

TASMANIA

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REPORT

OF THE

DIRECTOR OF MINES

FOR

YEAR ENDED 31ST DECEMBER

1952

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



TASMANIA

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TASMANIA



REPORT OF THE DIRECTOR OF MINES

Department of Mines,

Hobart, 27th March, 1953.

SIR,

I HAVE the honour to present my report on the mining and allied industries for the year ended on the 31st December, 1952.

The total value, based on Australian prices, of the output of minerals and mineral products was £10,809,888 as compared with £8,846,612 for the previous year, representing an increase of £1,963,276. On the basis of Sterling metal prices, the composite gross value of the production was £11,655,248, the difference of £845,360 between the Australian and Sterling composite values being due to higher Sterling prices for lead and zinc.

The Sterling price of copper was firmer but there was an easing in the prices of lead, tin, tungsten, zinc and silver, whereas Australian prices were higher in respect of copper, lead, tungsten, zinc and silver but the overall price of tin was easier.

The effective result of risings and lowerings in prices sustained the rapid progression in the value of minerals and mineral products but of major significance was the rising trend in the production of copper, lead, tin and zinc. The output of coal reached a new high level and there was an increase in the production of cadmium, carbide and cement, gold, red granite, kaolin, limonite, iron-pyrites, silica, silver and wolfram. The production of scheelite was maintained at a high level.

The high value of production continued to exemplify the importance of the mineral industry to the economy and prosperity of the State but in appreciating the factual significance of the industry, consideration must be related to known and potential resources, mineral types being produced and capable of being produced, capacity production, useful value of the minerals from strategic and community aspects, employment and community developments. It was significant that, in addition to the high value of products, there was an increase in the number of persons employed, a rising trend in volume production, and developments capable of maintaining the mineral industry as the major single industry of the State.

The number of men employed in mining, metallurgical and quarrying operations was 6,820 as compared with 5,928 for the previous year. Rising employment was due mainly to increases in the number of men employed in mining of copper, scheelite, tin and zinc ores together with increased employment at the Risdon Works of the Electrolytic Zinc Company and upon constructional works at the aluminium production project at Bell Bay.

There were no interruptions in the continuity of operations and coal mining continued to prosper, the output rising to 247,899 tons, as compared with 236,888 tons for the previous year. There was an easing in market requirements and some stockpiling was necessary.

The Cornwall Coal Company continued to function as the major producer. Operations at the three collieries provided an output of 158,901 tons, as against 149,335 tons for the previous year. Bord and pillar mining and developmental work resulted in a production of 106,002 tons at the Cornwall Colliery. Mechanised and other practices resulted in an output of 31,170 tons at the Mount Nicholas Coal Mine. Increased activities at the Duncan Colliery provided an output of 21,729 tons.

The Jubilee Coal Company installed a new weighbridge, for the introduction of contract coal-getting, and continued to develop for increased production. The recorded output was 25,988 tons, as compared with 25,050 tons of coal for the previous year.

A stone drive was completed at the Dalmayne Coal Mine. This provided a second egress from the mine and improved the ventilation of the workings. Small-scale mining resulted in an output of 3,402 tons of coal from the bottom section of the seam.

Progressive production from solid places at the Fingal Colliery resulted in an output of 21,867 tons of coal.

A prospecting tunnel was driven at the Stanhope Coal Mine but there was no major appreciation of the coal production potential. The output declined from 7,669 tons to 6,998 tons.

At the Merrywood Colliery, productive mining was related to both surface and underground coal winning. The recorded output was 21,683 tons, 3,351 tons accruing from opencast mining of the seam westerly from the underground workings and 13,332 tons resulting from underground bord and pillar practices.

Production was less active at the Langloh Coal Mine and the output receded to 6,733 tons. An old section of the mine was re-opened to off-set the loss of productive places as the workings approached outcrop coal.

Sub-anthracite coal continued to be mined at the Sandfly Colliery for fuel requirements in hop-kiln practices. An output of 1,442 tons resulted from small-scale operations.

Faulting hampered development of the thin seam of coal at the Illamatha Coal Mine and production declined to 875 tons.

An output of 9,868.8 tons of copper represented a rising of 2,209.21 tons as compared with the production for the previous year. The improvement was the result of increases in the smelting period and throughput of copper-pyrite concentrate by the Mount Lyell Mining and Railway Company Limited.

The Mount Lyell Mining and Railway Company Limited functioned as the major producer of copper and operations continued to be characterised by progressive approaches to the mining and processing of large volumes of low grade ore. The output of crude ore, from surface and underground mining was 1,454,928 tons and 111 tons of copper precipitate were recovered from mine waters. In addition, 1,255,081 tons of waste material was stripped and dumped.

Selective milling of 1,454,494 tons of crude ore resulted in a recovery of 30,658 tons of copper-pyrite concentrate and 57,541 tons of iron-pyrite concentrate. From the production and stockpiling of copper-pyrite concentrate, 40,777 tons together with 110 tons of copper precipitate were smelted for a recovery of 9,631 tons of blister copper containing 9,555 tons of copper, 30,188 oz. of silver and 5,666 oz. of gold.

A quantity of 54,421 tons of iron-pyrite concentrate was exported to the mainland for acid manufacture. Cumulative stockpiling of concentrate continued but improvements to port and loading facilities were well advanced and with the provision of additional rail transport equipment the programmed export of 80,000 tons of pyrites per annum should materialise and substantially contribute to meeting the demand for sulphide-sulphur materials in easing the problem of importations of elemental sulphur from sources exterior to the Commonwealth.

Published ore reserves, in each of the mines, were:—

	Tons.	Copper %	Silver oz.	Gold oz.
West Lyell	26,210,000	0.68	0.045	0.008
Royal Tharsis	1,148,000	1.60	0.080	0.016
Lyell Tharsis	900,000	1.00	0.150	0.010
Crown Lyell ..	190,000	1.50	0.250	0.015
North Lyell ..	3,000	3.60	0.350	0.010
	<u>28,451,000</u>	<u>0.73</u>	<u>0.0506</u>	<u>0.0084</u>

The balance of the copper was contained in copper-pyrite concentrate recovered from the selective milling of copper-bearing zinc-lead sulphide ores by the Electrolytic Zinc Company of Australasia Limited at Rosebery.

The Electrolytic Zinc Company of Australasia Limited was in continuous operation at Risdon, in the processing of zinc calcines imported from the mainland and arising from the calcination of zinc concentrates recovered from the selective milling of Tasmanian ores.

Production from imported calcines was 66,152 tons of zinc, valued at £A4,941,710; 184.4505 tons of cadmium, valued at £A386,686; and 15.8657 tons of cobalt oxide, valued at £A17,772.

Zinc concentrates from Tasmanian ores actually calcined and processed returned 22,439 tons of zinc, 41 tons of cadmium, 1,027 tons of lead and 116,999 oz. of silver.

The manufacture of sulphuric acid and phosphate fertilizers was continued. Construction was commenced for the installation of a second unit of the Contact Acid Plant and further progress was made in the project for the future production of sulphate of ammonia. Work was commenced on the installation of a new plant for the treatment of zinc residues.

The Tasmanian ores resulted mainly from the mining of zinc-lead ore bodies at the Rosebery and Hercules Mines on the West Coast, where 587 men were employed in mining and milling operations. Inclusive of 56 tons of zinc ore from the Comstock Mine, at Zeehan, the combined quantity of ore mined and milled was 163,140 tons. Selective milling resulted in the recovery of 46,538 tons of zinc concentrates, 9,087 tons of lead concentrates and 4,317 tons of copper concentrates. The recoverable quantity of metallics was fixed at 21,861.87 tons of zinc; 7,084.30 tons of lead; 314.8 tons of copper; 41.88 tons of cadmium; 902,296.25 oz. of silver and 10,035.47 oz. of gold. The zinc concentrates were railed to Risdon for processing and the lead and copper concentrates were exported.

Regional activities, in the form of geological and geophysical surveys and diamond drilling characterised the interest of the Company in mineral exploration.

Small-scale mining was pursued, by miscellaneous parties, on occurrences of zinc-lead ore in the Zeehan district. These operations contributed to the total output of zinc and lead but there was no major development.

There was a rising of 573.286 tons in the output of lead as a result of an easing in restricted operations at the Hercules and Rosebery Mines and an improvement in the grade of the ore mined and milled by the Farrell Mining Company Limited.

Operations by the Electrolytic Zinc Company of Australasia Limited at the Hercules and Rosebery Mines accounted for 7,084.3 tons of the recorded output of 8,424.256 tons of lead.

Zeehan Mines Proprietary Limited, Zeehan, produced some 374 tons of ore from 400 feet of developmental driving on No. 1 level at the Oceana Mine. Influxes of underground water had hampered mining operations but it was planned to exercise controls that would enable No. 2 level to be recovered and the main shaft to be deepened for developmental work on the lode system at lower horizons.

At the Montana Silver-Lead Mine, Zeehan, ore production was eased in favour of a forward effort in the reconstruction of the mill to provide for necessary flotation practice as against dependency upon concentration by jigging with its high mineral losses. Substantial progress was made and it is expected that future milling will comprise mineral flotation and thereby ensure a high order of effective recovery of silver-lead concentrate. Ore mined, crushed and jigged was 2,643 tons. A total of 357,695 tons of finished silver-lead product was marketed. This product comprised 257,68 tons of jig concentrate and 100,015 tons of hand-picked ore and contained 207,029 tons of lead and 28,408,396 oz. of silver.

The Farrell Mining Company, Tullah, mined and milled 6,805 tons of silver-lead ore for a recovery of 1,671 tons of concentrate, containing 1,113 tons of lead and 135,637 oz. of silver. Developments in the southern section of the underground workings continued to add to the future productive potential of the undepleted zone between the old and new workings. The water level in the old workings has been lowered, by pumping, to eliminate a hazard of unprecedented influxes of water as the productive section is extended southerly.

