footwall was driven on for a distance of 90 feet; it proved to be payable for the whole distance, and is gradually improving.

Crosscuts have been driven in the hanging-wall west at No. 5 level, and short crosscuts east, but nothing of a payable nature was discovered. Crosscuts east have also been sent in at Nos. 3 and 4 levels, without payable results.

Stopes.—The stope north above No. 4 level, and also north above No. 3 level, has proved highly payable, the lode averaging about 18 inches to 2 feet of good milling ore. A stope from intermediate drive south at No. 4 level is on the payable margin, but should improve as advance is made towards No. 3 level.

Surface Work.—At the mill, reconstruction of the crushing section (placing larger rolls and a new elevator) is in progress, in order to increase mill capacity and convey direct to the flotation ball mill hopper.

General.—Owing to a serious breakdown in the 400 horsepower Diesel engine, production and mining operations ceased early in November until the end of December. A contract with the Hydro Commission provides for an adequate supply of electrical power, which it is hoped will be available at about the end of April, 1938. In the meantime, operations are being continued with suction gas-engine of 325 horsepower. It is anticipated that this will supply necessary power until that from the Hydro-Electric Commission is available. It is expected when this power is available to greatly increase the developmental programme; owing to limited power it has not been possible to do this. The character of the ore-bodies warrant a comprehensive scheme of development.

H. Finn and Party, Tullah.—Obtained 5·3 tons of ore from the old Mt. Farrell Mine workings, containing 371 oz. silver and 3·82 tons of lead, realising £97·4.

J. Griffiths and Party, Dundas.—Produced 2·85 tons of galena,, containing 14·2 oz of silver and 1·3 tons of lead, valued at £48·5.

Saxon Montana Silver Lead Development No Liability (Head Office, Zeehan).—This company took over from the Saxon Development No Liability several options, and have been carrying out developmental work on the following leases, and the following is an extract from the Manager's report:—

"Sulphide Hill Mine.—This section was formerly known as the South Comet Mine, Dundas. Operations were commenced on 30th September, 1937. The lower, or No. 3, adit, was cleaned out to the end, 900 feet from the entrance. At 800 feet, a rise was started from a stope which was up 21 feet from the rails and continued in lode to 97 feet. The dimension of rise, 8 feet by 4 feet, did not include full width of lode. Distance between levels is 210 feet. Twenty feet back from rise crosscut was extended east, which had been previously taken to 24 feet, to 36 feet, intersecting 4 feet of milling ore. A drive was taken in a southerly direction and continued to 25 feet, the lode maintaining its width and values. A drive was taken in a northerly direction for 9 feet. For 5 feet values and widths were well maintained, but a split occurred in the channel which has not been followed. From rise and these workings some 350 tons of milling ore has been obtained and stacked outside the tunnel for future treatment."

North Sulphide Hill Mine.—This is situated to the north of the Sulphide Hill Mine. Tunnel has been extended into the hill about 80 feet, with the intention of intersecting the known lode on the mine to the south.

Trial Harbour (Dunkley's) Mine.—This is situated near the old Sylvester Mine, about 4 miles from Zeehan. A lode-formation was cut in tunnel about 6 feet wide, carrying zinc and lead splashed through the formation. From appearance it should improve as driven on; the hill rises to over 200 feet ahead.

South Montana Mine.—This is situated south and adjoining the Western Montana Extended Mine. A tunnel is being driven to intersect the ore being worked by this company, and has been advanced to 50 feet.

