TASMANIA

REPORT

OF THE

SECRETARY FOR MINES

FOR

YEAR ENDING DECEMBER 31ST

1932

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

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

TASMANIA:
WALTER E. SHIMMINS, GOVERNMENT PRINTER, HOBART

1933

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REPORT OF THE SECRETARY FOR MINES.

Department of Mines,
Hobart, 25th May, 1933.

SIR,

I have the honour to submit my Report on the Department of Mines and the Mining Industry for the year ended 31st December, 1932.

The Report covers a period prior to my appointment to the position of Secretary for Mines.

My predecessor (Mr. W. A. Pretyman) retired on 19th April last, following a period of service to the Department in various capacities extending over 54 years.

APPENDICES.

Departmental reports of the various officers are appended:—

Government Geologist.
Chief Inspector of Mines.
Chief Inspector of Explosives.
Inspectors of Mines.
Government Chemist and Assayer.

GENERAL STATEMENT.

The total value of minerals and mineral products raised in the State for the year amounted to £897,168, compared with £894,986 in 1931, representing an increase of £2182.

The year proved to be a very difficult period for producers, due to having to contend with extremely low metal prices, gold being the only exception. This, however, had no influence to speak of in the output of that metal, owing to the fact that there is no regular production in the industry apart from what is obtained from Mt. Lyell copper ores.

Copper and Lead.—The price levels for these metals were considerably lower than in the previous year, the fall in copper representing 17·35 per cent. and that of lead 7·62 per cent. For the ten-yearly period previous to 1930, the average price of copper was £64, as against £31 14s. 7d. last year. The price of lead and zinc also receded to unpayable levels.

No zinc ore has been produced in the State during the past two years.

The zinc-lead deposits of the Mt. Read-Rosebery Districts, which have been extensively developed and for which provision has been made for the treatment thereof by the erection of modern plant, for comparatively large scale production, are awaiting improved metal prices before work is likely to be commenced.

Tin and silver averaged slightly better prices than in the previous year. Tin shows a substantial increase, the output being 205·09 tons, valued at £39,133, over that of last year. The production of this metal is gradually assuming more settled conditions. A pleasing factor also is the increased attention being given by representatives of capital to the investigation of deposits, both alluvial and lode, with a view to their exploitation on comprehensive lines.

The low price of silver had a depressing effect on the production of galena. To a great extent the gross value of the ore depends on the proportion of this metal to render it payable to mine.

Osmiridium also receded in price, and, to add to the disadvantageous conditions confronting the miners, it was difficult if not impossible on several occasions to secure a market for the metal. The average price dropped to £11 11s. per oz., compared with £14 7s. 9d. in 1931 and £17 in 1930.

Indications of a general improvement in metal prices for the ensuing year have been a factor influencing those engaged in productive and developmental work to continue, despite the disabilities under which the industry was labouring through the causes enumerated.

NON-METALLIC MINERAL INDUSTRY.

This phase of the mineral industry is an important one, and is gradually expanding in the State. The operations in connection with coal, cement, oil-shale, limestone, and talc continued as usual during the year, and are described elsewhere in this Report.

There was a small amount of activity in connection with barite and asbestos, but no production occurred. The pyrite deposits were worked on a small scale for the production of sulphuric acid and also for fluxing purposes.

The pyrrhotite deposits of Renison Bell are being investigated as a source of oxide of iron for paint manufacture.

The fine sand deposits were also exploited, part of the production being for manufacturing purposes in the State, while markets are being sought on the mainland for the production from other deposits.

Although not included in the statistics of the mining industry, the production of sandstones for building and monumental purposes, grindstones, &c., continued as in previous years.

In addition to the above, investigations were being made in connection with the following rocks and minerals, and industries are being contemplated and introduced in connection therewith:—

Dolomite.—The investigations of the dolomite deposits discovered at Smithton by the geological survey were completed during the year. The Hobart syndicate interested therein continued inquiries into the possibilities of utilising the dolomite and establishing an industry for the production of magnesium salts.

Magnesium.—Since the close of the year, a committee, consisting of Sir Herbert Gepp, Consultant on Development to the Commonwealth Government; Dr. F. L. Stillwell, Mineragraphist to the Council for Scientific and Industrial Research; and the Government Geologist (Mr. P. B. Nye, B.M.E., M.Sc.) have investigated the possibilities of the magnesium industry. As a result of the committee's report, further investigations are in progress by the syndicate with the object of establishing the industry in Tasmania.

Diatomaceous Earth.—This material is also known by a number of other names, such as diatomite, infusorial earth, kieselguhr, and tripolite. It consists essentially of the siliceous skeleton of diatoms (a group of flowerless aquatic plants), with which is admixed small quantities of mineral matter, such as clay, &c. It must not be confused with tripoli, which is a residual material, derived from the decomposition of quartzite or of siliceous limestones or cherts.

The main characteristics of diatomaceous earth are its great porosity, its low apparent density, and its chemical inertness. Its chief uses are therefore filtering and insulating purposes. A fairly complete list of its uses includes: (1) Heat, cold, and sound insulation; (2) Filtering medium; (3) Carrier for catalytic agents; (4) Absorbents; (5) Filler for paint, varnishes, rubber, linoleum; (6) Mild abrasive for metal polishes, dental powders and pastes, and for painted and polished surfaces; (7) Structural material, for roofing tiles; (8) Improving the workability and strength of cement and concrete; (9) Bleaching; (10) Chemical purposes, e.g., manufacture of waterglass.

Diatomaceous earth has been know to exist in Tasmania for a considerable number of years, but only in one locality, viz., near "Inglewood," some miles east of Andover station on the main line railway.

Only a small amount of development has been carried out in the past, and small samples were tested, with the result that the quality was found not to be of the highest grade. The uses for diatomaceous earth have, however, greatly increased in recent years, and the grade is therefore not so important is many cases where its use is applied.

Inquiries have been received for supplies of the material. Some investigations by trenching and boring the deposit have been made, and it is stated that it has been proved to be extensive. Samples have been tested, and it is probable that, in the near future, quantities of the material will be marketed in the State and on the mainland.

Ilmenite.—The Titanium Products Pty. Ltd. commenced operations on the ilmenite deposits north of Naracoopa on the east coast of King Island. A large amount of investigational work had been carried out previously in order to determine if the ilmenite could be utilised for the manufacture of titanium oxide, now extensively used in making white paint having special qualities. The company has also erected an extensive treatment and manufacturing plant in Melbourne, Victoria, for that purpose.

Red Granite.—Information supplied by the Department respecting the occurrence of red granite at Coles Bay, Freycinet Peninsula, has led to investigations being made to utilise these extensive deposits for structural and monumental purposes.

Small quantities have been supplied to Tasmanian and mainland firms. The present indications are that considerable quantities will be marketed in the future. It is of deep-red colour, and takes a high polish. The stone occurs at the water's edge, thus facilitating loading to small barges direct from the quarry.

AID TO MINING.

Assistance under the provisions of the Aid to Mining Act, 1927, augmented by funds from the Unemployed Relief Act, continued throughout the year. The amount granted, however, was less than in the previous year, due chiefly to the unprofitable level to which metal prices receded.

The assistance granted has afforded employment to a considerable number of miners, besides being responsible in supporting mineral production in cases where it would have been impossible to carry on.

In order to bring under notice of Tasmanian and mainland firms the possibilities of considerable trade being established by the exploitation of the red granite deposits at Coles Bay, assistance was rendered to enable leaseholders to place it on the market, in order to demonstrate its utility for structural and monumental work. In this regard good results have been achieved.

Sustenance to prospectors was applied chiefly to the West Coast districts. No discovery of outstanding importance was made, but much useful work was accomplished by the direct benefit afforded to unemployed prospectors and miners, who were, in some instances, as a result of assistance granted, able to locate payable ground. The sum of £587 8s. 4d. was granted in sustenance allowance to prospectors.

DIAMOND DRILLING.

A diamond-drill bore commenced the previous year on the old Spray Mine Section, Zeehan, was completed in April, at a depth of 930 feet. This bore was put down on the recommendation of the Mining Advisory Committee at Zeehan for the purpose of testing the main Spray lode, below the deepest workings thereon.

The country rock, which consisted chiefly of alternating bands of fractured quartzite and slate, proved to be very difficult to bore. The lode was intersected at the calculated depth. It was composed of a mixed formation of quartzite, siderite, and iron pyrite, with traces of lead-antimony sulphide. The bore was completed on 6th April.

MOUNT VICTORIA GOLD FIELD.

Drilling work was commenced on this field towards the close of the period to which this Report relates.

DRILLING SHALE BEDS AT LATROBE.

In order to assist the Tasmanite Shale Oil Company in their future mining operations and to give the Department general information about the extension of the tasmanite shale of the Latrobe Field, boring operations were conducted during the period from 26th May till the 11th October.

The boring was commenced ahead of the Goliath adit, and a line of holes put down in a general easterly direction over a length of 40 chains. Six holes were bored, five being on the above line and one to the north thereof. The total depth drilled was 514 feet. No. 2 hole cut shale at 53 feet, and No. 3 hole cut it at 43·5 feet. Nos. 1 and 4 holes did not cut shale, although drilled deep enough to reach that in Nos. 2 and 3 holes if the seam continued unin-

teruptedly. The shale in Nos. 2 and 3 holes represents the continuation of that mined in the Goliath Mine, and there is apparently a fault between this area and that in which Nos. 1 and 4 were bored. This fault would have a S.E.-N.W. trend, but the upthrow side has not been determined. If the upthrow is on the Goliath side, then the Nos. 1 and 4 holes would have to be bored deeper to cut the shale. If the upthrow is on the area where Nos. 1 and 4 holes were drilled, the shale has been eroded. The former supposition is probably the correct one. No. 5 hole was bored in a large thickness of clay beds and large pebbles, which made the boring difficult, and it was stopped before passing out of the clay beds and reaching the underlying shale-bearing beds. No. 6 hole passed through clays, but intersected a basalt dyke below, in which shale would not be found.

Although this campaign only proved shale in two holes, it does not necessarily prove that shale does not occur in the adjacent area in which four holes failed to find it. On of these was in a basalt dyke, one was not bottomed, and the other two may not be deep enough. The campaign gave valuable information as to the course of the basalt dyke and as to the approximate location of the fault separating the Goliath area from the tasmanite area of shale. This information will be valuable in planning future mining operations.

THE AID TO MINING ACT, 1927.

Expenditure.

Drilling and boring carried out at Zeehan (Spray Section):—

(Part III. of the Aid to Mining Act.)

	£ s. d.	£ s. d.
Salaries and wages	686 18 7	
Other expenses	219 4 1	
		906 2 8

(Part II. of the Aid to Mining Act.)

	£ s. d.	£ s. d.
Sustenance allowance to prospectors	587 8 4	
Miscellaneous expenses (insurance, cartage, &c.)	10 10 2	
Advances to companies and individuals under Parts III. and IV.	2,513 15 10	
		3,111 14 4
		£4,017 17 0

(The Unemployed Relief Acts.)

	£ s. d.
Sustenance allowance	120 0 0
Advances under Parts III. and IV. of Aid to Mining Act	243 13 9
Drilling and boring, Legunia	309 13 3
	£673 7 0

Receipts.