Miscellaneous parties were engaged in the small-scale mining of silver-lead ore in the Zeehan and Dundas district but there were no major developments in connection with these operations.

Metallic tin, the product from lode and alluvial mining, was 771,186 tons as compared with 705,834 tons for the previous year. Added production by Aberfoyle Tin N.L., Renison Associated Tin Mines, Endurance Tin Mining Company and tribute parties at the Mount Bischoff Tin Mine contributed mainly to the increased output and to off-setting a lowering of production by several established operators. The price payable to the producer was sustained at a favourable level. There were no developments in the opening up of new mines but interest was centered in appreciating production possibilities and in the economic potentials of lode and alluvial deposits in north-eastern and western regions. The expectation is that there will be one major development and several positive approaches to the establishment of productive projects during the coming year.

Aberfoyle Tin No Liability, operating on a multiple lode series; Renison Associated Tin Mines, mining and milling tin-pyrite ores; Briseis Tin No Liability, sluicing relatively shallow ground; Endurance Tin Mining Company, sluicing relatively deep ground; and Dorset Tin Dredge, dredging river flats, were the principal producers and accounted for an output of 646,778 tons of metallic tin.

Miscellaneous parties tributing under the provisions of the Aid to Mining Act, continued to hold the Mount Bischoff Tin Mine as an important unit in the group of lesser producers. Activities were related to mining lode remnants, treatment of mill tailings and to milling spillages of ore on old tramways. These operations resulted in a recovery of 38,632 tons of concentrate containing 26,264 tons of metallic tin. The major party commenced operations on the sulphide ores of the Greisen Lode. Results suggest that the party will succeed in expanding its activities.

Small mines and miscellaneous parties were mainly engaged in the sluicing of tin-alluvials. These operations usefully contributed 98,145 tons to the total output of metallic tin.

Aberfoyle Tin No Liability continued its progressive policy in the development and mining of the tin-wolfram lode series at Rossarden. The output of finished products, from the mining and milling of 40,322 tons of ore was 550 tons of tin concentrate, containing 383,469 tons of metallic tin, and 337,652 tons of wolfram concentrate.

No new ore was developed at horizons above No. 6 level but developmental work on Nos. 7 and 8 levels appreciated the ore reserves and it is rationally expected that deepening Nos. 9, 10, 11 and 12 levels will add substantially to positive and probable reserves fixed at 273,806 tons in 1952. Additional plant and equipment are to be provided for ore production at the deeper levels and for the milling of larger tonnages of ore. The Company has continued its forward policy of providing accommodation and amenities for the welfare of employees and the community in general.

Bucket-dredging was continued on the Dorset Flats at South Mount Cameron but power restrictions lowered the throughput to 1,446,000 cubic yards of ground. As a result, the production of concentrates decreased to 136,03 tons, containing 102 tons of metallic tin and 338,848 oz. of gold.

The Endurance Tin Mining Company sluiced 235,900 cubic yards of ground and recovered 90,674 tons of tin-oxide, containing 66,909 tons of metallic tin. Hydraulic mining has followed the course of an ancient deep lead flanking Mount Cameron.

Briseis Tin No Liability, Derby, diverted the Cascade River to the course existing prior to the flood of 1929 to enable ground flanking the new course to be sluiced but recent floods disorganised preparatory works and delayed a resumption of sluicing until the close of the year. The volume of ground sluiced was 481,748 cubic yards and tin concentrate recovered was 53,703 tons, containing 38,795 tons of metallic tin.

Renison Associated Tin Mines continued to be normally engaged in the mining and milling of tin-pyrite ores at Renison Bell. The main sources of crude ore were No. 1 stope, No. 2 open-cut and No. 3 open-cut and 10,079 tons of ore were mined and milled for a recovery of 82,23 tons of concentrate, containing 55,407 tons of metallic tin. Geophysical surveys traced further anomalies of sufficient significance to merit diamond drilling in areas exterior to actual producing sections. A programme of drilling was not implemented.

The Mount Cameron Water Race Board continued to function as a major authority in supplying water to parties engaged in the sluicing of tin-alluvials in the Gladstone district but there was no improvement in production activities and it was again necessary for the Government to provide finance to meet a deficit in the working of the system.

The Ringarooma-Cascade Water Board functioned to an extent necessary to control the water system purchased from Briseis Consolidated No Liability but, with the Cascade Section rented to Briseis Tin No Liability, the functions of the Board were confined to the control and maintenance of the Ringarooma Race. Limitations in revenue from the sale of water from this race and high cost of maintenance made it necessary for the Government to provide finance to meet a heavy deficit in the working of the system.

Exploration and development of the tungsten mineral resources was a significant feature of mining activities. The output of scheelite was held at a high level of 969.59 tons whilst the production of wolfram was increased to 481.476 tons.

The mining of tungsten minerals has been favoured by high prices and readily available consumption markets. Prices and market avenues eased at the close of the year. Major producers have been secured by period contracts and it is hoped that prices and consumption avenues will favour projects now planned for new and additional production.

King Island Scheelite (1947) Limited was engaged in a forward policy of quarrying and milling 174,563 tons of ore for an output of 969.59 tons of finished scheelite concentrate. More than 380,000 tons of overburden was removed in the provision of ore benches. A third ball mill, twenty concentrating tables and auxiliary equipment were installed to step-up the milling capacity to 5,000 tons of ore per week. The quarrying capacity was increased by the provision of additional excavators, tractors and waggon drills.

In addition to 550.044 tons of tin concentrate, Aberfoyle Tin No Liability recovered 337.652 tons of wolfram concentrate from the mining and milling of 40,332 tons of ore from the multiple tin-wolfram lode series at Rossarden.

There was a rising to 8,130 tons in the quantity of ore mined and milled at the Storey's Creek Mine, Storey's Creek. Recoveries inclined to 121.05 tons of wolfram concentrate and 14.5 tons of tin concentrate, the latter containing 9.492 tons of metallic tin. Lode developments maintained their productive potentials. Work was commenced on a new vertical shaft.

Miscellaneous parties were engaged in the production of small parcels of wolfram from lode occurrences at Gipp's Creek, Scamander and Alberton. There was a discovery of a wolfram-bearing lode at Mount Horror but it is premature to assess its productive significance.

The discovery of scheelite in the wolfram series at Interview River added interest to the tungsten potentialities of the region but there were no forward developments in productive mining.

Although interest had not waned there was no material activity in exploring the extent and productive possibilities of scheelite occurrences positively identified in areas exterior to the producing area on King Island. The expectation is that there will be some activity in the near future.

Interest was sustained in production possibilities at the Shepherd and Murphy Mine and neighbouring areas at Moina. Positive moves were made in the formation of mining companies and the expectation is that operations, designed for ultimate production, will be commenced in the near future. A revival of productive mining in this region would rehabilitate an almost static area.

Production of gold inclined to 16,072.469 oz. as the result of an increase in the mining of zinc-lead ores containing gold and in the smelting of an additional quantity of copper-pyrite concentrate recovered from the selective milling of copper ores. The output regioned in the order of 5,666 oz. from the processing of copper ores, 10,035.47 oz. from the mining and selective milling of zinc-lead ores, and 338.848 oz. from the dredging of auriferous-tin alluvials, whilst the balance resulted from small-scale operations on auriferous alluvials.

There were no new developments in the mining of osmiridium and production remained at a low level of 50.962 oz., 2.352 oz. being from north-western fields and 48.61 oz. accruing from shallow alluvial workings at Adamsfield.

The recorded production of limestone was 171,025 tons of which 147,212 tons was used in the manufacture of calcium carbide and cement. Metallurgical, agricultural and building industries absorbed 23,811 tons in crushed, pulverised and lime forms.

Iron ore to an amount of 3,563 tons was quarried and used in the manufacture of cement.

Limonite was used in gas purification processes. The quantity quarried and marketed was 519.75 tons.

Magnetite was in demand for its use as a medium in heavy-media separation as applied to the beneficiation of coals and 582.175 tons was quarried and exported for that purpose.

There was less demand for red ochre for the manufacture of pigments and the output declined to 23.5 tons.

There was a slight rising to 8,366 tons in the production of kaolins and clays for industrial uses, including the manufacture of paper but excluding the making of bricks, tiles, pipes and other earthenwares.

The production of silica increased to 9,607.5 tons mainly as the result of a larger quantity being required for fluxing purposes in metallurgical processing of copper ores.

The Commonwealth-State project for the production of ingot aluminium continued to rest with a Commission and further progress was made in constructional works at Bell Bay.

Statistics of production and related matters, for the year and for previous years, are submitted in the customary tabulated form.

QUANTITY AND VALUE OF MINERALS.

STATISTICS RELATING TO THE MINERAL INDUSTRY FOR THE YEAR ENDING 31ST DECEMBER, 1952.