Montana Western Extended Mine, North Zeehan.—This mine was discovered and developed in its initial stages under the provisions of the Aid to Mining Act. The company continued the shallow adit from 160 to 250 feet. At 172 feet the contact of the slates and glacial till was encountered, and as some metal was showing in patches it was decided to drive on it. This was done for 28 feet, but, as values did not improve, work was suspended. At 250 feet payable galena was found, the reported width being 15 feet. Drives were turned northerly and southerly on good ore. The south drive connected at 39 feet to the prospecting shaft, depth 30 feet—discontinued. The drive north was continued to 123 feet on good ore most of the way. The face is not in the lode, being faulted to the west. At 58 feet north a chamber was cut and a winze sunk to 30 feet on the lode-formation, showing good ore. It had to be abandoned owing to influx of water and inadequacy of plant to cope with it. One leading stope was taken out above the north and south drives on splendid ore. In taking out the second stope, values were not maintained towards the surface. A second prospecting shaft was sunk to 43 feet at a point 183 feet north-easterly from the original one. Good ore was found in this at a depth of 20 feet, and continued to bottom. It was a cross lode, faulted to the northward. The company drove a crosscut out in a westerly direction 42 feet on the line the ore was in the shaft and failed to locate it. In August a commencement was made to sink a main shaft, 12 by 4, in the clear. It has been sunk to 112 feet. At 106 feet, 6 feet below where No. 1 level was opened, it was reported that good ore was entered and continued to bottom. A crosscut west was put out without intersecting ore excepting near shaft. A crosscut was then driven east 65 feet. A formation was intersected at about 42 feet, which showed mineralisation. In the crosscut there were two seams of ore, 4 to 6 feet apart, and 2 to 3 inches thick, showing pieces of clean galena. These were followed for about 8 to 9 feet in a northerly direction. At the time this work was started a drive southerly was put out on the seam of ore mentioned above near the shaft, and has followed a formation in a tortuous course for some 60 feet. Bunches of metal have been encountered all the way, some of the ore giving as high as 217 oz. silver to the ton, with 79 per cent. lead. From the east crosscut it assayed 48 oz. silver and 43 per cent. lead. The total ore shipped to the end of the year was 101·9 tons, estimated to yield 8813 oz. silver and 59·14 tons lead. No final settlements were received. Fifty tons of ore were shipped to the Farrell Mining Company's flotation plant for a test; owing to the power plant breaking down it was deferred. Approximately 300 tons of milling ore lie at grass. An average of 11 men were engaged underground, and the same on the surface.

Swansea Mine (J. J. Hill, Swansea).—Only 24·5 tons of ore were sold during the term, containing 1749·8 oz. of silver and 17·7 tons of lead. About 12 tons were broken, but held for better prices. Prospecting work was carried out on the surface, and some tunnelling done, as well as a winze being sunk on ore. A water-race was also constructed from the Swansea race to the most northern workings.

In and around Zeehan nine other men won 20 tons of galena, containing 1058·9 oz. silver and 10·4 tons lead, valued at £329·5.

Burnie-Waratah Company No Liability, 16-Mile, Waratah-Corinna-road.—This company did a little prospecting work, and sold 2·55 tons of galena, carrying 188·7 oz. silverand 1·3 tons lead, valued at £56·6. Work was disappointing, and therefore discontinued.

New Magnet Mine, Whyte River, Waratah.—The old Confidence and Washington Hay Mines were cleaned up and repairs carried out. Four men were engaged for one quarter; later, two only.

Dove River Prospecting Syndicate, Old Devon Mine, Dove River, Middlesex.—The old track from Lorinna to the mine was cleared, and 15·7 tons of galena obtained, some from underground and some from the old tips. It contained 931·7 oz. silver and 6 tons lead, also 6·3 oz. gold, valued at £243·3.

Rogers and Goodwin, at the old Round Hill Mine, Cethanna, carried out some developmental work; no ore sold.

Magnet Silver-Lead Mining Company, Magnet.—A new company was formed to work this mine. The requisite staff being engaged, work of a progressive character was put in hand about the middle of the year. The manager reports as follows:—"Surface: the whole of the old concentrating mill has been dismantled, and a modern flotation plant is being installed; it is expected to be in commission in April. At this mine preparations are in hand to equip it with modern concentrating appliances to replace the old ones. The shaft workings are being reconditioned preparatory to productive operations being commenced at an early date.

Government Comstock Mine, Comstock.—A considerable amount of rising, crosscutting, and driving was done in the vicinity of Allison's old workings to try and locate the downward continuation of the good ore in those old workings, but, although several formations were tested, nothing of value was found.