	£ s. d.	£ s. d.
Royalty paid by tributers		114 10 0
Sale of plant		4 10 0
Hire of engine		0 16 0
Interest on loans		19 0 5
Refunds:		
Freight	£0 3 6	
Insurance premium	1 13 9	
Incidental expenses incurred in drilling at Latrobe	4 19 11	
		6 17 2
		£145 13 7

Ore Sales.

	£ s. d.	£ s. d.
The amount received from ore sales was		1,557 3 7
Which was distributed as follows:—		
Royalty and interest paid to State	£138 12 8	
Paid to tributers	1,418 10 11	
		1,557 3 7

QUANTITY AND VALUE OF MINERALS.

RETURN showing the Quantity and Value of Minerals produced in the State of Tasmania during the Year 1932.

Mineral.	Quantity.	Value.
		£
Bismuth ..... tons	1·02	541
Carbide .... „	4049	59,495
Copper ... . „	10,998·2	399,762
Coal .... „	111,853	86,733
Cement ..... „	32,231	106,809
Gold ..... ozs. f.	5937·17	34,943
Lead ... . tons	2694·06	32,637
Limestone ..... „	90,335	18,725
Nickel ..... „	0·55	136
Osmiridium ..... ozs.	784·95	9075
Pyrites ..... . tons	274	150
Shale ..... „	1097	1074
Silver ..... ozs.	463,488	37,304
Talc ..... tons	5	17
Tin .... „	793·92	109,767
Total	...	£897,168

The Electrolytic Zinc Company of Australasia Limited recovered 53,200 tons of Zinc, valued at £948,396, and 158·3126 tons of Cadmium, valued at £22,164, from other than Tasmanian ores, and employed an average of 721 men.

BISMUTH.

The output for the year was 1·02 tons, valued at £541.

RETURN showing the Quantity and Value of Bismuth produced from 1904 *to* 1932 *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
Total.....	77·729	£25,083

CARBIDE.

The Australian Commonwealth Carbide Company Limited continued operations and produced 4049 tons of carbide, valued at £59,495.

The quantity of limestone quarried for the year amounted to 13,781 tons. The works at Electrona employed 80 men, the limstone quarries at Ida Bay and transportation services gave employment to 28 men, and in addition 7 men were engaged by contract in supplying case timber.

During the year the production of agricultural lime and lime sulphur spray was considerably increased, and new plant was installed to manufacture a new lime sulphur spray.

RETURN showing the Quantity and Value of Carbide produced during the Years 1922 *to* 1932.

Year.	Quantity.	Value.
	Tons.	£
1922	4512	135,509
1923	3236	64,720
1924	3305	65,660
1925	2934	60,047
1926	3420	68,400
1927	2072	34,896
1928	3829	68,877
1929	3434	53,841
1930	3297	51,437
1931	3903	67,298
1932	4049	59,495
Total	37,991	£730,180

CEMENT.

RETURN showing the Quantity and Value of Cement produced during the Years 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, *and* 1932.

Year.	Quantity.	Value.
	Tons.	£
1924	21,026	105,130
1925	32,574	162,870
1926	33,611	166,447
1927	38,690	176,779
1928	44,799	189,380
1929	41,798	175,613
1930	37,412	115,520
1931	27,508	96,340
1932	32,231	106,809
Total	309,649	£1,294,888

COPPER.

The production for the year was 10,998·2 tons, valued at £399,762.

RETURN showing the Quantity and Value of Copper in Blister Copper and Copper Ore during the Years 1919 *to* 1932 *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	416,309
1932	10,995	399,646	3·2	116	10,998·2	399,762
Total	99,496·1	6,656,056	28·49	1578	99,524·49	6,657,634

The Mount Lyell Mining and Railway Company Limited: Return for the Calendar Year, 1932.

Ore and metal-bearing material smelted:—

Source of Material.	Tons (dry).
Ore:—From the Company's North Lyell Mine	13,622
Concentrates:—From the Company's North Lyell Mine, Lyell Comstock Mine, Royal Tharsis Mine, and Crown Lyell Mine ore	45,535
Purchased ore	11
Total	59,168

Limestone delivered to works (tons) 4,236

Blister copper produced:—11,101 tons, containing:

Copper (tons)	10,995	Approximate value, £441,222.
Silver (ozs.)	161,633	
Gold (ozs.)	4,865	

Average number of men employed:—

Mining Department—At the Company's North Lyell Mine	435	
Ditto, Lyell Comstock Mine	267	
Ditto, Royal Tharsis Mine	54	
Ditto, Crown Lyell Mine	63	
Miscellaneous	99	
		918
Reduction Works Department (including Lake Margaret)		515
Railway Department—Mount Lyell Railway		86
Total		1,519

Copper produced from the inception of the Company to the 31st December, 1932, 258,079 tons (fine).

Silver produced from the inception of the Company to the 31st December, 1932, 14,470,902 ozs. (fine).

Gold produced from the inception of the Company to the 31st December, 1932, 406,545 ozs. (fine).

COAL.

RETURN showing the Quantity and Value of Coal raised from 1880 *to* 1932.

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
Total	3,035,377	£2,386,298

GOLD.

The quantity won was 5937·17 oz. fine, valued at £34,943, as compared with 4759·59 oz., valued at £22,118, for 1931.

RETURN showing the Quantity and Value of Gold won from 1880 *to* 1932.

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
Total	1,925,652·446	£7,733,419

IRON PYRITES.

The quantity won was 274 tons, valued at £150.

RETURN showing the Quantity and Value of Iron Pyrites produced during the Years 1915 *to* 1932.

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
Total	69,073·973	£94,319

LEAD.

The output was 2694·06 tons, valued at £32,637, as compared with 2189·47 tons, valued at £29,024, for 1931.

RETURN showing the Quantity and Value of Lead included in Silver Lead during the Years 1919 *to* 1932.

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
Total	58,809·462	£1,535,274

LIMESTONE.

The quantity won for the year was 90,335 tons, valued at £18,725.

RETURN showing the Quantity and Value of Limestone produced during the Years 1923 *to* 1932.

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
Total	1,106,836	£1,022,669

NICKEL.

The output was ·55 ton, valued at £136.

RETURN showing the Quantity and Value of Nickel produced from 1927 *to* 1932 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1927	86·2	14,656
1928	10	1697
1929	85·44	14,765
1930	117·6	1999
1931	0·2	45
1932	0·55	136
Total	299·99	£33,298

OSMIRIDIUM.

The quantity of this metal won during the year was 784·95 oz., valued at £9075, as compared with 1279·54 oz., valued at £18,028, for 1931.

RETURN showing the Quantity and Value of Osmiridium produced during the Years 1910 *to* 1932 *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
Total	26,675·974	£598,251

The following table gives particulars of osmiridium won from Adamsfield since its discovery up to 31st December, 1932:—

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
Total	11,474	10	13	£241,872	4	7

SHALE OIL.

The Tasmanite Shale Oil Company Limited continued operations in the Mersey Valley with a crude oil production of 79,236 gallons, valued at £2700.

SHALE.

The output was 1097 tons, valued at £1074.

RETURN showing the Quantity and Value of Shale produced during the Years 1910 *to* 1932.

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
Total	27,598	£20,780

RETURN showing the Quantity and Value 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
	Total	262,252

SILVER.

The output was 463,488 oz. (fine), valued at £37,304, as compared with 391,732 oz., valued at £25,754, for 1931.

RETURN showing the Quantity and Value of Silver contained in Silver-Lead and Blister Copper during the Years 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, *and* 1932.

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	75,598	147,376	22,439	642,158	97,837
1925	597,012·67	86,283	133,181	19,226	730,193·67	105,509
1926	...	80,597	...	17,394	766,653	97,988
1927	640,575	75,135	101,207	11,889	741,782	87,024
1928	564,156	66,386	105,270	12,515	669,326	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
T't'l	6,191,627·55	940,617	1,955,672	305,111	8,911,852·55	1,245,628

TIN.

The output was 793·92 tons, valued at £109,767, as compared with 588·83 tons, valued at £70,634, for 1931.

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* 1932.

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
Total	139,381·726	£16,332,184

* Metallic Tin.

TALC.

The output was 5 tons, valued at £17.

RETURN showing Quantity and Value of Talc produced during the years 1928 *to* 1932 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1928	32	96
1929	23	45
1930	13·35	53
1931	15	58
1932	5	17
Total	88·35	269

WOLFRAM.

No wolfram was produced during the year.

RETURN showing the Quantity and Value of Wolfram produced from 1899 *to* 1932 *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	—	—
Total	2264·552	£254,745

ZINC.

No zinc was produced from Tasmanian ores during the year.

RETURN showing the Quantity and Value of Zinc produced during the Years 1919 *to* 1932 *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
1931–1932	—	—
Total	32,911·69	£973,201

Electrolytic Zinc Company of Australia Ltd.—Return for calendar year 1932:—

	Tons.
Production of slab zinc	53,200
Production of metallic cadium	158·3

The above is from ores other than Tasmanian.

The average number of men employed at Risdon was 721.

West Coast Division.—There was no productive work done on the West Coast properties during the year.

The average number of men employed was:—

Surface	16
Underground	...
Total	16

VALUE OF METALS AND MINERALS RAISED.

RETURN showing Value of Minerals and Metals Raised in Tasmania from 1880 *to* 1932 *inclusive.*

Mineral or Metal.	Value.
	£
Asbestos	7105
Barytes	6933
Bismuth	25,083
Cadmium	20,914
Carbide	730,180
Cement	1,294,888
Coal	2,386,298
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)	6,657,634
Gold	7,733,419
Iron Ore	25,701
Iron Pyrites	94,319
Lead (from 1919)	1,535,274
Limestone	1,022,669
Nickel	33,298
Ochre	375
Osmiridium	598,251
Scheelite	112,468
Shale	20,780
Silver-Lead to 1918 (now shown as Silver and Lead)	6,429,291
Silver	1,245,628
Talc	269
Tin	16,332,184
Wolfram	254,745
Zinc	973,201
Unenumerated prior to 1894	31,988
Total	£62,063,031

STATISTICS OF MINING COMPANIES.

RETURN showing the Amounts Paid in Dividends by Mining Companies during the Year ending 31*st December*, 1932.

Mines.	Dividends.
	£
Copper	...
Gold	...
Tin	1000
Silver	...
Coal	5000
Total	£6000

STATISTICS OF PRODUCTION.

RETURN showing the Annual Value of Mineral Products for the State of Tasmania from 1880 *to* 1932.

Year	Value.	Year.	Value.
	£		£
1880	554,031	1908	1,650,027
1881	602,723	1909	1,574,995
1882	556,306	1910	1,432,193
1883	560,873	1911	1,349,497
1884	468,302	1912	1,493,502
1885	518,885	1913	1,415,700
1886	489,966	1914	1,007,038
1887	593,256	1915	1,225,575
1888	616,733	1916	1,521,050
1889	504,718	1917	1,582,322
1890	444,210	1918	1,597,694
1891	528,388	1919	1,301,090
1892	526,909	1920	1,421,104
1893	627,909	1921	822,851
1894	732,764	1922	1,013,415
1895	575,692	1923	1,219,456
1896	662,058	1924	1,496,804
1897	1,006,140	1925	1,700,861
1898	1,071,084	1926	1,808,844
1899	1,660,622	1927	1,621,027
1900	1,888,695	1928	1,593,828
1901	1,763,896	1929	1,790,653
1902	1,378,406	1930	1,270,114
1903	1,354,044	1931	894,986
1904	1,379,204	1932	897,168
1905	1,729,129	Unenumerated prior to 1894	31,988
1906	2,257,147		
1907	2,277,159		£62,063,031

RETURN showing the Total Area of Land and Number of Sluice-heads of Water Applied for during the Year ending 31*st December*, 1932.