Mineral.	MINING DIVISIONS.					Total Quantity.	VALUE.	
	Northern and Southern.	Eastern.	North-Eastern.	North-Western.	Western.		Sterling. £S.	Australian Prices. £A
Aluminium (tons)	....	....	....	....	....	....	....	....
Antimony (tons)	....	....	....	....	1·682	1·682	515	642
Bismuth (tons)	....	....	....	....	....	....	....	....
Copper (tons)	....	....	....	....	9868·80	9,868·80	2,612,460	3,015,747
Coal (tons)	8175	238,849	....	875	....	247,899	....	341,561
Cadmium (tons)	....	....	....	....	41·88	41·88	76,605	87,095
Carbide and Cement (tons)	7384	....	....	107,603	....	114,987	....	687,753
Dolomite (tons)	....	....	....	1,002·76	....	1,002·76	....	3,247
Gold (fine oz.)	26·969	2·610	340·250	....	15,702·64	16,072·469	199,299	248,995
Granite (Red) (tons)	....	93	....	....	....	93	....	1,387
Hematite (tons)	....	....	....	9·5	....	9·5	....	44
Kaolin (tons)	2216	3,276	2,874	....	....	8,366	....	39,182
Lead (tons)	....	....	....	....	8,424·256	8,424·256	1,148,936	632,936
Limestone (tons)	9522	....	....	9,889	4,400	23,811	....	27,913
Limonite (tons)	....	....	....	519·75	....	519·75	....	2,807
Magnetite (tons)	....	....	....	582·175	....	582·175	....	3,149
Ochre (Red) (tons)	....	....	....	23·5	....	23·5	....	132
Osmiridium (fine oz.)	48·610	....	....	2·352	....	50·962	2,038	2,548
Pyrites (tons)	....	....	....	....	54,421	54,421	....	143,710
Scheelite (tons)	....	....	....	969·59	....	969·59	1,321,664	1,600,150
Schist, Graphitic (tons)	....	....	....	5	....	5	....	33
Silica (tons)	....	....	....	358·5	9,249	9,607·5	....	7,685
Silver (fine oz.)	....	....	....	....	1,097,994·368	1,097,994·368	340,290	426,454
Tin (tons)	1·277	408·059	272·894	28·686	60·270	771·186	744,618	886,225
Wolfram (tons)	....	479·112	·051	1·407	·106	481·476	719,370	996,748
Zinc (tons)	....	....	....	....	21,902·184	21,902·184	3,230,850	1,653,745
Total Value with Sterling Metal Prices .....	....	....	....	....	....	....	£11,655,248	....
Total Value with Australian Metal Prices .....	....	....	....	....	....	....	....	£10,809,888
Average Number of Men Employed	3080	640	236	516	2,348	6,820	....	....
Limestone (tons)	17,199	....	....	130,013	....	147,212	Used in the manufacture of Carbide and Cement.	
Iron Ore (tons)	....	....	....	3563	....	3,563	Used for other purposes. Total Limestone 171,023 tons valued at £119,513. Used in the manufacture of Cement.	

The Electrolytic Zinc Company of Australasia Limited recovered 66,152 tons of zinc, valued at £4,941,710; 184·4504 tons of cadmium valued at £386,686 and 15·8674 tons of cobalt oxide valued at £177,772, from other than Tasmanian ores and employed an average number of 2,105 men at Risdon.

1953.

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(No. 7.)

ASBESTOS.

RETURN showing the Quantity and Value of Asbestos produced from 1899 to 1952 inclusive.

Year.	Quantity.	Value.
	Tons.	£
1899.....	200	363
1900.....	128	113
1901.....	46·5	45
1902-1915	—	—
1916.....	15	30
1917.....	271	271
1918.....	2854	5008
1919.....	51	1275
1920-1936	—	—
1937.....	2	29
1938.....	4·25	68
1939-1940	—	—
1941.....	3·5	120
1942.....	7	20
1943.....	18·25	365
1944.....	102·99	2242
1945.....	276·36	7193
1946-1952	—	—
Total.....	3979·85	£17,142

BARYTES.

RETURN showing the Quantity and Value of Barytes produced from 1899 to 1952 inclusive.

Year.	Quantity.	Value.
	Tons.	£
Prior to 1916	50	100
1916.....	83	359
1917.....	52	234
1918.....	217	977
1919.....	558	1886
1920.....	1029	4116
1921-1924	—	—
1925.....	3·5	16
1926-1928	—	—
1929.....	9·5	24
1930-1932	—	—
1933.....	5	15
1934-1935	—	—
1936.....	33	66
1937.....	76	174
1938-1939	—	—
1940.....	36	58
1941.....	11·2	43
1942-45.....	—	—
1946.....	33	70
1947-1952	—	—
Total.....	2196·2	£8138

COAL.

RETURN showing the Quantity and Value of Coal raised to 31st December, 1952.

RETURN showing the Quantity and Value of Bismuth produced from 1904 to 1952 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
1922-1929	—	—
1930.....	·97	475
1931.....	1·75	1015
1932.....	1·02	541
1933.....	1·32	705
1934.....	—	—
1935.....	·328	146
1936.....	—	—
1937.....	·216	78
1938.....	·871	396
1939.....	·623	296
1940.....	·565	270
1941.....	·032	16
1942.....	·02	10
1943.....	·309	241
1944.....	·151	126
1945.....	·529	373
1946.....	·392	293
1947.....	·399	305
1948.....	·078	88
1949.....	—	—
1950.....	·0039	6
1951-9 52	—	—
Total.....	83·6359	£28,432

Year.	Quantity.	Value.
	Tons.	£
Previous to 1880.....	145,114	115,000
1880 to 1904 inclusive	828,370·5	710,952
1905.....	51,993	44,194
1906.....	52,895·75	44,962
1907.....	58,891	50,057
1908.....	61,067·75	51,907
1909.....	66,161·75	56,237
1910.....	82,445	48,609
1911.....	57,067	26,214
1912.....	53,560	24,568
1913.....	55,043	25,367
1914.....	60,794	27,853
1915.....	64,536·25	30,418
1916.....	55,575	27,736
1917.....	63,412	38,673
1918.....	60,163	37,676
1919.....	66,253	47,004
1920.....	75,429	64,005
1921.....	66,476	63,446
1922.....	69,238	61,016
1923.....	80,718	70,797
1924.....	75,988	66,555
1925.....	81,698	70,424
1926.....	102,358	90,401
1927.....	112,056	99,802
1928.....	128,500	106,558
1929.....	130,291	105,877
1930.....	138,716	110,253
1931.....	123,828	98,004
1932.....	111,853	86,733
1933.....	116,573	85,848
1934.....	113,633	81,262
1935.....	123,714	86,134
1936.....	132,264	92,269
1937.....	91,121	66,883
1938.....	83,753	61,991
1939.....	99,392	74,460
1940.....	83,136	63,688
1941.....	109,714	85,311
1942.....	134,442	108,241
1943.....	145,882	117,361
1944.....	143,641	122,673
1945.....	149,077	125,719
1946.....	158,751	137,736
1947.....	167,140	154,725
1948.....	179,393	177,652
1949.....	181,618	181,897
1950.....	222,351	231,599
1951.....	236,888	305,548
1952.....	247,899	341,561
Total.....	6,100,873	£5,203,856

COPPER.

The production for the year was 9868·80 tons, valued at £2,612,460.

RETURN showing the Quantity and Value of Copper in Blister Copper, Copper Cre, and Zinc Lead Ore during the Years 1919 to 1952 inclusive.

Year.	In Zinc Lead Ore.		In Blister Copper.		In Copper Ore.		Total	
	Qty.	Value.	Qty.	Value.	Qty.	Value.	Qty.	Value.
	Tons.	£	Tons.	£	Tons.	£	Tons.	£
1919.....	...	...	5014	503,977	304	4651	5318	508,628
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.....	...	...	8690·01	740,985	—	—	8690·01	740,985
1930.....	...	...	9940·68	620,578	—	—	9940·68	620,578
1931.....	...	...	9833·1	416,309	—	—	9833·1	416,309
1932.....	...	...	10,995	399,646	3·2	116	10,998·2	399,762
1933.....	...	...	10,734	395,109	5	177	10,739	395,286
1934.....	...	...	8,202	267,126	6·5	216	8208·5	267,342
1935.....	...	...	13,036	464,007	—	—	13,036	464,007
1936.....	...	...	13,040	556,734	—	—	13,040	556,734
1937.....	...	...	12,382	757,311	37·92	2021	12,419·92	759,332
1938.....	...	...	12,700·62	578,893	28·802	1345	12,729·422	580,238
1939.....	...	...	13,453	668,561	—	—	13,453	668,561
1940.....	...	...	11,570·2	717,356	1·8	108	11,572	717,464
1941.....	...	...	11,642·1	721,810	2·834	175	11,644·934	721,985
1942.....	529·58	32,827	11,255·132	697,818	478	30	11,785·09	730,675
1943.....	464·38	28,791	10,684	662,408	—	—	11,148·38	691,199
1944.....	381·75	23,666	9831	609,522	—	—	10,212·75	633,188
1945.....	275·51	17,080	7197	446,214	—	—	7472·51	463,294
1946.....	245·88	18,714	9134	697,498	—	—	9379·88	716,212
1947.....	286·31	37,726	7666·733	1,019,925	1·267	174	7954·31	1,057,825
1948.....	248·10	33,275	6326	848,088	—	—	6574·1	881,363
1949.....	305·69	40,356	4923	695,009	—	—	5228·69	735,365
1950.....	343·46	62,061	6898	1,246,417	...	...	7241·46	1,308,478
1951.....	280·59	62,548	7371	1,601,875	...	...	7659·59	1,664,423
1952.....	314·80	82,060	9554	2,530,400	...	...	9868·80	2,612,460
Total.....	3,684·05	439,104	297,097·475	22,838,138	404·094	9491	301,185·619	23,286,733

The Mount Lyell Mining and Railway Company Limited.
Return for the Calendar Year 1952.

Ore and metal-bearing material smelted:—	Tons (Dry).
Source of Material.	
Concentrates:—From the Company's North Lyell Mine, Royal Tharsis Mine, and West Lyell Mines ore	40,777
Precipitate	110
Total	40,887

Source of Material.	Tons (Dry).
Limestone delivered at works (tons)	4,400
Silica delivered at works	9,249
Pyritic concentrate shipped from Regatta Point (tons), approx. value £A143,710	54,421
Blister copper produced, 9631 tons, containing:	
Copper (tons)	9,555
Silver (oz.)	30,188
Gold (oz.)	5,666
Approximate value £A3,058,181	
Average number of men employed—	
Mining Department—At the Company's	
North Lyell Mine	—
Ditto, Royal Tharsis Mine	68
Ditto, West Lyell Mines	535
Miscellaneous	162
Reduction Works Dept. (including Lake Margaret)	719
Railway Department—Mount Lyell Railway	107
Total	1,591

Copper produced from the inception of the Company to the 31st December, 1952, 455,692 tons.