Operations have been suspended in that part of the main adit, and it was decided to explore the country due east, from a point 400 feet further south, and to drive across the series of lodes again out towards the old Boss Mine, where good values were once obtained. Three men were employed.

Kynance Mine (W. Thomas, Comstock).—Some prospecting work was carried out here by the men , but no ore sold.

Silver Beauty Mine (J. Dunkley, sen.).—Some crosscutting was carried out here, but failed to show anything payable. Work was suspended early in the year.

Wolfram.

Lawkemlaw Wolfram Mine, Moina.—The workings of this syndicate's mine is let on tribute to different parties, an average of seven men being at work. There were 14 men employed during the last quarter; 7·2 tons were sold, the average assay being 71·5 per cent., valued at £1709. Owing to increased price, more activity has been taken of late, but the veins are, on the whole, small and patchy.

Wolfram and Tin.

Red Robin Mine, Moina.—A small hydraulic plant was put on to this mine, but the power unit was too small to be of any use; after a few weeks' work it was given up. While in operation, tin and wolfram to the value of £21.2 were recovered. Two men were engaged for two quarters.

Wolfram, Tin, and Bismuth.

Shepherd and Murphy Mine (J. Goodwin, Moina).—For the last six months an average of three men were at work on No. 2 lode. A total of 1·9 tons was sold, containing 0·6 ton tin, 0·4 ton wolfram, and 0·2 ton bismuth, valued at £336.

Coal.

Illamatha Colliery, Spreyton.—An output of 1590 tons was produced, valued at the mine at £998. Average men employed, 6.

Aberdeen Colliery, Spreyton.—The output was 2054 tons, valued at the mine at £1414. Average men employed, 6.

Tarleton Colliery, Tarleton.—The output was 1001 tons, valued at £662. Average number of men at work, 4.

H. Bott and Party, Spreyton.—New pit won 59 tons, valued at mine at £47·2; two men being employed for three months.

Esk Bank Colliery, New Bed.—An output of 622.5 tons; was won and sent to the cement works, value being £507·85. an average of three men working.

Dulverton Colliery, New Bed.—Some 550 tons were won, valued at £435·7; three men being employed.

Black Beauty Colliery, New Bed.—Two men won 454 tons of coal valued at £365·5.

Star Colliery, New Bed.—During the first quarter three men won 73 tons, valued at £47.45. The seam became very much disturbed, with short throws, and the project was abandoned.

Bott's Coal Mine (McCreghan and Sons), Vicinity of Dawson's Siding.—A new pit was opened here, and 50 tons of coal won; value at mine, £30.

Lucky Hit Colliery, New Bed.—Three men won 566·4 tons, valued at the mine at £580.

Torbanhill Colliery (H. Barr and Co., Meunna).—The secretary reports that 4 tons of coal were sent and tested by chemical engineers under the low temperature carbonisation process for oils.

Most of the coal raised in the North-Western District is sent to the Goliath Portland Cement Company Limited at Railton.

Gold.

Narrawa Creek Gold Mine, Moina (A. H. Higgs).—An average of six men were at work for the term; for four months work was confined to treating alluvial ground, the rest on lode material which was won from surface open cut and underground. Some 247·8 oz. were obtained, containing 196·9 oz. standard, which realised £1,578.8.

Middleton Creek Gold Mine (now known as West Coast Gold Mines Ltd. at Middleton Creek, Corinna).—This company reports as follows:—We have cleaned up three lots of gold—5·5 oz., 5 oz., and 1·25 oz. respectively.

Tasmanian Gold Development, Rocky River.—3 oz. gold and 0·75 oz. osmiridium were sold and returned £39.

Burnie-Waratah Company, Long Plain.—Had an average of three men at work for the first six months.

L. Aylett and Party, Rosebery.—This party erected a five-head battery and started production, obtained 22·17 oz. containing 14·36 oz. standard, for which was received £116. An average of three men at work for six months.

West of the Lyons River, Beyond Arthur River.—E. G. Geale and party, on their extended prospecting claim, carried out some prospecting work, which gave promising indications. The gold is extremely fine on the whole, but the trouble is that there is practically no water available for sluicing.