Mineral.	Number.	Sluiceheads.	Area.
			Acres.
Coal	11	...	1046
Copper-Nickel	5	...	317
Dolomite	1	...	129
Granite	3	...	85
Gold	80	...	2081
Ilmenite	1	...	50
Minerals	9	...	310
Silica	1	...	40
Silver Lead	3	...	150
Tin	50	...	2717
Machinery Sites	1	...	5
Mining Easements	7	...	25
Water Rights and Dam Sites	64	169	181
Total	236	169	7136

RETURN showing Total Number and Area of Leases and Licences Issued during the Year ending 31*st December*, 1932.

Mineral.	Leases.	Sluiceheads.	Area.
			Acres.
Asbestos	1	...	80
Coal	7	...	218
Dolomite	1	...	129
Gold	126	25	1946
Minerals	4	...	104
Mining Easements	8	...	26
Osmiridium	2	...	90
Silver Lead	1	...	100
Tin	50	...	1211
Water Rights and Dam Sites	73	259	190
Licences to Search for Coal and Oil	1	...	320
Total	274	284	4414

RETURN showing the Total Number of Leases and Licences in Force on the 31st December, 1932.

Mineral.	Number.	Number of Sluiceheads.	Area.
			Acres.
Gold	77	...	1987
Tin	209	...	6502
Minerals	62	...	6226
Stone	1	...	14
Asbestos	3	...	161
Silver	2	...	107
Bismuth	1	...	40
Clay	4	...	100
Limestone	4	...	240
Coal	18	...	4135
Osmiridium	4	...	70
Shale	4	...	1605
Dolomite	1	...	129
Iron	1	...	5
Marble	1	...	10
Molybdenum	1	...	80
Mining Easements	48	...	316
Machinery Sites	18	...	120
Licence for Search for Oil	1	...	320
Water Licences	391	1473	2448
Total	851	1473	24,615

RETURN showing the Mining Companies Registered during the Year ending 31st December, 1932.

Number of Companies.	Capital.
3	£20,250

In addition to the above, 2 Agents for Foreign Companies and 5 Syndicates under Part VA. of the Mining Companies Amendment Act, 4 Geo. V. No. 44, were registered.

RETURN showing the Average Number of Miners Employed during the Year ending 31st December, 1932.

Division.	Number.
Northern and Southern	1226
North-Eastern	379
Eastern	606
North-Western	593
Western	1801
	4605

RETURN showing the Average Number of Persons Engaged in Mining during the Years 1880 to 1932.

Year.	Number.	Year.	Number.
1880	1653	1907	7516
1881	3156	1908	6466
1882	4098	1909	6054
1883	3818	1910	5770
1884	2972	1911	5247
1885	2783	1912	5566
1886	2681	1913	6107
1887	3361	1914	4741
1888	2989	1915	3908
1889	3141	1916	3864
1890	2868	1917	4050
1891	3219	1918	4278
1892	3295	1919	4413
1893	3403	1920	5364
1894	3433	1921	4011
1895	4062	1922	3835
1896	4350	1923	4785
1897	4510	1924	5264
1898	6052	1925	5110
1899	6622	1926	5309
1900	7023	1927	5044
1901	6923	1928	5170
1902	5934	1929	4986
1903	6017	1930	4606
1904	6194	1931	4391
1905	6581	1932	4605
1906	7005		

RETURN showing the Total Amount of Rents, Fees, &c., Received by the Mines Department during the Year ended 31st December, 1932.

Head of Revenue.	Amount.		
	£	s.	d.
Rent of Auriferous and Mineral Lands	7588	7	6
Fees, Auriferous and Mineral Lands	931	5	10
Survey Fees	1466	7	0
Fees under the Explosives and Inflammable Liquids Act	1578	5	2
Total	£13,561	5	6

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 1932, inclusive.

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

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, 1921 to 1932, inclusive.

Nature of Lease.	In force on 31st Dec., 1921.		In force on 31st Dec., 1922.		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.	
	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.
For Minerals, Silver, Tin, &c.	901	31,719	716	26,459	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
For Coal, Slate, Shale, &c.	66	15,430	73	16,809	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
For Gold	92	1894	127	2424	108	1687	91	1829	70	1340	42	870	38	749	40	830	36	746	40	830	57	999	77	1987
Dredging Claims	29	413	36	399	33	369	20	289	20	195	42	363	41	502	52	626	60	756	30	353	—	—	—	—
Mining Easements	97	621	87	607	81	606	77	592	77	570	68	494	77	484	77	475	55	409	73	504	77	434	48	316
Machinery Sites	34	152	31	123	30	124	26	115	27	112	25	150	21	110	29	169	25	171	18	117	20	209	18	120
Licences to search for Coal or Oil	51	117,031	73	137,692	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
Water-rights, Mineral and Gold	543	2247 & 2060 sluice-heads	493	3002 & 1814 sluice-heads	435	2147 & 1612 sluice-heads	338	1990 & 1520 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

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

	Average for 1920.	Average for 1921.	Average for 1922.	Average for 1923.	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.
	£ 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	97 12 5	69 8 8	62 3 6	66 7 4	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
Lead Soft Foreign: per ton	38 4 7	22 14 6	23 14 10	25 19 4	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
	45 4 6	26 4 1	29 14 2	32 18 4	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
Spelter: per ton	296 1 7	165 8 2	159 10 9	191 7 5	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
Tin—Standard, spot: per ton	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Silver—Standard, spot: per oz.	5 19/16	3 0·875	2 10·4	2 8·37	2 9·97	2 8	2 4·2	2 2·38	2 2·15	2 0·57	1 5·66	1 2·593	1 5·842
	£ 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.	38 7 7	24 10 6	28 6 7	27 10 4	...	...	11 13 4	21 16 5	25 9 0	22 18 1	17 0 9	14 7 9	11 11 0
Wolfram: per ton	157 12 9	65 7 6	70 0 0	65 0 0	...	...	70 0 0	61 10 0	104 5 0	144 5 0	105 0 0	64 0 0	62 16 0
Nickel: per ton	...	...	...	...	...	...	...	...	...	171 0 0	170 0 0	183 15 0	234 7 6

DRAFTING BRANCH.

The number of working plans in use and which are all kept entered up to date is 202, as compared with 199 for 1931.

New plans compiled	5
New working plans for Hobart and Launceston	3
Manuscripts entered to date	7
Underground plans examined	17
Instructions issued to surveyors	188
Diagrams received	139
Diagrams drawn in office	26
Diagrams drawn on leases (duplicated)	194
Tracings to Launceston	165
Tracings and plans prepared for Geologists, State Mining Engineer, and Chief Inspector	12
Lithographs entered to date	68

MINE MANAGER'S EXAMINATION.

Four candidates presented themselves for examination, but only two succeeded in obtaining sufficient marks to qualify for a certificate. One service certificate was issued.

CONCLUSION.

In conclusion I desire to record my appreciation of the valued assistance accorded to me by the late Secretary for Mines (Mr. W. A. Pretyman) during my term of office as Assistant Secretary, also for the loyal and efficient service rendered by the officers generally, the Mining Drafting Branch of the Department of Lands and Surveys, and the wardens and registrars of mines respectively at the various centres.

I have the honour to be,
Sir,
Your obedient servant,

J. B. SCOTT,
Secretary for Mines.

To the Hon. the Minister for Mines.

APPENDIX I.

REPORT OF THE GOVERNMENT GEOLOGIST FOR YEAR 1932.

The Government Geologist (Mr. P. B. NYE, M.Sc., B.M.E.) reports:—

SHORT FIELD INVESTIGATIONS.

The following includes the field trips, examinations, &c., made in connection with mineral deposits, mines, &c.:—

(1) Geological survey of Gladstone goldfield.
(2) Geological survey and general examination of the tin deposits of the Gladstone District in connection with the proposed restoration of the No. 6 syphon of the Mount Cameron Water-race.
(3) Short examination of Sandfly coalfield.
(4) Geological survey of the Lake River goldfield.
(5) Geological survey of the Catamaran coalfield.
(6) Underground water investigation of Mr. Seal's property at Ouse.
(7) Geological survey of Latrobe shale field.
(8) Geological examination of Groom's Slip, near Penguin.
(9) Geological examination of gold prospect at Doctor's Rock.
(10) Geological survey of Marrawah District.
(11) Examination of gold prospect, near Deloraine.
(12) Examination of gas prospect, near Quamby Bluff.
(13) Examination of spring, near Westbury.
(14) Examination of Evandale District in connection with the possible capture of the South Esk by the North Esk.
(15) Experimental aerial geological survey.
(16) Examination of Lymington goldfield.

REPORTS.

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

(1) The dolomite deposits of Smithton and adjacent districts.
(2) Addendum to above report.
(3) Gold prospects at Lymington.
(4) Gold mining in Tasmania (in conjunction with Mr. J. B. Scott).
(5) Report on proposed restoration of syphon at site of old No. 6 syphon, Mount Cameron Water-race.
(6) Sulphide deposits suitable for the production of sulphur or sulphuric acid.
(7) Report on Catamaran coal mine (in conjunction with Mr. J. O. Hudson).
(8) The Victory Gold Mining Company No Liability.
(9) Proposed drilling of the shale field in vicinity of the Tasmanite and Goliath Mines.
(10) Gold occurrence at Doctor's Rocks, Somerset.
(11) Possibilities of obtaining underground water in the Marrawah District.
(12) Spring at Wm. Johnson's property, Westbury.
(13) Possible capture of the South Esk River by the North Esk River, near Evandale.

SYSTEMATIC GEOLOGICAL SURVEY (D. AND M. SCHEME).

The field operations in the Smithton and Rosebery districts were completed during 1931. The reports on both districts were completed during 1932, and await publication. The Smithton N.E. quarter-sheet has been printed, and the drafting of the S.E. quarter-sheet is practically completed, and will shortly be available for printing. The Rosebery plan has been partly completed.

GEOLOGICAL SURVEY OF THE GOLDFIELDS.

The geological survey of the goldfields of the State was the main work attempted during the year, but was considerably delayed by other work. The following fields have been surveyed, while numerous visits to individual reefs and mines have also been made.

(1) Gladstone Goldfield.
(2) Lake River Goldfield.
(3) Mathinna Goldfield.

The work will be continued during 1933.

TASMANIAN SHALE OIL INQUIRY COMMITTEE.

This Committee concluded its enquiries during the year, meetings being held at Latrobe, Launceston, and Hobart. The preparation of the final report of the Committee entailed a considerable amount of work, and it was completed before the end of 1932. Its publication was finished early during the present year, and it was also issued as Geological Survey Mineral Resources, No. 8, Vol. II.

As a result of the recommendations of the Committee, the Commonwealth Government has granted £1000 for the drilling of the Latrobe Area, and this work is now in progress.

MINEOGRAPHIC INVESTIGATIONS BY THE C.S. AND I.R.

During the year Dr. F. L. Stillwell undertook a number of minerographic investigations of Tasmanian ores as a result of applications made by the Geological Survey. The following reports were received as a result of this work.