Silver produced from the inception of the Company to the 31st December, 1952, 15,570,607 oz. (fine).

Gold produced from the inception of the Company to the 31st December, 1952, 526,444 oz. (fine).

Dividends paid during the year, £174,375.

Dividends paid from the inception of the Company to the 31st December, 1952, £7,302,091.

CADMIUM.

The quantity recovered was 41·88 tons, valued at £77,236 compared with 37·80 tons, valued at £77,236 for 1951.

RETURN showing the Quantity and Value of Cadmium recovered for the Years 1936 to 1952.

Year.	Quantity.	Value.
	Tons.	£
1924-1936	114·3057	31,713
1937	45	18,161
1938	49	18,636
1939	48	16,249
1940	50	18,242
1941	47·07	21,087
1942	41·39	18,462
1943	40·34	18,072
1944	39·68	17,840
1945	29·38	13,161
1946	33·74	15,116
1947	34·53	15,470
1948	34·22	15,333
1949	37·96	43,841
1950	43·70	75,334
1951	37·80	77,236
1952	41·88	76,605
Total	767·9957	£510,558

CEMENT, CARBIDE, AND LIMESTONE.

The combined value of output from these three industries amounted to £715,666 as compared with £611,823 for 1951.

GOLD.

The quantity won was 16,072·469 oz. fine valued at £199,299 as compared with 14,445·676 oz., valued at £179,126 for 1951.

RETURN showing the Quantity and Value of Gold won to 31st December, 1952.

Year.	Quantity.	Value.
	Oz.	£
Previous to 1867 and up to 1879 inclusive.....	131,583	512,557
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	15,037
1926	4,222·748	17,936
1927	4860·7	20,649
1928	3603·43	15,306
1929	5596·88	23,772
1930	4467·2	18,975
1931	4759·31	22,118
1932	5937·17	34,943
1933	6672·74	41,783
1934	5612·26	38,930
1935	8342·68	59,255
1936	17,600·47	123,386
1937	20,276·31	143,138
1938	22,199·961	158,022
1939	19,984·066	154,471
1940	19,170·968	161,035
1941	19,908·498	167,229
1942	18,353·364	154,168
1943	17,245·253	144,860
1944	16,653·38	139,886
1945	13,049·804	111,452
1946	15,361·987	132,296
1947	15,051·185	129,619
1948	12,904·062	111,127
1949	12,151·731	122,447
1950	15,577·788	193,164
1951	14,445·676	179,126
1952	16,072·469	199,299
Total	2,363,880·403	10,910,667

GRANITE (RED).

RETURN showing the Quantity and Value of Red Granite produced during the years 1935 to 1952 inclusive.

Year.	Quantity.	Value.
	Tons.	£
1935.....	284	1432
1936.....	568	3209
1937.....	187	923
1938.....	173	885
1939.....	246	1300
1940.....	330	2031
1941.....	658·5	5661
1942.....	355	2937
1943-45.....	...	...
1946.....	60	600
1947.....	209	2211
1948.....	159	1710
1949.....	61	673
1950.....	93	1045
1951.....	60	834
1952.....	93	1387
Total.....	3536·5	53,838

IRON PYRITES.

RETURN showing the Quantity and Value of Iron Pyrites produced during the Years 1915 to 1952 inclusive.

Year.	Quantity.	Value.
	Tons.	£
1915.....	12,835·59	8945
1916.....	14,005·084	13,597
1917.....	7,685·549	7137
1918.....	5,105·600	4667
1919.....	3,456·95	4288
1920.....	4,440	7346
1921.....	606·5	2579
1922.....	8,276	13,620
1923.....	11,882	26,737
1924-1930	—	—
1931.....	506·7	253
1932.....	274	150
1933.....	1498	1498
1934.....	12,030	12,030
1935.....	25,555	25,555
1936.....	34,071	34,071
1937.....	40,630	43,723
1938.....	50,277	62,845
1939.....	54,229	67,786
1940.....	37,819	47,274
1941.....	40,076	50,093
1942.....	34,449	43,061
1943.....	33,203	41,504
1944.....	29,136	36,419
1945.....	40,168	50,208
1946.....	37,294	49,145
1947.....	42,329	59,260
1948.....	44,263	61,968
1949.....	47,922	91,066
1950.....	51,105	101,876
1951.....	49,925	107,339
1952.....	54,421	143,710
Total.....	829,473·973	1,224,750

KAOLIN.

RETURN showing the Quantity and Value of Kaolin produced during the years 1940 to 1952 inclusive.

Year.	Quantity.	Value.
	Tons.	£
1940.....	835·5	988
1941.....	1130	1423
1942.....	1098	1334
1943.....	1655	2438
1944.....	4193·25	4778
1945.....	5718	11,562
1946.....	6330·5	11,886
1947.....	3076	8800
1948.....	6741	21,955
1949.....	7316	24,621
1950.....	10,199	33,996
1951.....	8075	29,991
1952.....	8366	39,182
Total.....	64,733·25	192,959

LIMESTONE.

RETURN showing the Quantity and Value of Limestone produced during the Years 1919 to 1952 inclusive.

1919-1936, inclusive—2,108,943 tons, £1,430,674.

Year.	Limestone used in the Manufacture of Carbide and Cement.	Limestone used for Metal- lurgical, Building and other Purposes.
	Tons.	Tons.
1937.....	127,028	285,429
1938.....	179,649	262,636
1939.....	139,535	309,191
1940.....	132,066	223,125
1941.....	93,530	265,210
1942.....	86,313	177,833
1943.....	89,749	142,877
1944.....	84,045	110,037
1945.....	71,966	59,660
1946.....	116,445	47,909
1947.....	118,168	36,540
1948.....	135,773	22,789
1949.....	128,094	40,709
1950.....	127,334	29,918
1951.....	128,437	25,573
1952.....	147,212	23,811
Total.....	1,905,344	2,063,247

LEAD.

The output was 8424.256 tons valued at £1,148,936, compared with 7850.970 tons, valued at £1,278,907 for 1951.

RETURN showing the Quantity and Value of Lead included in Silver Lead during the Years 1919 to 1952 inclusive.

Year.	Quantity.	Value.
	Tons.	£
1919-1924.....	21,918.625	639,592
1925.....	5525.99	197,452
1926.....	5892.58	183,167
1927.....	5583.12	135,403
1928.....	4786.78	101,616
1929.....	5983.07	138,793
1930.....	4237.84	77,590
1931.....	2189.47	29,024
1932.....	2694.06	32,637
1933.....	2644.12	30,987
1934.....	1507	16,723
1935.....	1488	21,390
1936.....	7563.04	134,413
1937.....	9116.62	212,492
1938.....	10,652.21	163,102
1939.....	11,020.96	173,670
1940.....	13,550.85	338,771
1941.....	11,753.47	293,837
1942.....	9360.42	234,011
1943.....	8632.72	215,817
1944.....	8226.5	205,661
1945.....	6298.44	157,459
1946.....	6890.58	340,509
1947.....	7719.299	660,861
1948.....	7327.661	697,194
1949.....	7873.634	796,701
1950.....	8726.281	951,574
1951.....	7850.970	1,278,907
1952.....	8424.256	1,148,936
Total.....	215,438.566	£9,608,289

NICKEL.

RETURN showing the Quantity and Value of Nickel produced from 1927 to 1952 inclusive.

Year.	Quantity.	Value.
	Tons.	£
1927-1931.....	193.6	33,162
1932.....	0.55	136
1933.....	8.65	1948
1934-37.....	—	—
1938.....	19.75	3604
1939-52.....	—	—
Total.....	222.55	£38,850

OCHRE.

RETURN showing the Quantity and Value of Ochre produced during the Years 1918 to 1952 inclusive.

Year.	Quantity.	Value.
	Tons.	£
1918-1924.....	134	306
1925.....	—	—
1926.....	38	69
1927-1939.....	—	—
1940.....	3.5	9
1941.....	—	—
1942.....	21	53
1943.....	380	1681
1944.....	74.5	233
1945.....	66	191
1946.....	255	437
1947.....	395	405
1948.....	340	340
1949.....	21.25	67
1950.....	100.5	200
1951.....	28	80
1952.....	23.5	132
Total.....	1827.75	4098

OSMIRIDIUM.

The quantity of metal won during the year was 50.962 oz., valued at £2,038, as compared with 33.378 oz., valued at £1,216 for 1951.

RETURN showing the Quantity and Value of Osmiridium produced during the Years 1910 to 1952 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.....	1668.715	39,614
1920.....	2009.196	77,104
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.....	3202.5	61,908
1927.....	632.777	7456
1928.....	1627.186	42,458
1929.....	1324	30,624
1930.....	952.7	16,235
1931.....	1279.54	18,028
1932.....	784.95	9075
1933.....	548	4843
1934.....	487.7	4622
1935.....	234.82	2103
1936.....	280.6	3862
1937.....	586.42	9077
1938.....	190.87	2976
1939.....	283.065	5014
1940.....	464.740	11,604
1941.....	206.578	4212
1942.....	142.094	2930
1943.....	89.695	2087
1944.....	107.02	2619
1945.....	108.75	2665
1946.....	94.522	2581
1947.....	98.766	2700
1948.....	92.393	2094
1949.....	39.300	914
1950.....	46.141	1339
1951.....	33.378	1216
1952.....	50.962	2038
Total.....	30,854.878	£669,737

SILICA.