Osmiridium.

Owing to the increase in price, several persons holding the metal in expectation of a rise in price sold it. The total amount sold was240·6 oz., valued at £5079·7. About four to five men working out on the old Savage River fields.

Cement and Limestone.

The Goliath Portland Cement Company Limited, Railton operated continuously during the year, except for ordinary stoppages to carry out repair and maintenance work. The number of men employed directly by the company was 149. Cement shipments from Devonport constituted a record, at 61,233 tons, the total produced being 84,896 tons.

The Broken Hill Proprietary Company Limited, Limestone Quarry, Eugenana.—This company produced 261,090 tons of limestone, which is the highest on record. The weekly output from the main quarry has been built up by plant improvement to 6000 tons per week at the end of the period. Early in October, work was commenced on a new crushing plant, conveyor, and storage for quarrying another lease on the opposite side of the river from the existing quarry, with the object of building up the average output to 7000 tons per week, with a maximum of 7500 tons, being the limit of transport facilities. The new plant is now in operation, the construction time being 13 weeks. An average of 136 men were employed.

Leary's Lime Works, Eugenana.—Some 172.75 tons were produced, two men being employed at times.

Blenkhorn's Lime Works, Railton.—Some 487 tons were produced, an average of four men being employed.

Silica.

The Barock Mining Company, Silica Quarry, Ulverstone.—During the last six months 195 tons were broken and shipped to the mainland. Three tons of graphite were also broken a few miles out from Ulverstone, and sent to the mainland.

Iron.

L. Sushames, Cuprona.—Some 61.4 tons of Blythe iron were broken and forwarded to Japan, giving a return of £114.

Nickel Ore.

Australian Nickel No Liability, Nickel Siding, Zeehan.—Locally known as the Melbourne Copper Nickel Mine—was unwatered. Approximately 180 tons of ore were raised to the surface from 5th July to 9th September, when money ran out, and the mine was let fill again, when work ceased.

Scheelite.

King Island Scheelite No Liability, Grassy, King Island.—The manager reports: "Preliminary operations were commenced in October, 1937, with the erection of buildings to accommodate employees and provide an office and storeroom. Early in November a Ruston-Hornsby power-shovel, with a ⅜ cub. cap. bucket, and operated by a petrol-kerosene engine was assembled and put into operation stripping overburden for a cut into the lode at 90 feet above sea-level. By the end of the year a commencement on the erection of the engine-room plant and the concrete foundations for the 300-ton capacity steel ore-bin were well advanced. The number of men employed then was 16. The prime movers to be employed are a 100-horsepower and a 50-horsepower crude oil engine.

The ore will be crushed by a 16 by 10 jaw-crusher with grinding in a course and a fine rolls then after classification, concentrated on a series of tables to produce a garnet-scheelite concentrate which, after magnetic separator treatment, give the marketable scheelite concentrate."

Inspector J. F. SHAW (Queenstown) reports:—

I have the honour to submit my report on inspection and the administration of the Mines and Works Regulation Act, the Explosives Act, and the Inflammable Liquids Act in the Queenstown-Strahan district for the year 1937.

Men Employed.

The average number of men employed in the mining industry was 1734, compared with 1625 in the year 1936. Of this number the Mt. Lyell Co. employed 1714, compared with 1610 for the previous year. In the above total the 20 men not employed by the Mount Lyell Co. did not work continuously and were engaged in fossicking for gold and the production of a small tonnage of barytes.

Accidents.

The total number of accidents registered was 54, resulting in injury to 54 men. Of these 31 occurred on the surface and 23 underground at the Mt. Lyell mines and works. One of these, which occurred in the surface workings, proved to be fatal. A stone dislodged by a scraper chain from the face 22 feet high in an open cut struck an employee on the head, causing injuries from which he died four hours later. Evidence at the inquest disclosed that there was no reason connected with his work for the deceased to be at the part of the face where he was injured. A finding of accidental death was recorded. In 1936 there were 58 accidents (none fatal) involving 60 men. For the year under review 432 new employees were engaged by the Mount Lyell Co., compared with 271 for the year 1936.