(1) The occurrence of cobalt and vanadium in Mount Remus pyritic ore.
(2) Report of a specimen of gersdorffite from Tasmania.

Other work being carried out includes the examinations of the Read-Rosebery ores and the matrix of the Tasmanite shale.

EXPERIMENTAL AERIAL GEOLOGICAL SURVEY.

The Commonwealth Geological Advisor (Dr. W. G. Woolnough) carried out an experimental aerial geological survey over portions of the State. This survey was designed to determine to what extent such methods were applicable to Tasmanian conditions. Similar surveys had previously been undertaken in Australia in connection with oil deposits, but in this State mineral-bearing regions were also investigated. The photographs and mosaics are not yet available, but, from the visual reconnaissance trips and examinations of mosaics prepared for the Forestry Department, it appears certain that aerial photographic surveys would determine the geological structure in regions occupied by the older rocks. As such regions represent the mineral-bearing parts of the State, the method of aerial photographic survey would be extremely helpful and greatly facilitate the work of the geological survey of the State.

WORK PERFORMED BY OTHER MEMBERS OF THE STAFF.

K. J. Finucane, Field Geologist.—The following field trips were made:—

(1) Accompanying Dr. F. L. Stillwell over the Read-Rosebery District.
(2) Geological survey of Mathinna goldfield.
(3) Examination of gold prospect, near Mangana.
(4) Examination of Hinemoa Mine.
(5) Examination of Frodsley Estate.
(6) Examination of Mount Ramsay tinfield.
(7) Examination of Specimen Reef District.
(8) Examination of King River Mine.

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

(1) Preliminary report on the geological survey of the Rosebery District.
(2) Report on the Rosebery District (for printing as a bulletin).
(3) C. A. Brock's prospecting operations at Fern Tree Gully, Mangana.
(4) Brock Bros. mine at Richardson's Creek, Mangana.
(5) The Pride of the Hills line of reef, Mathinna.
(6) Preliminary report on the geology of the Mathinna goldfield.
(7) The Hinemoa Mine, South Mount Victoria.
(8) The Argyle Mine, Mangana.
(9) Preliminary report on the geological features of K. Brodribb's Estate, Frodsley.
(10) The King River Gold Mine (in conjunction with F. Blake).
(11) Some geological features in the vicinity of Queenstown (in conjunction with F. Blake).

F. Blake, Assistant Geologist.—Mr. Blake was engaged in drafting, &c., for the greater portion of the year, including the drafting of the Smithton S.E. quarter-sheet. He took part in the following field trips:—

(1) Geological survey of the Lake River goldfield.
(2) Examination of Mount Ramsay tin-field.
(3) Examination of Specimen Reef District.
(4) Examination of King River Mine.

The following reports were prepared by him:—

(1) Notes on some dense limestones suitable for agricultural purposes.
(2) The King River Gold Mine (in conjunction with K. J. Finucane).
(3) Some geological features in the vicinity of Queenstown (in conjunction with K. J. Finucane).

Q. J. Henderson, Cadet Geologist.—Mr. Henderson was engaged in drafting the map of the Rosebery quarter-sheet until his term of temporary employment ceased in March.

Interpretation of the Geological Record of the State.

The following modifications are necessary as the result of the work during 1932:—

Proterozoic.

The survey of the Lake River goldfield proved the presence of Proterozoic rocks in that district. This represents the most easterly occurrence of these rocks.

Devonian (?) Igneous Rocks.

The field work in several districts of the State has confirmed the interpretation in the 1931 report that the greater part, if not the whole, of the so-called "porphyroid felsites," &c., are intrusive porphyries and not lava flows. In the Queenstown and Lynchford Districts, in particular, the igneous rocks have been found to be intrusive into the Silurian sedimentary rocks.

Tertiary Basalt.

A survey in the Marrawah District, on the far north-west coast, proved that the basalt around Marrawah formed a small plateau around which Miocene limestones have been deposited. Further, the limestone contained pebbles of the basalt. The limestone has yielded fossils, which were determined by Mr. F. Chapman, Commonwealth Palæontologist, to be Lower Miocene. The basalt is, therefore, pre-Miocene, and is comparable in age with the "Older" basalts of Victoria. This represents the first discovery of an "Older" basalt in Tasmania.

Upper Pliocene (Werrikooian).

The fossiliferous sands at Wingaroo, Flinders Island, were previously (1930) referred to as probably Pleistocene in age. Recent determinations of the fossils have been made by Mr. F. Chapman, who gives the age as Werrikooian. This represents the first records of marine beds of this age in Tasmania.

Pleistocene.

The marine and freshwater beds at Mowbray Swamp (Smithton) were referred in 1931 to the Pleistocene. This has been confirmed by Mr. F. Chapman, who examined the marine fossils from Broadmeadows and also the freshwater beds at Pulbeena (Smithton). The sands, &c., of the Great Northern Plain, Gladstone, may also be of this age.

Routine and Other Duties.

During the year the usual routine duties of answering correspondence, interviewing visitors, &c., were carried out. These were concerned mainly with furnishing information about the mineral deposits of the State; identifying rocks, minerals, &c. Other duties included—

(1) Weighing and certifying to parcels of osmiridium sent overseas for sale.
(2) Attention and additions to the departmental collections.
(3) Preparation of collections for schools, &c.
(4) Preparation of rock sections.
(5) Attendance at shale oil conferences.
(6) Attendance at meetings of Mine Manager's Examination Board and setting and correction of examination papers.

Conclusion.

In conclusion, I desire to place on record my appreciation of the excellent work carried out by the Geological Survey Staff and the capable and energetic manner in which such work was performed.

Appendix II.

REPORT OF THE GOVERNMENT CHEMIST AND ASSAYER.

The Government Chemist and Assayer (Mr. L. H. Bath) reports:—

During the year the work consisted largely of making metallurgical tests and analyses of ores, rocks, coal, oil shale, and minerals.

The total number of assays and analytical tests made for the public and the Department amounted to 6500.

Assays have been made for gold, silver, copper, tin, lead, bismuth, antimony, tungsten, nickel, cobalt, zinc, cadmium, barium, manganese, iron, strontium, calcium, aluminum, chromium, osmium, iridium, osmiridium, soda, vanadium, platinum, magnesium, tantalum, arsenic, fluorine, molybdenum, potash, sulphur, phosphoric acid, glucina, tannins, radio-active minerals, rhodium, and palladium; research and analyses of oil-shale; analyses of water, clay, cement, alloys, dolomite, pigments, fusion tests on clays; distillation and fractionation of organic materials; cyanide tests on tailings, slimes, &c.; and air-lift agitation on tailings and slimes for gold recovery.

Boring.

During the year equipment was forwarded to various parts of the State, and again placed in store when returned.

Sampler.

The position held by Mr. E. W. Coleman was abolished in May.

General.

A good deal of usual routine work was attended to, and information supplied, verbally and by correspondence, to enquirers.

I desire to place on record my appreciation of the excellent work carried out by the officers of this branch of the Department.

APPENDIX III.

REPORT OF THE CHIEF INSPECTOR OF MINES.

The Chief Inspector of Mines (Mr. J. O. HUDSON) reports as follows:—

Tables are attached showing:—

(1) The number of persons killed and injured in or about mines, works, and quarries in Tasmania.

(2) The rate per 1000 persons killed and injured in the different divisions.

(3) A table showing the average price of metals from the year 1919 to 1932.

The average number of persons employed for the year was 4605, being an increase of 204 compared with the year 1931.

Accidents.

The total number of accidents reported during the year was 71, being an increase of 33 compared with the previous year. The 71 accidents caused injury to 71 persons, being an increase of 28 more than in the year 1931. There was a reduction of three accidents in the Northern and Southern Division, an increase of one accident in the North-Eastern Division, the same number in the Eastern Division, an increase of 13 in the North-Western Division, and an increase of 25 in the Western Division compared with the year 1931.

The fatal accidents were four, causing the death of four persons, being a decrease of four on the previous year, and the non-fatal accidents 67, being an increase of 32 compared with last year.

The rate per 1000 persons employed killed and injured was 15·418, compared with 9·792 for the year 1931. The rate per 1000 persons employed who were fatally injured was 0·868, the rate for the year 1931 being 1·821.

The rate per 1000 persons employed who received injuries necessitating absence from work for more than 14 days was 14·549, compared with 7·970 for the previous year.

The four fatal accidents were caused as follows:—

(1) A party of contractors were employed driving a tunnel to divert a river. Soft ground was encountered, and provision was made to secure by timbering. When approaching the soft ground, the timbers collapsed, the broken timber striking one of the men, causing fatal injury. The work was being carried out in the orthodox manner, and the occurrence could only be attributed to misadventure.

(2) Tributors were rising to a stope in what was supposed to be solid ground. The rise broke into old workings, causing a fall of ground, which covered one of the men, causing death from suffocation.

(3) A miner was employed in placing explosives in a crack with the object of bringing down defective ground in the back of a stope when a piece of ground fell from the back, crushing him. The evidence at the coronial enquiry disclosed that the man failed to test the ground before commencing to charge the explosives.

(4) At a miner's right claim, which was being worked for tin, the face of the drift varied from 4 to 5 feet. One of the holders, a youth of 18 years of age, went under the sluicing face, which had been undercut with the nozzle water to the falling stage. The face collapsed, burying the youth, who was suffocated.

Of the 67 serious accidents, 57 occurred underground and 10 on the surface. Five occurred at works and quarries, two at coal mines, and 60 at metal mines. The injuries in 22 cases were such as to cause fracture or permanent injury; in the remaining 45 cases the injury was such as to cause absence from work for more than 14 days.

Prosecutions.

There were three prosecutions for failing to comply with the provisions of the Act. In all the cases convictions were obtained. An underground contractor was charged for failing to return explosives to the magazine, and was fined £1 and costs. A level boss for failing to enforce the General Rules in connection with the return of explosives to the magazine was fined £1 and costs. An employee was charged with riotous conduct at the surface of a mine, and was fined £2 and costs.

Operations.

The Electrolytic Zinc Company operated continuously during the year, and produced 53,200 tons of zinc, valued at £948,396, and 158·3126 tons of cadmium, valued at £22,164, from ore mined in other States, and employed an average of 721 men. The Company did not produce any zinc from their mines in Tasmania.

The Catamaran Coal Mine operated during the year, the output being 1516 tons, valued at £1627, and employed an average of 51 men.

Prospecting for coal has been carried out in a small way at Strathblane and Sandfly, the output being a very limited quantity.

The Australian Commonwealth Carbide Company produced 4049 tons of carbide, valued at £59,495, and, in addition, disposed of 10,855 tons of limestone, valued at £6749.

Adamsfield.—A large number of men have been engaged in working for osmiridium, but the low price and difficulty in disposing of the metal has caused a very large decrease in the number operating.

The lode leases have not been operating owing to the low price of the metal.

Quarries.—The production from the blue-stone has been restricted owing to the lack of orders.

There has been a slight improvement in the production from brickwork quarries.

Inspector of Mines.

The position vacated by the resignation of Mr. J. J. Andrew has been filled by the appointment of Mr. Douglas Wilson, who is stationed at Queenstown.

Conclusion.

In conclusion I again desire to express my appreciation for the energetic manner in which inspectors have carried out their duties.

TABLE showing Rate per Thousand Killed and Injured in different Divisions for the Year 1932.