RETURN showing Quantity and Value of Silica produced during the Years 1936 to 1952 inclusive.

Year.	Quantity.	Value.
	Tons.	£
1936.....	6,463	3,231
1937.....	7,047	3,619
1938.....	6,886	3,146
1939.....	7,134	1,798
1940.....	9,268	4,094
1941.....	7,308	3,433
1942.....	8,184	3,523
1943.....	4,329	1,522
1944.....	5,432	2,409
1945.....	7,939	6,025
1946.....	5,937	2,798
1947.....	5,047	1,646
1948.....	3,762	1,378
1949.....	3,094.75	2,219
1950.....	7,443	3,572
1951.....	7,062	4,726
1952.....	9,607.5	7,685
Total.....	111,943.25	56,824

SHALE.

RETURN showing the Quantity and Value of Shale produced during the Years 1910 to 1952 inclusive.

Year.	Quantity.		Value.
	Tons.	£	
1910.....	364	214	
1911.....	500	250	
1912.....	—	—	
1913.....	130	130	
1914.....	75	75	
1915.....	—	—	
1916.....	1286	1286	
1917.....	—	—	
1918.....	—	—	
1919.....	600	900	
1920.....	140	172	
1921.....	868	1506	
1922.....	40	100	
1923.....	1101	1094	
1924.....	1576	1526	
1925.....	820	559	
1926.....	2127	1475	
1927.....	3150	2050	
1928.....	9052	7754	
1929.....	4299	2982	
1930.....	5428	4356	
1931.....	1402	600	
1932.....	1907	1074	
1933.....	3401	1483	
1934.....	3276	1630	
1935.....	30	15	
1936-1952.....	—	—	
Total.....	41,572	£31,231	

RETURN showing the Quantity of Oil Distilled from Shale.

Year.	Name of Company.	Gallons.
1910.....	Tasmanian Shale and Oil Company.....	4800
1915.....	Railton-Latrobe Shale Oil Co. N.L.	24,000
1927-1928 ..	Australian Shale Oil Corporation.....	65,000
1929.....	Goliath Portland Cement Company	2200
1930.....	Goliath Portland Cement Company	20,101
	Tasmanite Shale Oil Company Ltd.....	35,000
1931.....	Tasmanite Shale Oil Company Ltd.....	31,915
1932.....	Tasmanite Shale Oil Company Ltd.....	79,236
1933.....	Tasmanite Shale Oil Company Ltd.....	56,958
1934.....	Tasmanite Shale Oil Company Ltd.....	37,905
1935-52	Tasmanite Shale Oil Company Ltd.....	—
	Total	357,115

SCHEELITE.

RETURN showing the Quantity and Value of Scheelite produced during the Years 1917 to 1952 inclusive.

Year.	Quantity.		Value.
	Tons.	£	
1917-1920	589·07	112,468	
1921-1937.....	—	—	
1938.....	30·53	6193	
1939.....	170·695	33,301	
1940.....	275·48	49,120	
1941.....	246·913	42,700	
1942.....	215·332	71,353	
1943.....	199·201	68,908	
1944.....	32·21	10,842	
1945.....	527·54	158,093	
1946.....	627·8	165,264	
1947.....	630·92	240,006	
1948.....	637·42	254,517	
1949.....	802·6	272,668	
1950.....	791·53	485,296	
1951.....	1,020·09	1,692,631	
1952.....	969·59	1,321,664	
Total.....	7,766·921	£4,965,024	

SILVER.

The output was 1,097,994·368 oz. (fine), valued at £340,290, as compared with 984,226·073 oz., valued at £321,056 for 1951.

RETURN showing the Quantity and Value of Silver contained in Silver-Lead, Blister Copper, Copper Ore Zinc Lead Ore, and Gold Ore during the Years 1919 to 1952 inclusive.

Year.	In Silver-Lead.		In Blister Copper.		In Copper Ore		In Gold Ore.		In Zinc Lead Ore.		Total.	
	Quantity.	Value	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Oz.	£	Oz.	£	Oz.	£	Oz.	£	Ozs.	£	Oz.	£
1919	296,719·27	71,831	228,624	53,733	...	...	...	...	...	...	525,343·27	125,564
1920	453,411	118,898	169,948	47,869	...	...	...	...	...	...	623,359	166,767
1921	165,637	27,181	183,021	30,395	...	...	...	...	...	...	348,658	57,576
1922	674,886	104,926	119,699	18,511	...	...	...	...	...	...	794,585	123,437
1923	516,073·61	73,742	122,528	17,597	...	...	...	...	...	...	638,601·61	91,339
1924	494,782	75,398	147,376	22,439	...	...	...	...	...	...	642,158	97,837
1925	597,012·67	86,283	133,181	19,226	...	...	...	...	...	...	730,193·67	105,509
1926	632,066	80,597	134,587	17,394	...	...	...	...	...	...	766,653	97,991
1927	640,575	75,135	101,207	11,889	...	...	...	...	...	...	741,782	87,024
1928	564,056	66,386	105,270	12,515	...	...	...	...	...	...	669,326	78,901
1929	714,939	78,252	149,424	16,308	...	...	...	...	...	...	864,363	94,560
1930	518,641	41,485	182,978	14,583	...	...	...	...	...	...	701,619	56,068
1931	242,950	16,104	148,782	9650	...	...	...	...	...	...	391,732	25,754
1932	301,854	24,399	161,634	12,905	...	...	...	...	...	...	463,488	37,304
1933	361,768	29,394	127,562	10,414	...	...	...	...	...	...	489,330	39,808
1934	194,747	18,401	89,940	8726	...	...	...	...	...	...	284,687	27,127
1935	191,044	24,780	132,857	17,543	...	...	...	...	...	...	323,901	42,323
1936	803,269	71,886	103,189	9150	...	...	...	...	...	...	906,458	81,036
1937	977,552	88,252	83,233	7518	...	...	...	...	...	...	1,060,785	95,770
1938	1,152,568	98,913	66,982	5758	...	...	...	...	...	...	1,219,550	104,671
1939	1,207,604	111,893	70,512	6417	...	...	...	...	...	...	1,278,116	118,310
1940	1,549,859	155,596	58,659	5854	119	13	44	4	...	...	1,608,681	161,447
1941	1,282,795	134,693	43,630	4601	113	12	...	...	...	...	1,326,738	139,306
1942	207,050	21,739	36,207	3802	...	...	...	...	946,804·44	99,414	1,190,061·44	124,955
1943	193,070	20,273	44,321	4653	...	...	...	...	879,184·67	92,315	1,116,575·67	117,241
1944	143,640	15,082	38,047	3994	...	...	...	...	846,489·29	88,881	1,028,176·29	107,957
1945	136,390	17,188	24,232	2917	...	...	...	...	655,535·38	81,996	816,157·38	102,101
1946	134,450	28,102	34,194	7127	...	...	...	...	727,648·76	152,199	896,292·76	187,428
1947	146,775·56	26,979	27,891·9	5028	...	...	...	...	744,123·63	137,061	918,791·09	169,068
1948	105,085·07	19,520	22,763	4233	...	...	...	...	779,367·54	144,973	907,215·61	168,726
1949	103,993·358	21,323	17,451	3942	...	...	...	...	889,587·78	181,973	1,011,032·138	207,238
1950	115,016·784	31,061	24,084	6476	...	...	...	...	990,739·25	267,377	1,229,840·034	304,814
1951	124,799·113	40,618	22,749	9423	...	...	...	...	836,677·96	272,915	984,226·073	321,056
1952	165,510·118	51,318	30,188	9353	...	...	...	...	902,296·25	279,635	1,097,994·368	340,240
Total	16,110,588·553	1,967,608	187,150·9	439,943	232	25	44	4	9,198,454·95	1,798,739	28,496,470·403	4,206,253

TALC.

RETURN showing Quantity and Value of Talc produced during the Years 1928 to 1952 inclusive.

Year.	Quantity.	Value.
	Tons.	£
1928.....	32	96
1929.....	23	45
1930.....	13·35	53
1931.....	15	58
1932.....	5	17
1933.....	8·75	22
1934.....	5·5	16
1935.....	—	—
1936.....	3	8
1937-1943.....	—	—
1944.....	4	16
1945.....	152·75	532
1946.....	49	192
1947.....	—	—
1948.....	22	22
1949-52.....	—	—
Total.....	333·35	1077

TIN.

The output was 771·186 tons valued at £744,618, as compared with 705·834 tons, valued at £742,683 for 1951.

RETURN showing the Quantity and Value of Metallic tin exported from Tasmania from 1873 to 1904 (compiled from Customs Returns only), and Metallic Tin produced during the Years 1905 to 1951 inclusive.

Year.	Quantity.	Value.
	Tons.	£
1873-1879 inclusive.....	16,429	1,054,923
1880 to 1905 inclusive.....	56,419·93	7,530,234
1906.....	3130·925	557,266
1907.....	3039·925	501,681
1908.....	3164·56	421,580
1909.....	3157·84	418,165
1910.....	2590·707	399,393
1911.....	2767·135	513,500
1912.....	2599·775	543,103
1913.....	2807·287	531,983
1914.....	1800·899	259,300
1915.....	1819·463	292,306
1916.....	1998·245	350,852
1917.....	1846·135	427,917
1918.....	1579·342	488,798
1919.....	1580·22	395,794
1920.....	1310·411	369,362
1921.....	790·395	130,257
1922.....	679·440	112,407
1923.....	1160·390	236,955
1924.....	1108·450	275,014
1925.....	1129·662	297,515
1926.....	1096·16	322,526
1927.....	1105·74	317,593
1928.....	1140·14	258,676
1929.....	640·36	130,014
1930.....	511·77	69,592
1931.....	588·83	70,634
1932.....	793·92	109,767
1933.....	957	190,041
1934.....	952·49	219,246
1935.....	1131	258,919
1936.....	1004·06	206,656
1937.....	1089·839	260,673
1938.....	1278·617	244,037
1939.....	1249·877	282,798
1940.....	1430·198	367,127
1941.....	1255·729	328,340
1942.....	1148·048	297,919
1943.....	948·817	246,218
1944.....	809·671	235,612
1945.....	801·239	240,369
1946.....	700·886	240,584
1947.....	830·176	353,045
1948.....	777·124	427,372
1949.....	631·231	380,942
1950.....	684·948	505,668
1951.....	705·834	742,683
1952.....	771·186	744,618
Total.....	137,945·076	£24,162,139

WOLFRAM.