Inflammable Liquids.

During the year approval was given for licences for new installations with storage capacity of 9000 gallons. The condition of pumps and tanks generally has been satisfactory.

Explosives.

Supervision was given to the landing of explosives at Regatta Point and transport by rail to Queenstown. The quantities landed for the year were:—

	lb.
For Queenstown—	
A.N. gelignite "50"	316,950
Quarry monobel	122,500
S.N. gelignite 50%	20,700
Blasting gelatine	2,650
	462,800
For Zeehan District—	
S.N. gelignite 50%	2,000
Total	464,800

	No.
For Queenstown—	
Detonators (number)	270,000
For Zeehan District—	
Detonators (number)	10,000
Total	280,000

The quality of explosives has been satisfactory. The use of A.N. gelignite, which was first introduced at Mount Lyell in October, 1936, has largely increased, and this explosive has given satisfaction. All explosives used have been the non-freezing type, and no cases of freezing have been reported. Additional storage for 110,000 lb. nitro-compound was approved.

The Workers' (Occupational Diseases) Relief Fund Act.

Medical certificates, as free from disease, for 432 new employees were collected from certifying medical officers and forwarded to the Board. Applications for medical examination under the provisions of the Act were received from 24 employees, and arrangements made for their examination. Of this total:—

20 men were certified as not suffering.
1 man was certified as partially incapacitated.
3 men were certified as incapacitated.

Medical certificates for these were forwarded to the Board. Applications for reference to medical referee were made through this office by three employees and forwarded to the Board. In other cases employees applied for examination, but did not attend.

The Mount Lyell Company's Mines and Works.

The major part of the work in this district comprised close inspection of the mines and works of the Mount Lyell Co., and I have pleasure in again recording my appreciation of the way in which officials of the Company have co-operated in making a general improvement in working conditions.

Mining.

Output of ore continued to expand through increased tonnage from the West Lyell open-cut mines. This resulted in a lower grade of ore, which was offset by the lower cost of mining and, to some extent, concentrating. The output of ore was 868,207 tons, compared with 729,440 tons in the previous year, an increase of 138,767 tons. About 77 per cent. of the total was from open-cut mining. To maintain access to the open-cuts the road system was continually extended, a very large tonnage of overburden and waste material from these being made use of in the formation of road embankments. An electrically-operated shovel, of 2 cubic yards capacity, was added to the excavating equipment and three large motor-trucks, each of 12 tons capacity, to the transport equipment. A 2½ cubic yard shovel and more large motor-trucks are on order. The West Lyell change-house was completed early in the year. This has given satisfaction, and has been regularly used by most of the open-cut employees. A new petrol installation, with three pumps and 3500 gallons storage capacity, for supplying the transport motor-vehicles was completed in December.

In the North Lyell Mine the exploitation of known reserves was continued, and there were no fresh developments. Production, on a small scale, was resumed in the Crown Lyell mine. The North Lyell system of tailings pumping was extended to the Crown, and stopes were filled as required with pumped mill tailings. It is intended to gradually increase production in this mine. The use of pumped mill tailings for stope filling in the North Lyell and Crown Lyell is a big factor in the safe working of these mines, as by this method a stope can, at short notice, be quickly filled in sections as needed, and better control of the stope maintained than under the old system of filling from a rise.

At Lyell Comstock Mine, sinking of the main shaft was completed to No. 9 level (120 feet below No. 8 level), and a crosscut driven to the ore body. This is being developed by stoping, and so far as work has progressed no abnormal features have been disclosed. At No. 8 level stoping proved the ore-body to be of similar size and grade to that of upper levels. Sinking of the main shaft was resumed towards the end of the year.