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	1226	2	...	2	2	1·631	...	1·631
North-Eastern	379	1	1	0	1	2·638	2·638	...
Eastern	606	4	...	4	4	6·600	...	6·600
North-Western	593	15	2	13	15	25·295	3·372	21·922
Western	1801	49	1	48	49	27·207	0·555	26·652
Total	4605	71	4	67	71	15·418	0·868	14·549

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.
Mt. Lyell	1519	44	1	43	44	28·966	0·658	28·305
Zeehan, &c.	282	5	...	5	5	17·730	...	17·730
Total	1801	49	1	48	49	27·207	0·868	14·549

COMPARATIVE Table of Statistics of Accidents in and about the Mines of Tasmania from 1*st July,* 1892, *to* 31*st December,* 1932.

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	8·709
„ 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

* Mt. Lyell disaster.

Appendix IV.

REPORT OF THE CHIEF INSPECTOR OF EXPLOSIVES.

The Chief Inspector of Explosives (Mr. J. O. Hudson) reports:—

The imports of explosives were considerably greater than for the previous year, being:—

	lb.
Monobel	7,000
Gelignite	346,150
Ligdyn	5,250
Blasting gelatine	2,450
Gelatine dynamite	250
Powder	13,355
Detonators	502,000

The quality of the explosives imported was again very satisfactory. There was one case of explosives hardening owing to climatic conditions, but the difficulty was overcome by the use of explosives which are not so subject to climatic conditions. There were very few complaints in connection with detonators. Where investigation was made, it was found that the defect was due to the method adopted in their use.

Accidents.—Two accidents occurred during the year from explosion:

(1) Boring in the butt of a hole previously fired occurred, and caused injury to the eyes of the driller. The accident was due to the person injured failing to comply with the regulations.

(2) Boring into explosives which had not exploded from a previous firing. Every precaution appeared to have been taken. The ground was of a soft nature, and the hole had closed from the previous firing.

There were no fires nor explosions caused by inflammable liquid.

Prosecutions.—Five persons were proceeded against for failing to comply with the provisions of the Explosives and Inflammable Liquids Acts. Convictions were obtained in all cases. A contractor employed underground was fined £1 and costs for failing to return explosives to the magazine. A level boss was fined £1 and costs for failing to enforce the provisions of the Act in connection with the use of explosives. One person was fined 10s. and costs for storing inflammable liquid without a licence. Two persons had convictions recorded with costs for smoking while attending petrol pumps.

Revenue.—The following licences were issued and fees paid in connection with them for the year 1932:—

Explosives Act, 1916 (1*st January to* 31*st December*, 1932).

	No.	£	s.	d.
Magazine licences	78	76	10	0
Permits to sell explosives	337	83	17	6
Permits to import explosives	16	31	0	0
Permits to convey explosives	72	17	17	6
Permits to sell fireworks only	97	12	2	6
Total		£221	7	6

Inflammable Liquids Act (1*st July*, 1931, *to* 30*th June*, 1932).

	No.	£	s.	d.
Licences to store	427	716	0	0
Registration of premises	252	62	12	6
Permits to unload ships	43	225	15	0
Permits to import	4	1	0	0
Increased quantities	25	10	15	0
Transfer fees	5	1	5	0
Amendment to licences	37	9	5	0
Inspection of ships	8	42	0	0
Regulations sold	1	0	1	0
Total		£1,068	13	6
Magazine rents		177	5	4
		£1,245	18	10

Appendix V.

REPORTS OF INSPECTORS OF MINES.

Mr. H. A. Vaudeau (Burnie) reports:—

From 1st January to 1st March, 1932, I was in charge of the whole of the Western and North-Western Divisions and part of the Northern Division, extending down to the Western Junction Railway Station. On the 1st of March I was relieved from the latter, as far up as the Devonport and Moina Area, but it was found impossible to give the attention that was required consistent with the importance of the work being carried out. Another inspector was appointed from the 15th of August, and from that date I resumed duties in the North-West District.

Up to that time I had to put in the greater part of my time at the mines in the Queenstown Area, over 1500 men being employed thereabouts, and, owing to the magnitude of the operations, this was found to be absolutely necessary.

The average number of men engaged for the Western Division, for the quarters ending March and June respectively, was 1769 and 1771; for the part of the North-Western Division left me, as from 1st March, it was 401 and 294.

The average for my part of the Western Division for the last two quarters was 155 and 158, and for the North-Western Division it was 543 and 662.

Ventilation, Health, and Sanitation.—Considerable attention was given to these as required In connection with change-houses, considerable improvement was made at one mine, which was badly needed; at others conditions were reasonable. First-aid facilities are available in most instances as required.

Machinery.—Excepting where absolutely necessary to interfere at once for safety reasons, any defects noticed have been referred to the Inspector of Machinery for his attention to save overlapping.

Explosives.—Supervision was given to inward shipments of these, regarding safe handling and forwarding, whenever possible to be in attendance.

Workers' (Occupational Diseases) Relief Fund Act.—A considerable amount of time was taken up getting out a properly indexed register for the Western Area, and has been of much use since. In my present district my records show that four men have been examined by certifying medical officers for disablement. One was allowed as totally incapacitated, the others refused.

Prosecutions.—Legal proceedings were instituted in six instances: four in connection with the Inflammable Liquids Act, and one each in connection with the Explosives Act and the Mines and Works Regulation Act. The offence and result of the proceedings, in each case, are shown in the appended tabulation.

Contravention.	Results.
Section 5 of the Inflammable Liquids Act.—Unlawfully storing more than 16 gallons of mineral spirit, other than in licensed store or registered premises.	Convicted and fined 10s., with court costs and expenses (8s. and 2s.), total £1, in default distress.
Regulation 164 of the Inflammable Liquids Act.—Smoking while attending a petrol pump.	Convicted and ordered to pay half court costs and half my expenses (4s. and 8s. 6d. respectively), total 12s. 6d.
Ditto	Ditto
Regulation 130 of the Inflammable Liquids Act.—Storing drum of motor spirit under conditions not approved of by the Chief Inspector of Explosives.	Convicted and ordered to pay court costs (7s. 6d.) and my expenses (12s.), total 19s. 6d.
Section 8, Subsection (4), III., of the Explosives Act.—Explosives not stored to the satisfaction of an inspector.	Convicted and fined £2, with court costs (8s.) and my expenses (12s.), total £2 18s.
Section 72 of the Mines and Works Regulation Act.—Striking a person on the mouth with his closed fist whilst working at a mine.	Convicted and fined £2, with court costs (8s.) and part my expenses (10s.), total £2 18s.

Summary of Mines and Quarrying Activities in My Present District.—The Magnet Mine was taken over by the men who had been working on tribute under recent management. They considered, if allowed, they could keep the mine going and do something with it. A start was made and good work was being done, and, in spite of the low prices of metals, they were enabled to make more than could be won under the previous system.

North Mount Farrell Mine.—The low prices of both lead and silver have badly affected this mine.

The main crosscut from the adit level was extended into the hill to cut a known quartz formation on the surface, thinking it might carry values at a depth. At the end of the year nothing had been found. There is a considerable tonnage of mill residues in the dumps to be treated.

The Mount Bischoff Tin Mine.—Practically all of the work is being carried out by tributors, with the exception of the concentrating mill. This is run by the Company, a charge being made per ton of ore treated. However, there are still, in my opinion, many places worthy of attention about the lease, but a little beyond the ordinary tributer.

Work at the Goliath Portland Cement Company Proprietary Limited works has been of a more regular nature during the term, and they are getting a good share of the business that is offering. Their product is very highly spoken of by users.

There are ten small collieries at work, most of the product being taken by the Goliath Portland Cement Company. The seam worked is very small, varying from 16 to 22 inches. Owing to the nature of the seam, being faulted badly and having many small rolls, it is impossible to lay the work out as is usually done, either by bord and pillar or longwall methods. What is used is really a modified longwall system, and has been in vogue in the district for some 60 or 70 years.

Only a small quantity of shale has been mined, but a considerable amount of experimental work has been carried out, the greater part of the shale being drawn from supplies on the surface dump, in retorting and refining at the Tasmanite Shale Oil Company's works.

In the early part of the year a rush broke out at Takone, on the Ingles River, but it was of short duration.

At Naracoopa, King Island, a deposit, known locally as "black sand," has been tried out in years past for its tin contents, but recently a company took up an area here, getting supplies for a treatment plant in Victoria, where they are treating the ilmenite sand for its titanic oxide content.

At Renison Bell, on part of the old Federal Tin Mine, two men found some very good tin values, and a working option was taken by a Melbourne group of investors.

A good deal of prospecting has been done in my district for gold. Considering the low price of metals, there is a lot of work being carried out in various places looking for other metals.

Conclusion.—In addition to the various duties entailed in connection with the various Acts delegated to this office, I have made some inspections and reports in connection with the Aid to Mining Act and in connection with the drainage tunnel at Groom's Slip on the Burnie-Launceston Railway Line, driven by the Public Works Department.

The Devonport Municipal Council's sewerage works was also brought under the provisions of the Mines and Works Regulation Act, 1915, and these have been regularly inspected as required.

Inspector DOUGLAS WILSON (Western Division), reports:—

Men Employed.—The average number of men employed in the industry was 1596. During the third quarter there was a decrease of 102 men in the employ of the Mount Lyell Company, due to the completion of various construction jobs.

Accidents.—The number of accidents necessitating absence for 14 days or more was 44, the highest reported for several years. However, in the majority of these cases the injury was slight, and the increase in numbers is accounted for by the fact that previously those accidents were not reported for which the medical officer gave the probable period of incapacity at less than 14 days, unless complications had set in making the case a serious one. Now, when 14 days has elapsed and the injured man has not returned to work, the accident is always officially recorded. All of the 44 accidents occurred at the mines or works of the Mount Lyell Mining and Railway Company, 40 occurring underground and four on the surface. One was fatal, two resulted in the loss of a leg, one in the loss of an eye, the remainder not being of a serious nature. The fatality occurred at the Comstock Mine. The back was observed to be bad, and a miner was placing gelignite in a crack with the object of bringing this dangerous ground down, when a slab came away and crushed him.

Health and Sanitation.—Dust was noticed on all levels at the Crown Lyell Mine and on No. 4 level at the Lyell Comstock Mines, this dust coming from the main ore passes. Water sprays and atomisers were tried, and, although they improved conditions, they could not allay the dust caused by the rush of air down the pass whenever a truck of ore was tipped at a higher level. The pressure of this rush of air was too great for an ordinary low pressure exhaust fan to contend with, and attention was given to devising a door which would open and close automatically as each truck of ore was tipped. Experiments were carried out at the Crown Lyell Mine, the foremen and shift bosses showing keen interest, and the design of one of the latter, Mr. G. Stokoe, was finally adopted as being the most suitable. Two of these have been installed, and are doing excellent work. Similar doors will be installed at the other levels at the Crown Lyell early in 1933, and investigations are still being carried out in an endeavour to determine the most suitable type for the Lyell Comstock, where the conditions are different.

Reduction Works.—The new crushed-ore bins were put into commission during the latter part of the year, and at first the amount of dust on top of the bins was considerable. The temporary installation of a small fan, which it is intended to replace by a larger and more permanent one, has greatly minimised the trouble.