RETURN showing the Quantity and Value of Wolfram produced during the Years 1899 to 1952 inclusive.

Year.	Quantity.	Value.
	Tons.	£
1899 to 1904 inclusive.....	72·84	3304
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	9896
1928.....	176·15	12,094
1929.....	151·86	18,358
1930.....	112·6	12,216
1931.....	0·29	16
1932.....	—	—
1933.....	104·05	7,301
1934.....	194·19	27,375
1935.....	232·13	29,345
1936.....	207·13	28,323
1937.....	291·04	71,643
1938.....	299·104	63,348
1939.....	227·604	44,356
1940.....	234·304	42,319
1941.....	235·502	42,536
1942.....	183·23	58,397
1943.....	230·025	82,965
1944.....	241·875	86,749
1945.....	211·11	69,896
1946.....	156·573	44,553
1947.....	201·047	82,928
1948.....	234·408	103,193
1949.....	264·395	100,738
1950.....	200·103	114,083
1951.....	378·834	715,295
1952.....	481·476	719,370
Total.....	7073·292	£2,789,458

ZINC.

RETURN showing the Quantity and Value of Zinc produced during the Years 1919 to 1952 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	181,240
1928.....	7112	188,691
1929.....	6977	185,964
1930.....	943	19,322
1931-1935.....	—	—
1936.....	18,769	283,105
1937.....	23,481	525,824
1938.....	25,366	356,452
1939.....	25,021	366,176
1940.....	26,262	715,632
1941.....	24,468·6	666,768
1942.....	21,472·15	585,116
1943.....	21,078·81	574,398
1944.....	20,833·15	567,702
1945.....	15,609·34	407,307
1946.....	17,990·08	800,072
1947.....	18,512·663	1,295,883
1948.....	18,503·85	1,469,241
1949.....	20,285·93	1,713,499
1950.....	23,230·024	2,806,697
1951.....	20,463·609	3,485,654
1952.....	21,902·184	3,230,850
Total.....	396,140·080	£20,823,575

* 1917, 1918 have been deleted. Product of Broken Hill.

ELECTROLYTIC ZINC COMPANY OF AUSTRALASIA LIMITED.

RETURN FOR THE YEAR 1952.

EXTRACTIONS FROM ORES AND CONCENTRATES: RISDON.

<i>From other than Tasmanian Ores—</i>		
Zinc	66,152	tons
Cadmium	184,4504	tons
Cobalt oxide	15,8674	tons
<i>From Tasmanian Ores—</i>		
Zinc	22,439	tons
Cadmium	41	tons
Cobalt oxide	0,4259	tons
Lead	1,027	tons
Silver	116,999	oz.

Men Employed—

The average number of men employed was 2105.

WEST COAST DIVISION.

Ore Mined—

From Hercules Mine	28,665
From Rosebery Mine	134,419
From Comstock Mine	56

Total 163,140

Concentrates Produced—

Zinc concentrates	46,538
Lead concentrates	9,087
Copper concentrates	4,317
Total	59,942

Recoverable Quantity in Ores Mined—

Zinc	21,861,87	tons
Lead	7,084,30	tons
Copper	314,80	tons
Cadmium	41,88	tons
Silver	902,296,25	oz.
Gold	10,035,47	oz. f.

Average Number of Men Employed—

Hercules Mine	54
Rosebery Mine	532
Zeehan Smelters	1
Comstock Mine	.....

Total 587

QUANTITY AND VALUE OF METALS AND MINERALS PRODUCED.

RETURN showing Quantity and Value of Metals and Minerals Produced in Tasmania as at 31st December, 1952.

Mineral or Metal,	Quantity.	Value with Sterling Metal Prices.	Value with Aust. Metal Prices.
Antimony	2,664 (tons)	£ 815	£ 1,017
Asbestos	3,979,85 (tons)	17,142	17,142
Barytes	2,196,2 (tons)	8,138	8,138
Bismuth	83,6359 (tons)	28,432	29,644
Cadmium	767,9957 (tons)	510,558	575,075
Carbide, Cement, and Limestone	3,635,599,6 (tons)	7,359,968	7,359,968
Carbide to 1936 (now under Carbide, Cement, and Limestone)	62,090 (tons)	1,212,207	1,212,207
Cement to 1936 (now under Carbide, Cement, and Limestone)	525,391 (tons)	2,004,014	2,004,014
Coal	6,100,873 (tons)	5,203,856	5,203,856
Cobalt Oxide	6,02 (tons)	2,764	3,376
Copper (Blister) to 1918 (now shown under Silver and Copper)	166,600 (tons)	13,788,527	13,788,527
Copper Matte	6,277 (tons)	133,736	133,736
Copper Ore to 1918 (now under Copper)	41,768,63 (tons)	577,873	577,873
Copper (from 1919)	301,185,619 (tons)	23,286,732	26,451,268
Dolomite	1,012,76 (tons)	3,272	3,272
Gold	2,363,880,403 (fine oz.)	10,910,667	11,592,634
Granite (Red)	3,536,5 (tons)	26,838	26,838
Graphite	27 (tons)	69	69
Hematite	9,5 (tons)	44	44
Ilmenite	550 (tons)	1,256	1,256
Iron Ore	46,181,5 (tons)	31,776	31,776
Iron Pyrites	829,473,973 (tons)	1,224,750	1,224,750
Kaolin	64,733,25 (tons)	192,959	192,959
Lead (from 1919)	64,791,506 (tons)	9,608,289	6,882,043
Limestone to 1936 (now under Carbide, Cement, and Limestone)	2,108,943 (tons)	1,439,674	1,439,674
Limonite	1,263,75 (tons)	5,436	5,436
Magnetite	1,018,925 (tons)	4,654	4,654
Manganese	6 (tons)	3	3
Monazite	32,6 (tons)	488	607
Nickel	222,55 (tons)	38,850	40,518
Ochre	1,827,75 (tons)	4,098	4,098
Osmiridium	30,854,878 (fine oz.)	669,737	691,406
Rutile	5 (tons)	18	18
Scheelite	7,767,921 (tons)	4,965,024	5,739,595
Silica	111,943,25 (tons)	56,824	56,824
Shale	41,572 (tons)	31,231	31,231
Silver-Lead ore to 1918 (now under Silver and Lead)	1,083,897,821 (tons)	6,429,291	6,429,291
Silver (from 1919)	28,496,470,403 (fine oz.)	4,206,303	4,896,935
Talc	333,35 (tons)	1,077	1,077
Tin	137,945,076 (tons)	24,162,139	25,426,246
Wolfram	7,073,292 (tons)	2,789,458	2,988,835
Zinc	396,141,080 (tons)	20,823,575	12,581,209
Total	.....	141,762,562	137,659,139

RETURN showing the Total Area of Land and Number of Sluiceways of Water Applied for during the Year ending 31st December, 1952.

Mineral.	Number.	Area.	Sluiceways.
		Acres.	
Clay	1	5	...
Coal.....	1	640	...
Gold	1	10	...
Gold-Wolfram	1	20	...
Limestone	1	316	...
Minerals	13	545	...
Sand	1	56	...
Stone	3	27½	...
Silver-Lead, Zinc	1	40	...
Scheelite	5	209	...
Tin.....	28	257	...
Tin-Wolfram	4	220	...
Wolfram	5	110	...
Water-rights and Dam Sites	16	30	84
Mining Easements and Machinery Sites.....	6	45	...
Total.....	87	2530	84

RETURN showing Total Number and Area of Leases and Licences Issued during the Year ending 31st December, 1952.

Mineral.	Leases.	Area.	Sluiceways
		Acres.	
Coal.....	1	750	...
Gold	3	110	...
Limestone	1	24	...
Minerals	1	1884	...
Tin.....	6	419	...
Water-rights and Dam Sites	4	25	29
Total.....	15	3212	29

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 1883 to 1903, and for Six Months ending 31st December, 1903, and for the Years ending 31st December, 1904 to 1952 inclusive.