The steady increase of output is shown by the following tonnages from all mines for the four quarters of the year:—

	Tons.
1st quarter	211,435
2nd quarter	214,792
3rd quarter	219,685
4th quarter	222,295
Total	868,207

The policy is to further increase output from the open-cut mines. The successful treatment of low-grade ore has made it possible to include in reserves much outlying and other material which has to be removed in working the open cuts. At 30.9.37 ore reserves were officially estimated at 9,894,000 tons, assaying—copper, 1·69 per cent; silver, 0·13 oz. per ton; gold, 0·016 oz. per ton. This is an increase of more than one million tons compared with the estimate made 12 months previously, and the total was arrived at after the year's output had been mined. The average assay is lower, as the larger part of the increase is due to the inclusion of low-grade ore at the open-cut mines.

Reduction Works.

At the concentrating plant the increased tonnage being treated and contemplated called for additional equipment in the fine grinding section. New plant, part of which was placed in commission and part nearing completion at the end of the year, consisted of a second 10-ft. x 7-ft. ball mill in closed circuit with a 16-ft. x 26-ft. quadruplex classifier, an 8-ft. x 6-ft. Marcy mill with an 8-ft. x 26-ft. duplex classifier, and two 15-ft. bowl classifiers. This equipment, when in operation, will increase mill capacity, and the finer grinding should result in improved recovery. An increased quantity of iron pyrites was recovered and shipped to Melbourne for use in manufacture of sulphuric acid.

The smelter operated as usual, and no new plant was installed. At the refinery eight additional depositing cells were put into use. An increased quantity of blue-stone was produced as a by-product in this plant. Four lathes were installed in the machine shops.

Mine Hygiene.

Underground conditions regarding ventilation and dust elimination were generally satisfactory. In the coarse-crushing plant a gradually increasing amount of dust was noted. A method of overcoming this has been planned and will shortly be installed. At the open-cut mines all permanent working places are supplied with water, and all rock drills equipped with water-hoses. Some of the drillers have failed to realise that this is for their benefit, and have at times disregarded the instruction that water is to be used for drilling. Legal proceedings were instituted against three men, after warnings had been issued, and this effected an improvement. Efforts will not be relaxed until drilling without water at the permanent working faces is non-existent.

Quarries.

From the Mt. Lyell Co.'s quarry at Hall's Creek 5679 tons of limestone were delivered for use at the reduction works.

From the Company's silica quarry in Queenstown 6852 tons of silica were delivered to the smelter for use as flux. At Comstock the quarry on No. 4 level supplied mullock for stope-filling on the lower levels. A compressed-air shovel moved from the Crown quarry was used for loading mullock as well as tandem scrapers.

General Production.

	1936.	1937.
Copper (electrolytic), tons	13,040	12,382
Pyritic concentrates, tons shipped	33,711	40,630
Gold (fine), oz.	7,121	6,339
Silver (fine), oz.	103,188	83,233
Limestone, tons	4,896	5,679
Silica, tons	6,463	6,852
Barytes, tons shipped	33	76

General Mining Operations.

The above quantities of copper, pryitic concentrates, silver, limestone, and silica were all produced by the Mount Lyell Co.

Gold.

Of the total of 6339 (fine) oz., the Mount Lyell Co. produced 6170 oz. Of the remainder, 113 oz. came from the Jane River field and 55 oz. was won by fossickers in the Queenstown district. The latter worked intermittently, and their gold was sold in small lots. It was got by working in Lynch, Specimen, Newell, Conglomerate, and Linda Creeks, Raggedy Gully, and creeks about Howard's Plains. Only a part of the Jane River production was sold through Queenstown. J. Herighty did further prospecting on his lease at Princess River, Lynchford, without finding anything of value. P. Reimer did some ground sluicing of detrital material on Section No. 11,907 on the southern slope of Mount Lyell for a small production of gold.

Barytes.

Spasmodic work on the barytes areas at Howard's Plains by Barock M. Co. and Minerals Limited resulted in 76 tons of barytes being shipped.

Industrial.