Quarries.—During the year the new quarry at Hall's Creek was opened up, and before the end of the year was in a position to supply the demand of the Mount Lyell Company. The old quarry at Queenstown was then abandoned.

Explosives.—The Mount Lyell Company have taken out two new licences for magazines, one underground (at the Royal Tharsis Mine) and one on the surface (at Hall's Creek Quarry).

Supervision was given to the landing of explosives at Regatta Point and the transferring to the main magazine at Queenstown.

Inflammable Liquids.—Due to the opening of the West Coast Road and the consequent increase in motor traffic, there has been considerable activity amongst suppliers of spirit, the number of petrol pumps having doubled since August.

Workers (O. D.) Relief Fund Act.—Records show that during the year "free from disease" certificates were forwarded to the Board for 263 men. Four employees of the Mount Lyell Mining and Railway Company applied for examination, two of whom were certified as incapacitated and two as not incapacitated.

Ropes and Cages.—It was found that, for three of the haulage ropes of the Mount Lyell Company, no certificate was available. For one of these, a copy of the original was obtained from the maker, and, for the other two, lengths were cut off and tested at a testing station. Winding drivers' medical examinations were brought up to date.

Small Mines.—Claim holders and fossickers were visited in the Zeehan, Heemskirk, and Dundas areas, and reports were submitted to the Chief Inspector. At present metal prices, tin is giving better returns to the small producers than silver-lead, and the North Heemskirk field has decided possibilities for those enterprising enough to equip their claims with rough plants, such as hydraulic lifts, &c. However, unless repairs are soon effected to several bridges on the Zeehan-Granville tramtrack, access to this field will be cut off.

Production.—	1931.	1932.
Copper (tons)	9,940	10,996
Gold (tons(	3,794	4,929
Silver (oz.)	203,868	182,683
Lead (tons)	221	184
Tin (tons)	3	9

General.—Since taking over duties in August, special attention has been given to the square set timber slopes, as it was noticed that on the North Lyell and Lyell Comstock Mines there was a tendency to open up more than one face at a time, thus losing much of the support gained from the square sets. Also the side blocking was too light in section and at times absent. The underground staff have given this matter particular attention, with the result that there is a very great improvement, especially at the North Lyell Mine.

Several warnings were given regarding the handling of explosives, &c., and as these had the desired effect, it was not deemed necessary to prosecute.

I would like to express my appreciation of the manner in which the officials of the Mount Lyell Company have fallen in with any suggestions or requests that I have made with a view to decreasing the risk of accidents or improving working conditions; also to claim holders, ore buyers, and others, who have supplied me with data necessary for the compilation of the quarterly returns.

Inspector W. H. WILLIAMS (Launceston), reports:—

The average number of persons engaged in mining and metallurgical operations was 1089, as against 894 for the previous year, the increase being due to sustained interest in the search for auriferous ores and alluvials and to an improvement in tin-mining activities.

Customary attention was given to the production and maintenance of safe operating conditions at the coal and metalliferous mines. Inspection records again reveal many cases of laxity in regard to the safety-measures adopted in both underground and surface workings, and in six instances it was necessary to completely obstruct the applied methods of working until measures presenting reasonable conditions of safety were resorted to. Defects in established systems of timbering, necessity for additional timbering, incomplete attention to loose and otherwise affected roofs, irregularities in pillar and place widths, and defective shaft practices were outstanding in underground workings, and the absence of due regard for the safety of the walls of ground races and alluvial workings was frequently encountered, all of which matters continued to emphasise the value and importance of intense inspection.

There were no uncontrolled settlements of ground, but, in common with the policy of longwalling, an extensive subsidence of the roof occurred at one colliery. In several places the roof ripped to the face-line, but the applied method of gobbing and timbering was equal to the incidences of the movement, and the subsidence was satisfactorily controlled.

The outcrop of a working seam fired at a colliery, and the fire extended along the rib coal of an old tunnel, but a cover seal was effectually placed across the zone of fire, and periodical observations failed to locate any inlet of damps to the productive section of the colliery.

Five accidents, involving one fatality and four casualties attended with non-fatal injuries, were registered under the provisions of Section 26 of the Mines and Works Regulation Act. Three of the accidents occurred underground, and two were associated with surface operations.

Due regard was directed to matters pertaining to health and sanitation, and material progress has been made in the production and maintenance of equitable conditions, which are an essential factor in all industrial operations. Recorded instances of pernicious conditions, due to lingering smoke and fumes from blasting operations, discomfort from constantly fogged atmospheres, disabilities of deficient air, and dust, however, indicate that much is still possible by those responsible for the conduct of operations without the hesitation observed, and which courts insistence for rectification by this office.

The completion of an air-shaft corrected ventilating disabilities at one colliery, and the provision of a new return airway at a second colliery, together with a rearrangement of district stoppings, relieved the ventilating conditions, but difficulties have yet to be overcome in regard to the permanent control of smoke and fumes from intermittent shot-firing. At a third colliery the workings are extending beyond the ventilating capacity of the existing furnace arrangements, and it is expected that innovations to the system will be necessary in the near future.

The use of an alkali in the suppression of roadway dust was continued at a colliery with satisfactory results. At one mine an undesirable condition of dust was encountered in connection with dry mineral separation, and measures are to be taken to allay the nuisance. Repression of the dispersion of dust at a large crusher station was advanced a further stage, with beneficial results.

Thermometrical conditions in the metalliferous mines and collieries were appreciably below the maximums prescribed by the Mines and Works Regulation Act.

The facilities provided for bathing and changing at one mine were deemed inadequate, and necessary alterations are to be made in regard thereto.

The protection and safety of the machinery in use at the mines and works received the attention required by the provisions of the Mines and Works Regulation Act. Three winding ropes, one haulage rope, and two safety ropes at a quarry were condemned and ordered to be replaced, owing to defects located on inspection. Defective arrangements were more apparent at small mines and prospecting claims, and, in several instances, it was necessary to order improvements in regard to windlass arrangements, sinking buckets, and connections.

Due consideration was given to the administration of the Explosives Act and the provisions of the Mines and Works Regulation Act relating to explosives. Irregularities in regard to the handling and storage of explosives were dealt with as occasion demanded. In one instance the 50 per cent. gelignite displayed an inherent tendency to harden at comparatively moderate temperatures, and its continued use under the prevailing conditions was not further recommended.

In addition to the duties ordinarily performed under the abovementioned Acts, special examinations were made of several mining properties, and economic reports were prepared for the purposes of the Aid to Mining Act; and special reports were made regarding the improper disposal of tailings under the provisions of the Mining Act. Several matters were dealt with under the provisions of the Workers' (Occupational Diseases) Relief Fund Act; and action was necessary to deal with the construction of four dams, in three of which cases alterations and repairs were required.

MINING OPERATIONS AND PRODUCTION.

Coal.

Several factors contributed to a continuance of the anticipated trade depression, and the production of coal receded to 103,991 tons, valued at £80,597, as against 118,385 tons, valued at £92,650 9s., marketed during the previous year. The average complement of men was maintained until the close of the year, when, owing to competitive market conditions, slackened trade, less continuous productive periods, and other factors, a reduction ensued in the number of persons engaged at the two principal collieries.

The Cornwall Company employed 126 men and produced 55,726 tons at a mine value of £41,793. The seam maintained its usual width and quality. Developmental places were systematically advanced, the mine haulage

was extended to facilitate underground transportation, and the productive capacity of the mine continued to be greater than the available trade.

The value at the mine bins of 28,192 tons of coal marketed from the Mount Nicholas Colliery was £22,525. Productive operations were principally confined to the field of coal on the western side of the main heading, the eastern area being more troubled than was anticipated. From the latter section a connection was effected with the old longwall workings, and, when the haulage roads have been completely reconditioned, facilities for improved ventilating conditions and escape arrangements will result. Following the entire reorganisation of the mine haulage and bank-top arrangements and a general electrification of the plant, a new electrically-operated screening unit, including shaker screens and metal picking belt, was installed and placed in commission with beneficial results. Operations gave employment to an average of 88 men.

The Jubilee Company produced 16,452 tons of coal, valued at £13,378. Eastern developments maintained the usual seam features, and hewing places were regularly advanced, but there is still an appreciable field of coal to be penetrated before contact is made with the major upthrow of the Jubilee seam. There were no innovations to the surface plant, and operations gave employment to an average of 49 men.

Productive operations were not continuous at the Fingal Colliery, but the mine was systematically developed, and the output of coal increased to 1050 tons, valued at £525.

More attention than hitherto was directed to the Mount Christie coal series at Avoca. The area previously held and known as the Excelsior colliery was again acquired, and the further development and exploitation of the 11 feet 6 inches seam were immediately undertaken. The clean coal is relatively low in ash, has a comparatively high calorific value, and compares favourably with other native coals. The quantity of coal produced was 1700 tons, valued at £1288, and operations gave employment to seven men.

Modified longwalling was continued at the York Plains colliery, and 871 tons of coal, valued at £1088, were marketed for hop-kiln practices.

Tin.

Storey's Creek Mine.—The improved price of tin was counterbalanced by a heavy decline in the value of wolfram, and there was not sufficient inducement for a re-establishment of full productive activities at this mine, operations being confined to enriched tin zones in the lode system above No. 3 level. Ore and sweepings, amounting to 1360 tons, from old workings were milled for an output of 28·057 tons of tin concentrates, containing 19·4 tons of metallic tin, valued at £2577·58. Preparations were made for sinking the engine winze for a lift of workings below No. 3 level, and it is expected that this development will add appreciably to the ore reserves. Operations gave employment to an average number of 11 men.

Aberfoyle Tin Mine.—Operations at this mine were of marked interest and the marketing of finished products was established.

The exploratory drives on the major veins of the ore-vein system at the 125 feet level of the vertical shaft workings were regraded, and an active developmental campaign was then entered upon, the companion drives at 26 feet and 50 feet on the major veins being driven north and south, stoping sections were blocked out, and productive operations were permanently established at this level. Necessary connections are being made with the surface to meet the ventilating and filling requirements of the mine.

From the main adit, which is approximately 85 feet below the shaft workings and which established the depth persistence of the vein system, a drive was turned away and advanced southerly in the footwall country of the ore-zone, the ultimate object being to connect with the shaft workings and make a second lift of workings available for production.

Magnetic separating and calcining units were added to the milling plant, and the complete producing stage was then entered upon.

During the period under review 3186 tons of ore were milled for a recovery of 72·297 tons of first tin concentrates, 33·963 tons of second concentrates, and 5·95 tons of wolfram concentrates. Since the inception of milling operations 4092·5 tons of ore have been treated for a recovery of 88·037 tons of first tin concentrates, 42·603 tons of second concentrates, and 5·95 tons of wolfram concentrates. Finished products are placed in stock for selective sale at the best available prices. One parcel of 50·5687 tons of tin concentrates, containing 32·844 tons of metallic tin, was sold, and realised a net value at the mine of £5057, the value based on average metal prices being £4980·529.

Operations gave employment to 38 men, and, in addition to the equipment of the mine and mill, an appreciable expenditure of capital was incurred in the construction of a water conservation dam, erection of mine offices and general buildings, and the provision of a change-house.

Small-scale sluicing was pursued on Foster's Freehold at Royal George, and resulted in an output of 2·5 tons of concentrate, containing 1·8 tons of metallic tin, valued at £256·9.