Year.	Amount.			Year.	Amount.		
	£	s.	d.		£	s.	d.
1883.....	15,439	14	5	1917.....	14,669	7	2
1884.....	6981	11	10	1918.....	17,833	14	9
1885.....	11,070	5	7	1919.....	15,388	7	7
1886.....	12,523	10	4	1920.....	16,767	11	6
1887.....	14,611	11	5	1921.....	11,248	14	11
1888.....	23,502	8	4	1922.....	14,184	7	3
1889.....	17,254	9	0	1923.....	13,224	11	9
1890.....	26,955	4	9	1924.....	14,678	13	11
1891.....	37,829	16	5	1925.....	14,229	8	7
1892.....	17,568	18	4	1926.....	15,163	15	7
1893.....	16,971	9	2	1927.....	16,887	9	9
1894.....	16,732	7	7	1928.....	14,313	12	0
1895.....	15,323	1	9	1929.....	14,665	10	7
1896.....	20,901	13	2	1930.....	11,166	7	2
1897.....	25,631	0	3	1931.....	11,520	1	10
1898.....	33,661	13	9	1932.....	10,097	18	6
1899.....	24,696	10	5	1933.....	9459	6	9
1900.....	28,380	11	10	1934.....	11,166	2	11
1901.....	21,569	5	2	1935.....	10,548	10	0
1902.....	19,471	0	1	1936.....	11,023	11	3
1903.....	17,776	14	3	1937.....	12,206	10	1
1903, 1 July to 31 Dec.	14,758	17	1	1938.....	11,177	11	5
1904, Jan. to Dec.	16,631	8	2	1939.....	11,556	5	1
1905.....	20,208	17	0	1940.....	11,018	3	9
1906.....	24,136	12	5	1941.....	10,835	18	8
1907.....	24,794	7	7	1942.....	9,509	18	2
1908.....	20,311	3	0	1943.....	9,449	9	7
1909.....	22,804	1	5	1944.....	8,952	5	3
1910.....	22,221	18	0	1945.....	9,108	18	6
1911.....	20,556	15	10	1946.....	8,716	8	8
1912.....	17,639	19	11	1947.....	9,569	12	9
1913.....	19,410	17	8	1948.....	10,637	2	1
1914.....	14,087	0	6	1949.....	9,753	17	5
1915.....	17,679	3	6	1950.....	11,027	3	9
1916.....	14,678	19	10	1951.....	11,979	10	1
				1952.....	8,517	18	4

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, 1938 to 1952 inclusive.

Nature of Lease.	In force on 31st Dec., 1938.		In force on 31st Dec., 1939.		In force on 31st Dec., 1940.		In force on 31st Dec., 1941.		In force on 31st Dec., 1942.		In force on 31st Dec., 1943.		In force on 31st Dec., 1944.		In force on 31st Dec., 1945.		In force on 31st Dec., 1946.		In force on 31st Dec., 1947.		In force on 31st Dec., 1948.		In force on 31st Dec., 1949.		In force on 31st Dec., 1950.		In force on 31st Dec., 1951.		In force on 31st Dec., 1952.	
	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.
For Minerals, Silver, Tin, &c.	595	23,497	463	18,843	474	16,838	436	15,892	377	15,135	333	15,075	423	16,517.50	373	14,665	320	13,291	348	14,441	304	13,858	298	17,135	309	19,641	289	19,424	264	19,785
For Coal, Stone, Shale, &c.	43	4904	49	6683	53	6517	56	7151	53	6732	53	6683	60	7032	63	6687	64	7059	70	7477	54	5808	77	7980	81	8493	88	9800	78	9015
For Gold Mining	117	2491	108	1850.5	110	1759.5	106	2041	75	1176	59	914	113	1948	55	955	56	992	53	953	26	464	27	479.5	28	499.5	28	598	29	701
Easements	97	630	86	617.25	85	616.25	83	529	83	511.25	78	570.75	82	633.75	81	760	83	744	85	830	72	724	100	1487.5	94	1466.5	93	1366.5	60	675
Licences to search for Coal or Oil	2	1180	2	1180	—	—	—	—	—	—	1	900	2	1800	—	—	—	—	—	—	1	200	1	200	—	—	2	1200	2	1200
Water-rights, Mineral and Gold	448	1834 & 2191 sluice-heads	388	2172.75 & 1574 sluice-heads	395	2183 & 1478 sluice-heads	386	2065 & 1428 sluice-heads	346	2031.75 & 1586 sluice-heads	293	2015.25 & 1319 sluice-heads	300	2062.25 & 1343 sluice-heads	264	2005 & 1230 sluice-heads	256	1994 & 1131 sluice-heads	256	1999 & 1221 sluice-heads	212	1807 & 987 sluice-heads	152	819.25 & 912 sluice-heads	160	362.25 & 862 sluice-heads	159	356 & 843 sluice-heads	174	1000.25 & 851 sluice-heads

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

	Average for 1938.	Average for 1939.	Average for 1940.	Average for 1941.	Average for 1942.	Average for 1943.	Average for 1944.	Average for 1945.	Average for 1946.	Average for 1947.	Average for 1948.	Average for 1949.	Average for 1950.	Average for 1951.	Average for 1952.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Copper—Standard, spot: per ton	45 16 9	49 17 7	62 0 0	62 0 0	62 0 0	62 0 0	62 0 0	62 0 0	75 10 0	131 0 0	134 10 0	131 8 0	179 2 0	216 13 0	264 14 5
Lead—Soft Foreign: per ton	Electrolytic. 15 6 5	Electrolytic. 15 13 7	Electrolytic. 25 0 0	Electrolytic. 25 0 0	Electrolytic. 25 0 0	Electrolytic. 25 0	Electrolytic. 25 0 0	Electrolytic. 25 0 0	Electrolytic. 48 17 6	Electrolytic. 85 7 6	Electrolytic. 95 10 0	Electrolytic. 102 6 0	Electrolytic. 107 17 6	Electrolytic. 162 18 3	Electrolytic. 136 7 8
Spelter: per ton	14 1 7	14 14 0	25 15 0	25 15 0	25 15 0	27 5	27 5 0	27 12 6	42 16 3	70 0 0	79 3 4	85 18 4	119 4 0	170 6 8	147 10 3
Tin—Standard, spot: per ton	189 12 1	226 5 6	256 12 3	261 8 0	259 10 0	259 10 0	289 17 6	300 0 0	342 15 0	422 17 6	547 4 2	600 0 0	737 8 6	1065 8 11	965 11 0
Silver—Standard, spot: per oz.	s. d. 1 9·066	s. d. 1 8·461	s. d. 2 1·048	s. d. 1 11·439	s. d. 1 11·439	s. d. 1 11·439	s. d. 1 11·439	s. d. 2 6	s. d. 4 1·75	s. d. 3 8·25	s. d. 3 9	s. d. 4 0	s. d. 5 5	s. d. 6 6·3	s. d. 6 2·4
Osmiridium per oz. ...	£ s. d. 15 0 4	£ s. d. 17 15 0	£ s. d. 24 0 0	£ s. d. 20 7 2	£ s. d. 20 12 4	£ s. 23 10 11	£ s. d. 24 10 6	£ s. d. 24 10 6	£ s. d. 27 17 7	£ s. d. 27 18 0	£ s. d. 22 10 0	£ s. d. 21 5 0	£ s. d. 28 10 0	£ s. d. 36 4 0	£ s. d. 39 19 10
Wolfram: per ton	289 0 0	271 0 0	250 0 0	250 0 0	437 10 0	500 0 0	500 0 0	462 10 0	400 0 0	582 17 6	616 5 0	514 0 0	816 0 0	2726 0 0	2244 13 0
Gold: per f. oz.	W.O. ₂ 7 2 6	W.O. ₂ 7 15 2	W.O._{2} 8 8 0	W.O._{2} 8 8 0	W.O._{2} 8 8 0	W.O._{2} 8 8 0	W.O. ₂ 8 8 0	W.O. ₂ 8 10 10	W.O. ₂ 8 12 3	W.O. ₂ 8 12 0	W.O. ₂ 8 12 3	W.O. ₂ 9 14 2	W.O. ₂ 12 8 0	W.O. ₂ 12 8 0	W.O. ₂ 12 8

AID TO MINING.

The policy of assistance to mining was maintained to the extent provided for under the provisions of the Aid to Mining Act, but little advantage was taken thereof. An amount of £325 was expended and £555 15s. 4d. was repaid against advances made under the Act.

Miscellaneous parties tributing under the provisions of the Aid to Mining Act continued to hold the Mount Bischoff Tin Mine as an important producer of tin. Activities were related to lode remnants, treatment of mill tailings and to milling of spillages of ore on old tramways. These operations resulted in a recovery of 38·632 tons of concentrate, containing 26·263 tons of metallic tin. The major party commenced operations on the sulphide ores of the Greisen Lode. Results suggest that the party will succeed in expanding

its activities. Operations afforded employment for 24 men and contributed materially to the stability of Waratah. Royalty payments amounted to £741 0s. 5d.

The loan of £1,500 made to the Jubilee Coal Mining Company in 1945 for the purposes of completing certain mechanical equipment at the Colliery was repaid. A further amount of £150 was repaid in respect of the loan of £2,500 made available to meet developmental and operational expenditure at the Colliery.

The loan of £10,000 made available to Renison Associated Tin Mines for the erection of dwellings and a community hall was not drawn against beyond the £5,500 already advanced. A payment of £4,000 was received thereby reducing the indebtedness of the Company to £275.

THE AID TO MINING ACT, 1927.

STATEMENT OF RECEIPTS AND PAYMENTS OF THE MINING TRUST FUND FOR
YEAR ENDED 31ST DECEMBER, 1952.

RECEIPTS.			PAYMENTS.		
	£	s. d.		£	s. d.
Balance, 31st December, 1951	11,954	18 0	Assistance	325	0 0
Repayments of loans	555	15 4	Insurance	1	6 2
Interest on loans	2	18 4			
Tribute royalties	741	0 5	Total Payments	326	6 2
			Excess of receipts over payments	12,928	5 11
	£13,254	12 1		£13,254	12 1

THE AID TO MINING (FEDERAL GRANT) TRUST FUND.

(22 Geo. V. No. 92, and 26 Geo. V. No. 8, and 2 Geo. VI. No. 68.)

RECEIPTS AND PAYMENTS STATEMENT.