On 1st April a new agreement between the Mount Lyell Co. and employees came into operation. This provided for an increase in the basic wage, with increases in margins for skilled work, a further payment of 3s. per week during the time the London price of electrolytic copper remained at or above £56 per ton, and a reduction in working hours from 48 to 44 on the surface and from 44 to 40 per week underground. Under the terms of the agreement all employees receive, subject to conditions regarding attendance, two weeks' holiday on full pay per year. Uniformity was established relating to wages and conditions of employment in all departments. Except for a stop of four hours in one department to discuss conditions, there were no stoppages due to industrial trouble. A Sick and Accident Fund, to provide assistance to contributors suffering from sickness or accident, was established. All employees contribute to the fund, and employees' contributions are subsidised by the Mount Lyell Co. The fund is administered by a committee of 20, consisting of 15 persons from various departments representing the contributors and five representing the Company. The fund has been of great benefit to employees.

Rainfall and Power Supply.

The rainfall registered at district recording stations was (inches):—

	1936.	1937.	Average.
Gormanston	107·76	105·55	116·57 (43 yrs.)
Lake Margaret	141·30	139·03	144·82 (25 yrs.)
Queenstown	96·39	91·66	98·95 (32 yrs.)

The power generated at Mt. Lyell Co.'s Lake Margaret power station was supplemented to a limited extent towards the end of the year by current from the State Hydro-Electric Department line.

Prosecutions.

Legal proceedings were taken against two men for rock-drilling without using water at West Lyell open-cut mines. They each pleaded guilty, and convictions were recorded, with costs. A ganger was proceeded against for permitting men to drill rock without using water. He stated that the men were doing so without his knowledge, and the case was dismissed, with no costs.

APPENDIX VI.

REPORT OF THE MOUNT CAMERON WATER-RACE BOARD FOR THE YEAR ENDED 31ST DECEMBER, 1937.

SIR,

I have the honour to submit our report for the year ended 31st December, 1937.

Main Race.

The manager reports that this is in fair order apart from weed growth. Arrangements are in hand for this to be removed early in the ensuing year.

The section of the race between the intake to the Little Mussel Roe River also needs attention. Work on this will be undertaken during the winter months when water supplies on the lower portions of the race will be sufficient for normal requirements.

Syphons and Flumings.

The iron fluming over Chum Creek is in need of replacement. Attention will be given to this matter during the year.

Dams.

These are generally in a satisfactory state of repair.

Buildings.

Painting the interior of the lower Channel Keeper's cottage and that of the Manager's Residence has been carried out.

We have the honour to be,

Sir,

Your obedient servants,

J. B. SCOTT, Chairman of the Board.
C. G. RYAN, } Members.
GEO. MALLINSON, }

The Honourable the Minister for Mines.

STATEMENT FOR THE YEAR ENDED 31ST DECEMBER, 1937.

Rainfall.

The registered rainfall for the year was as follows:—

Great Mussel Roe	25 inches 36 points
Little Mussel Roe	25 inches 27 points

Revenue.

The revenue for the year amounted to £1230 15s. 5d., being an increase of £200 12s. 2d. on the previous year.

Disbursements.

The expenditure for the year amounted to £934 4s. 4d., being a decrease of £80 19s. 8d. on the previous year.

Statistics.

The statistics for the year are as follows:—

Average number of claims supplied per week	11
Greatest number supplied in any one week	13
Total number of heads supplied under—	
Fixed or cash scale	405 13/24
Royalty or credit scale	3855½

Tin ore raised—

	Tons.	cwt.	qr.	lb.
Under royalty scale	26	5	3	2
Under fixed scale	13	11	3	25
Total	39	17	2	27

Average number of men employed per week 24

Receipts.

	£	s.	d.
Water sold under fixed scale	182	9	4
Water sold under royalty scale	1027	13	1
Sale of fluming and old boards	20	13	0
Total	£1230	15	5

Expenditure.

	£	s.	d.
Salaries and wages	796	6	2
Travelling expenses	11	17	8
Insurance	8	13	8
Stationery and printing	4	6	6
Stores	6	13	1
Repairs to channel keepers' cottages	3	14	4
Dismantling old flumings	5	14	3
Repairs to race and syphons	96	18	8
Total	£934	4	4

H. H. Pimblett, Government Printer, Tasmania.