Consideration was given to the economic possibilities of a re-establishment of operations on the tin lodes and alluvials on the Brookstead Estate. Several sections have been acquired, a pilot plant has been introduced for the treatment of ore previously placed at grass, and sluicing is to be undertaken early in the new year. The possible resumption of mining operations on this estate is of interest.

Miscellaneous parties operated on shallow alluvials at Storey's Creek, Gipp Creek, and Royal George, and produced 6·55 tons of tin oxide, containing 4·585 tons of metallic tin, valued at £647·74, but there are no developments of moment to be recorded in connection with these operations.

The Siamese Tin Syndicate actively concentrated upon the construction of the head-water race, assemblage of plant, and consolidation of leases, in anticipation of an early establishment of large scale hydraulic mining on the extensive tract of tin alluvials acquired in the St. Helens District. Constructional and preparatory operations gave employment to an average of 111 men, chiefly in the construction of a water race, 26 miles 34 chains in length (the longest in Tasmania), which is 5½ feet wide at the bottom, 3½ feet deep, and over 6 feet wide at water-level.

The Argonaut Tin Mine was acquired by the Siamese Tin Syndicate, but operations by the tribute party were not interfered with and 88,300 cubic yards of ground were sluiced for a recovery of 29·65 tons of tin oxide, containing 21·8 tons of metallic tin, valued at £3022·37.

Operations were continued by the tribute party at the George's Bay Tin Mine, and several areas of comparatively shallow ground, aggregating 38,330 cubic yards, were sluiced for an output of 11·66 tons of concentrates, containing 8·5 tons of metallic tin, valued at £1202·38.

There are no developments of moment to be recorded, but there was a material increase in the total output of metallic tin by miscellaneous parties operating on shallow drifts and terrace ground in the St. Helens District. An average number of 29 persons was engaged, and 25·089 tons of tin oxide were produced for a return of 17·62 tons of metallic tin, valued at £2490·19.

Michael Moon Tin Mining Company.—The 10-head stamper battery, concentrating units, and power plant formerly in use at the Mount Michael Mine were acquired, renovated, and installed at the old Moon property at Poimena. A quarry was then opened on the tin-granites, and approximately 913 tons of ore were milled for a recovery of 4·448 tons of concentrates, containing 3·03 tons of metallic tin, valued at £450·07, seven men being employed, but results were not encouraging, and operations were suspended at the close of the year.

Laffer Tin Mine.—The dual process of sluicing and milling the quartz-greisens was continued at this mine, and 3900 cubic yards of material were treated for an output of 3 tons of concentrate, which returned 2·079 tons of metallic tin, valued at £298·7.

Operations by the tribute party at the Wyniford River Tin Min consisted of sluicing and elevating the flat alluvials on the Blue River. The alluvials averaged 8 feet in depth. The production amounted to 2·65 tons of tin oxide, containing 1·9 tons of metallic tin, valued at £264·467.

Bryce and party recovered 4·65 tons of oxides from the tin-alluvials at the Niagara Mine, and the metallic content was 3·23 tons of tin, valued at £469.

There was a material increase in the output of tin-produce by miscellaneous parties operating on the shallow alluvials and granitic formations in the Lottah-Weldborough areas. These producers accounted for an output of 62·15 tons of tin oxide, containing 43·5 tons of metallic tin, valued at £5982·4, and operations gave employment to an average number of 55 men.

New Moorina Tin Mine.—Productive operations were conducted by the tribute party during the early part of the year, and 7680 cubic yards of drifts were hydraulicked for a recovery of ·658 tons of concentrate, containing ·461 ton of metallic tin, valued at £62·9.

The head-water race was utilised by the J.B.L. Syndicate, which operated on the shallow alluvials of the Weld flats. During the period 8700 cubic yards of ground were sluiced for an output of 2·5 tons of tin oxide, containing 1·82 tons of metallic tin, valued at £259·496.

Greenstone Creek Tin Mine.—Four men were continuously employed at this mine, and 13,720 cubic yards of terrace drifts were hydraulicked for a recovery of 5·66 tons of oxides, containing 4 tons of metallic tin, valued at £579·93.

Pioneer Tin Mine.—Operations at this mine were confined to the retreatment, by sluicing, of the old dumps and residues by the Company and a tribute party. Operations gave employment to an average number of 20 men, and 50·73 tons of concentrates were recovered for a return of 37·23 tons of metallic tin, valued at £5069·9.

Waugh Tin Mine.—Sluicing operations were continuously pursued on an area of deep bouldery drifts along the Wyniford River. A total quantity of 25,000 cubic yards of ground was treated for an output of 7·07 tons of tin oxide, containing 4·97 tons of metallic tin, valued at £709·47.

Endurance Tin Mine.—No mining was undertaken by the company, but profitable sluicing, paddocking, and streaming were pursued by several parties of tributers on different parts of the consolidated leases. These operations gave employment to an average of 12 men, and the reported production was 24·248 tons of oxides, containing 17·62 tons of metallic tin, valued at £2442·5.

Further consideration was given to the economic possibilities of exploiting the deep-lead of tin-bearing drifts underlying previously worked ground and fringing the eastern slopes of South Mount Cameron.

Conditions were not conducive to the establishment of mining operations by companies in the Pioneer-South Mount Cameron-Gladstone areas, but several leases were worked by tributers, and numerous small parties continued with productive activities, and, although there are no developments of moment to be recorded, the immense importance to the districts of these activities is pronounced by the fact that operations gave employment to an average number of 72 men, and the production amounted to 66·73 tons of tin oxide, containing 46 tons of metallic tin, valued at £6308·4.

New Briseis Tin Mine.—The tribute party of 30 men continued with the sluicing and boxing of small areas of previously unworked ground, secondary drifts, and flood *debris* at the southern end of the leases, and, with the gradual depletion of these areas, attention was directed to sluicing the upper zone of drifts at the flooded workings on the northern side of the Ringarooma River and the cemented drifts at the southern end of the leases. The output of tin oxide totalled 65 tons, and was estimated to contain 46·836 tons of metallic tin, valued at £6469·87.

Phar Lap Tin Syndicate.—Although confronted with the lack of an adequate water-supply, this syndicate was enabled to pursue an appreciable amount of pilot sluicing on the extensive occurrence of quartz-greisens at Tin Pot Creek. Formation to the extent of 8500 cubic yards was sluiced for a recovery of 1·877 tons of concentrate, which returned 1·34 tons of metallic tin, valued at £192·48.

Several small parties, averaging 49 men, pursued productive activities on the shallow ground along the Ringarooma River, Cascade River, and Main Creek, and recovered 31·59 tons of oxides, containing 22·11 tons of metallic tin, valued at £3005·18.

Miscellaneous parties were actively engaged in the Branxholm Area, and, in addition to the continued exploitation of shallow alluvials and terrace drifts, appreciable attention was again devoted to the tin-aplites and greisens. Operations in this regard gave employment to an average of 50 men, and accounted for an output of 38·781 tons of tin oxide, containing 27·23 tons of metallic tin, valued at £3760·92.

Arba Tin Mine.—Tribute parties continued with the sluicing of areas of virgin ground and tailings accumulated from earlier mining operations. An estimated quantity of 41,350 cubic yards of material was treated for an output of 23·15 tons of concentrate, which contained 16·87 tons of metallic tin, valued at £2278·54.

Ormuz Mine.—A party of five men was continuously engaged hydraulicking the high drifts forming the marginal faces of the old workings of the Arba Mine, and recovered 4·68 tons of tin oxide, which returned 3·11 tons of metallic tin, valued at £439·69.

Edwards and party persisted with operations on the shingle drifts at Black Creek, and produced 1·24 tons of oxides, containing ·832 ton of metallic tin, valued at £109·4. Results were not encouraging, and the project was finally abandoned.

At the Ruby Flat, Montrose, and Bessell's Mines, occupied by Messrs. Walsh Brothers, 39,213 tons of alluvial ground and formation were sluiced for an output of 17·16 tons of tin oxide, containing 12·18 tons of metallic tin valued at £1727·2. Operations gave employment to an average number of 9 men.

Two men were constantly engaged at the Mount Paris Tin Mine, and sluicing of the tin-bearing aplites and greisens resulted in a production of 6·4 tons of concentrate, which returned 4·725 tons of metallic tin, valued at £685·35.

Increased activity was displayed by miscellaneous parties, averaging 25 men, in the Ringarooma Area, and shallow ground sluicing resulted in a production of 16·9 tons of oxides, estimated to contain 10·47 tons of metallic tin, valued at £1462.

Although in excess of the previous year, the production of tin ores from the Straits Islands was small, official records disclosing that 2·17 tons of tin oxide were recovered from alluvial operations and returned 1·52 tons of metallic tin, valued at £230·34.

Gold.

Activities in gold mining were sustained by the enhanced market values, and there was a further advance in production, the total output being 848·234 oz., valued at £4999·7, as against 767 oz., valued at £3717·75, for the previous year. There were no regular producers from lode occurrences, and the greater part of the production was in the form of alluvial gold. No new discoveries of moment were made, but closer attention was directed to the economic possibilities of known lode series and alluvials and to the resumption of productive operations at previously abandoned mines and areas.

In the Beaconsfield Area, treatment of residues on the old battery site of the Tasmania Gold Mine was continued for a recovery of 41·82 oz. of bullion, which returned 38·32 oz. of gold, valued at £213·923. Results previously obtained by the Gold Recoveries Limited in the treatment of the mineralised sands, deposited along Blyth's Creek, were not equal to expectations, and the project was abandoned *pro tem.* Considerable interest has been displayed in the possibilities of these tailings, and there is some prospect of material developments ensuing in regard to treatment. It is difficult to obtain reliable details of the gold won by small parties and individuals operating on shallow alluvials and in isolated localities, but records indicate that 46·40 oz. of alluvial gold, containing 42·49 oz. of fine gold, valued at £249·12, were recovered by such operators at Brandy Creek and other parts of the Beaconsfield District.

The Tasmanian Gold Mining Syndicate, which is operating at the old Tasmania Gold Mine, was sufficiently enterprising to instal a 10-head stamper battery, electrically driven, with power derived from the transmission service of the Hydro-Electric Department, and proceed with the milling of the alluvials at Bruen's open-cut workings. Six hundred tons of material were milled for a recovery of 18·91 oz. of bullion, containing 14·5 oz. of fine gold, valued at £90·117. Operations gave employment to 6 men, and were continued in the new year. Attention is also being directed to the economic possibilities of the deeper alluvials previously prospected in the locality of the Florence shaft.

The main shaft at the old North Tasmania Mine was repaired, and an examination was made of the lode system in the upper levels with a view of resuming productive operations, but results were not encouraging, and the project was abandoned.

Continued interest was centred in the result of prospecting operations by Messrs. Clay and Stone in the locality of the old workings of the Little Wonder Mine, and, although the location of gold-bearing quartz was not a new discovery, no difficulty was experienced in the flotation of a company known as the Beaconsfield Gold Mines. A prospecting shaft was sunk to 80 feet, and a connection was effected with some old workings which are alleged to have resulted from operations on a payable lode. It has been assumed that the lode persists below these workings, and the shaft has been converted into a working shaft, and is being sunk to 180 feet, from which level a crosscut will be driven to intersect the assumed lode-channelling. A 5-head stamper battery, electrically driven, with power derived from the transmission service of the Hydro-Electric Department, was installed, and milling of the alluvials on the western fall of Cabbage Tree Hill was commenced, but no clean-up had been made at the close of the year. Future prospects are largely dependent upon lode developments.

A small electrically-operated nozzling plant was installed, and treatment of an area of alluvials on Brandy

Creek, by sluicing methods, was undertaken, but recoveries were disappointing, and the project was abandoned.

An appreciable amount of prospecting was done by several parties in different localities at Beaconsfield, but no developments of moment materialised.

The principal mining pursued in the Lefroy Area was that undertaken by the Wallis Gold Mining Company at the Golden Zone Mine. Following results of prospecting in the old shallow workings, the main vertical shaft was sunk to 200 feet. At 190 feet a crosscut was driven northerly, and passed through a vein of quartz, which was driven on easterly and westerly with disappointing results. Further prospecting was done without disclosing anything of value, and the project was abandoned.

Prospecting operations were pursued by several parties in different localities of the Lefroy district, and lode prospects were encountered, but operations did not merge into importance. Small quantities of gold were recovered from the alluvials along Sludge Creek, Slaty Creek, and other parts of the district, but no development of moment occurred.

Several parties continued with sluicing operations in the Lisle Basin, and accounted for a production of 221 oz. of alluvial gold, estimated to contain 202·15 oz. of fine gold, valued at £1209·37. The Cradle Creek Gold Mining Syndicate proceeded with sluicing operations at Tobacco Creek, but initial results accounted for only 9·3 oz. of alluvial gold, containing 8·5 oz. of fine gold, valued at £50·15, and operations were transferred to a neighbouring area, when 27 oz. of gold, valued at £167·79, were obtained from the sluicing of 2000 cubic yards of alluvial ground. A considerable amount of prospecting work has been undertaken in the Lisle Basin area with a view of establishing large scale hydraulic mining, but no material results have yet evolved.

Operations on the auriferous alluvials at Camden were less active, the production receding to 8 oz., valued at £43.

The Destiny Syndicate produced a trial parcel of 10 tons of stone from the lode series at the Golden Hill Gold Mine at Blessington, but the crushing returned only 1·28 oz. bullion, containing ·98 oz. fine gold, valued at £5·782, and operations were suspended,

Alluvial mining was continued in the New River and adjacent areas, and 58·07 oz. of alluvial gold, containing 52·67 oz. of fine gold, valued at £311·247, were produced. More attention was directed to the economic possibilities of the reefing series, and, having acquired an option over leases and permits to enter private property, the Legunia Consolidated Options, with the assistance of the Government drilling plant, is proceeding with an exploratory examination of the field.

A parcel of 4·5 tons of quartz was produced by Robinson and party from a small reef at New River and crushed at the Ringarooma United battery, for a recovery of 2·01 oz. of bullion, which returned 1·494 oz. of gold, valued at £8·38.

Prospecting was continued from the Rosslyn adit at the Ringarooma United Mine, but failed to definitely locate a downward continuation of Hannah's lode, and operations were suspended.

A trial parcel of 6 tons of stone was produced from one of the Mercury lodes, and returned 4·1 oz. of bullion, containing 3·76 oz. of gold, valued at £21. The result did not induce the operators to proceed with further mining.

A quantity of mixed stone and quartz from the surface zone of conjugate veins at the Long Struggle Mine was crushed for a return of 5·5 oz. of gold, valued at £28·6.

Matthews and party continued with prospecting operations at the Mount Victoria leases, and, although several makes of stone were followed, the results were not equal to expectations. One parcel of 8 tons of stone returned 2·43 oz. of gold, valued at £13·63.

Promising prospects were obtained by Jentzsch and party at the old Renown Gold Mine at Warrentinna. The adit was reconditioned, and the reef, operated on to some extent many years ago, was further prospected. Bulk parcels of stone, aggregating 15 tons, were mined and crushed at the Ringarooma United battery for a return of 27·56 oz. of bullion, containing 25·22 oz. of fine gold, valued at £146. Efforts are now being made to capitalise the venture.

Successful efforts were made in capitalising a venture to exploit the elevated gold alluvials at Mount Horror. A ground race was excavated from the Boobyalla River to the plant site, and a 75-h.p. National gas engine, charcoal producer, 10-inch centrifugal pump, and subsidiary plant were installed, and sluicing under mechanical pressure, was commenced, but the desired plant efficiency was not obtained, and measures are now being taken to augment the available power by the installation of a down-draught wood-producer. There was no clean-up for the period under review.

A prospect sample of 10 tons of stone was produced from a small reef at Forrestor, and returned 10·1 oz. of bullion, containing 9·2 oz. of fine gold, valued at £57·17. The result was sufficient incentive for the formation of a company for the purpose of prosecuting an active developmental campaign in the early future.

Interest waned to some extent in gold-mining activities at Gladstone owing to adverse results obtained in connection with the projects launched during the previous year. A trial parcel of 2·5 tons of ore from the Imperial Gold Mine returned ·29 oz. of fine gold, valued at £1·6. Incidentally, nothing further was done.

A 5-head stamper battery was installed by the Victory Gold Mining Company at the old Royal Tasman leases, and crushing was immediately commenced of ore placed at grass by previous operators. The eastern adit workings were reconditioned, and some stoping was done on the reef previously proved in the north and south drives. Milled ore amounted to 273 tons, for a recovery of 80·2 oz. of gold bullion, valued at £445. Operations were then suspended, but were later resumed by the Gladstone Gold Mining Company.

Interest was centred in the discovery of a gold-bearing reef at Coarse Gold Creek, and a prospect sample of 1 ton returned 6 oz. of bullion, which contained 5·5 oz. of fine gold, valued at £32·38. Sufficient capital was introduced for the purpose of prospecting the discovery, but the results attained at the close of the year were not encouraging.

Mining was less active at Mathinna, but an appreciable amount of prospecting was done, and the results obtained by Rayner and party at old workings northerly from the township are ascribed as sufficiently encouraging to warrant more active exploration.

Following a suspension of operations in the shaft workings at the Old Boy's Mine, investigational work was carried out on the upper zones of previously discovered ore veins. Twenty-two tons of stone were milled for a recovery of 24·16 oz. of bullion, which returned 22·73 oz. of gold valued at £127·5. In addition ·85 ton of concentrates was treated for 5·5 oz. of bullion, which returned 3·5 oz. gold, valued at £20·6.

Tribute parties mined 40 tons of stone from the lode series, between the surface and No. 1 level and south-westerly from the main shaft, at the Golden Gate Mine. The battery recovered 47·68 oz. of bullion, containing 37 oz. gold, valued at £213·87, the sands and slimes being paddocked for future treatment. Percussion boring was done from the bottom of the prospecting shaft, sunk on Church Hill, and gold-bearing quartz was encountered. Machinery is to be installed for the purpose of sinking the shaft to 250 feet to prove the discovery.

A small treatment plant was installed at the Golden Ridge Mine, and 125 tons of material was treated for a recovery of 2·5 oz. of bullion, valued at £13·5. Results were not encouraging, and operations were suspended. A parcel of 10 tons of stone, placed at grass during exploratory operations at the Argyle Gold Mine at Mangana, was crushed at the Old Boy's battery for a return of 8 oz. of gold bullion, valued at £43·6, but no further mining was undertaken.

The old workings at the Tower Hill Mine were unwatered, and additional prospecting was done at No. 1 level without disclosing anything of economic value.

Cradling and boxing of gold-alluvials at Mangana and the adjacent areas accounted for an output of 60·5 oz. of alluvial gold, estimated to contain 55·6 oz. of fine gold, valued at £327·49. These operations gave employment to an average number of 21 men, but there is no development of moment to be recorded in connection therewith.

Pronounced interest was created in the discovery of alluvial gold at the Western Tiers, and a mild rush ensued, but nothing of a permanent nature was proved, and the area lapsed into a state of dormancy.

The balance of the production accrued from miscellaneous operations on the auriferous series in different parts of the inspection division and from the treatment of tin-oxides recovered from the hydraulicking of tin-alluvials in areas which are associated with the transported deposition of gold. Difficulty has been experienced in obtaining individual returns of this gold, and the total quantity has been mostly recorded as unreported production.

Asbestos.

A company was formed for the purpose of resuming productive operations on the asbestos-serpentines at Anderson's Creek, and, consequent upon the conduct of investigational work, the company expects to commence production during the new year.

APPENDIX VI.

REPORT OF MOUNT CAMERON WATER-RACE BOARD FOR THE YEAR ENDED 31ST DECEMBER, 1932.

Gladstone, 1st March, 1933.

SIR,

We have the honour to submit our report for the year ended 31st December, 1932.

Race.

Up to the end of the year the free flow of the water was impeded by the growth of weed referred to in our last report, but our recommendation that a sum of £200 be provided out of the unemployed vote for putting on a number of unemployed in the district to clean this out having been approved by you, arrangements were made to start early in January last (after the close of the year under review), and the race was thoroughly cleaned out, and a full flow is now coming forward. The races from intakes (to the Garfield Mine on eastern side, and to Native Lass Dam on Western side) are in other respects also satisfactory.

Syphons and Flumes.

These are in good condition, with the exception of the wooden section of the Ringarooma syphon, which, as reported last year, requires constant attention.

Dams.

"Harvey's" dam, referred to in last report, has been repaired, and this placed them all in good condition.

General.

The number of claims worked during the year compares favourably with the numbers of previous years, and the returns have maintained the usual averages.

The Chairman having stated that, as he would be retiring from the Public Service in April next, he would cease to be Chairman, the Board desires to add the following resolution to the Report, and has embodied same in the minutes of the annual meeting.

> "That on the retirement of Mr. Pretyman the Board desires to place on record its high appreciation of his work as Chairman, and wishes him health and happiness in his future life and the contentment that comes from a knowledge of 54 years' of work well done in the service of the State and people."

Rainfall.

The registered rainfall for the year was as follows:—

Great Mussel Roe	37 inches 16 points
Little Mussel Roe	36 inches 79 points

Revenue.

The revenue for the year amounted to £691 18s. 3d., being an increase of £258 5s. 11d. on the previous year.

Expenditure.

The expenditure for the year amounted to £730 8s. 4d., being a decrease of £110 19s. on the previous year.

Statistics.

The statistics for the year are as follows:—

Average number of claims supplied per week	12
Greatest number supplied in any one week	17

Total number of heads supplied under—

	Heads.
Fixed, or cash scale	102¼
Royalty or credit scale	3,459
Total	3,561¼

Tin Ore Raised—

	Tons.	Cwts.	Qr.	Lbs.
Under royalty scale	40	8	1	18
Under fixed scale	4	17	—	—

Average number of men employed per week 24

Receipts for Year.

	£	s.	d.
Water sold under fixed scale	261	17	11
Water sold under royalty scale	630	0	4
Total	£691	18	3

Expenditure.

	£	s.	d.
Salaries and wages	683	10	0
Travelling expenses	23	17	3
Insurance	6	19	5
Stationery and printing	5	14	7
Stores, &c.	2	17	10
Repairs to race	4	10	0
Repairs to manager's residence	2	19	3
Total	£730	8	4

W. A. PRETYMAN, Chairman of the Board.
CECIL G. RYAN, } Members.
G. MALLINSON, }

The Hon. the Minister for Mines, Hobart.

WALTER E. SHIMMINS,
GOVERNMENT PRINTER, TASMANIA.