RECEIPTS.				PAYMENTS.			
Item.	March, 1935 (commence- ment) to 31st Dec., 1952.	1st Jan., 1952 to 31st Dec., 1952.		Item.	March, 1935 (commence- ment) to 31st Dec., 1952.	1st Jan., 1952 to 31st Dec., 1952.	
	£	s. d.	£ s. d.		£	s. d.	£ s. d.
Provided by—				Prospecting	1,584	6 6	.....
Commonwealth	£25,750			Batteries	1,328	14 0	.....
State	9,250			Advances	22,785	5 7	.....
	35,000	0 0	.....	Plants and operation thereof	6,711	9 11	.....
Transfer of balance from—				Metallurgical investigations	1,237	3 4	.....
The Aid to Mining (Federal Grant) Trust Fund, 1936-37 (1 Edw. VIII. No. 20)	1,883	18 2	.....	Roads and tracks	6,486	8 8	.....
The Aid to Mining (Federal Grant) Trust Fund, 1937-38 (1 Geo. VI. No. 32)	798	9 11	.....	Transport	829	10 10	.....
Other credits—				Staff	574	11 1	.....
Batteries	99	13 2	.....	Total payments	41,537	9 11	.....
Advances	9,092	4 7	.....	Excess receipts over pay- ments	5,349	13 4	5,349 13 4
Plants and operation there- of	11	18 8	.....			
Metallurgical investigations	0	7 11	.....			
Staff	0	10 10	.....			
Balance brought forward period ended 31st Decem- ber 1951			5,349 13 4				
	£46,887	3 3	5,349 13 4		£46,887	3 3	5,349 13 4

GOLD MINING ENCOURAGEMENT ACT, 1940.

(Commonwealth Act, No. 38 of 1940.)

RECEIPTS AND PAYMENTS STATEMENT OF THE GOLD MINING ENCOURAGEMENT (COMMON-
WEALTH) DEPOSIT ACCOUNT FOR THE YEAR ENDED 31ST DECEMBER, 1952.

RECEIPTS.			PAYMENTS.		
	£	s. d.		£	s. d.
Balance brought forward, 31st December, 1951	2,000	0 0	Advances	2,000	0 0
Repayments			Excess receipts over payments		
Interest					
	£2,000	0 0		£2,000	0 0

DRILLING.

Department drilling plants were in constant operation on hire to holders of mining tenements, in drilling areas reserved against occupation under the provisions of the Mining Act, in boring for water on pastoral lands, and in testing foundation strata for building structures. Bores aggregating 4,233 feet were drilled. Expenditure in all fields of boring was £4,393 11s. 10d. and £3,633 7s. was repaid under drilling agreements.

A further 60 feet of diamond drilling was completed at Dalmayne in tracing the areal extent and horizons of coal seams.

A diamond drilling unit completed six holes in testing the silver-lead series at Round Hill.

Diamond drilling was continued in testing tin and wolfram occurrences at seven locations in the Storey's Creek-Rossarden region.

One percussion plant was in constant operation in boring for supplies of underground water in the Oatlands district. Twenty-four holes, aggregating 2,005 feet, were completed. Twenty-one bores located adequate supplies of water and three were classed as "dry-holes".

A second percussion plant was engaged in boring for water in the Chudleigh area, and in boring 12 holes to test the strata for building structures and other purposes for the Department of Public Works and the Launceston Marine Board, at Launceston.

DETAILS OF EXPENDITURE ON DRILLING DURING THE YEAR ENDED 31st DECEMBER, 1952.

Plant.	Location	Amount Expended.	
		£	s. d.
Junior Straitline Diamond Drill	St. Marys	543	2 3
Goldfields No. 10 Diamond Drill	Rossarden	268	2 11
Mitchell Diamond Drill	Round Hill	608	18 1
G33 Percussion Drill	Oatlands District	1,793	1 10
G33 Percussion Drill	Chudleigh and Launceston	1,180	6 9
		<u>£4,393</u>	<u>11 10</u>

DEPARTMENTAL ACTIVITIES.

Technical services continued to be usefully directed to the economics and geology of mineral deposits, metallurgical research, assaying and general analytical work, boring of mineral deposits, investigation of rock structures, location of underground water and to the general development of mining.

The mineral industry is of major significance in the prosperity and economy of the State. Production and utilization trends have again emphasised the necessity for a forward policy in financing Departmental instrumentalities. Services rendered and results attained have fully merited the implementation of the planned policy of investigation and exploration in the field of metallic and non-metallic minerals.

Whereas it was planned to set up five regional establishments for the investigation and exploration of the mineral resources of the State, the available finance limited the programme to continuing activities in the establishment at Zeehan and to the setting up of an establishment at Lorinna. Both units are now engaged in investigational work that will result in a more rational appreciation of mineral potentialities within the regions under survey.

STAFF.

Mr. L. G. B. Nixon, B.Sc. was appointed as Geologist.

Messrs. B. L. Taylor, B.Sc. and J. N. W. Elliston, B.Sc. were promoted from Geologists to Regional Geologists.

MINES DRAFTING BRANCH.

Number of working plans in use and kept up to date	234
Instructions issued to Surveyors	80
Diagrams received from Surveyors	26
Diagrams drawn on Leases	15
Consolidated and other diagrams drawn	7
Lithographs entered to date	195

Various tracings prepared	82
Tracings and photostats for Launceston office	29
Manuscripts entered to date	11
Manuscripts photo-lithographed	Nil
Manuscripts re drawn	2

Mapping and Engineering Draftsmen of the Department were constantly employed in the compilation of geological maps relating to normal field services, in regional maps featuring geological boundaries and mineral occurrences chartered in the course of past services, in the preparation of engineering plans, and in the tracing of plans relating to the design of premises for the storage of dangerous commodities.

APPRECIATION OF SERVICES.

Appreciation is recorded of the services rendered by officers of the Department, including officers of the Mining Drafting Branch, Wardens of Mines, and Registrars of Mines in the several mining districts.

APPENDICES.

The following reports are appended:—

- Geological Survey.
- Chief Chemist and Metallurgist.
- Chief Inspector of Mines.
- Chief Inspector of Explosives.
- Inspectors of Mines and Explosives.
- Mount Cameron Water Race Board.
- Ringarooma-Cascade Water Board.

I have the honour to be,

Sir,

Your obedient servant,

W. H. WILLIAMS, Director of Mines.

APPENDIX I.

REPORTS OF GEOLOGISTS.

The Chief Geologist, H. G. W. Keid, M.Sc. reports:—

In the early part of the year an investigation was made in the Ida Bay-Catamaran district to estimate the coal potential thereof.

A summary of the Geology of Tasmania was prepared for the Australian Institute of Mining and Metallurgy for use in connection with the Fifth Empire Mining and Metallurgical Congress.

An investigation was made into the possibility of obtaining underground water for farmers in the Colebrook district. The wolfram fields of Wolfram Creek and Constable Creek in the Scamander district were examined. Some ore was being won at the latter place.

From the 21st March to the 20th June, field work was continued in the tin fields of North-eastern Tasmania. The work was completed in the month of September.

The period from June to September was occupied with office work during which time a map of the tin fields was prepared. Since September the map has been completed and the report on the area has been finalised.

Geologist T. D. Hughes, B.Sc. reports:—

The principal field work performed was an examination of the structural features of the Alberton Goldfield. Certain conclusions were reached and a boring programme was recommended. Examinations were made of a copper prospect at Mt. Mueller, coal at Mt. Lloyd, pyrite prospects in the North-Western area, and iron deposits at Penguin and Hampshire. A regional survey was made of the Dromedary-Magra area and water supply problems were investigated at Spring Hill, Tea Tree, Chudleigh, Orford, Triabunna, Woody and Partridge Islands, Taroona, Sassafras-Wesley Vale District, Dover, Whitmore, Carrick, Oyster Cove and Dromedary. A preliminary examination was conducted at the Cleveland Mine, in preparation for more detailed work in connection with a proposed Geophysical Survey of the area. Towards the end of the year an examination of the Maydena District was conducted with special reference to the extent, quality and structure of the immense limestone deposits located in this area.

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

- H.E. Brock's Tin Prospect, Storey's Creek.
- Underground water possibilities, Spring Hill.
- Underground water possibilities, Tea Tree.
- Underground water possibilities, Chudleigh.
- Underground water possibilities, Orford.
- Underground water possibilities, Triabunna.
- Underground water possibilities, Woody and Partridge Islands.
- Underground water possibilities, Taroona.
- Underground water possibilities, Sassafras-Wesley Vale area.
- Underground water possibilities, Dover.
- Underground water possibilities, Chudleigh Estate.
- Underground water possibilities, Whitmore.
- Underground water possibilities, Oyster Cove.
- Underground water possibilities, Dromedary.
- Some pyrite prospects, North-West Coast.
- Coal near Mount Lloyd.
- Pyrite prospects, Dial Creek.
- Copper prospects, Mount Mueller Mine.
- Alberton Goldfield.
- Limestone, Gunns Plains.
- Proposed boring, Long Struggle Area, Alberton.
- Iron deposits, Penguin Creek.
- Iron Deposits, Hampshire.
- Dromedary, Magra Area.
- The Cleveland Mine.
- N.E. Regional Water Supply Tunnel, Watery Plains.

Geologist G. Everard, B.A., reports:—

A wide variety of geological work, chiefly of economic reference, was performed during the year in the field and laboratory. Field investigations were made at the following locations.

- Ida Bay—Limestone deposits.
- Dial Range Mineral Field.
- Maria Island—Sites for limestone quarries.
- Glazier's Bay—Sampling of limestone deposits.
- Bream Creek District—Road metal quarries and quarry sites.
- Watery Plains—North Esk Regional Water Supply.
- Tyenna Valley—Limestone deposits.
- Riverside, West Tamar—Site for radio transmitter.
- Work at Dial Range, Watery Plains and Tyenna Valley was carried out in co-operation with Geologist T. D. Hughes.

Petrological and mineralogical work demanded more time than previously.

Laboratory investigations were concerned with:—

- Rosebery Mine—Dust samples.
- Mount Lyell Mine—Moulding sands dust hazard.
- North Pieman area rock specimens, collected by Geologists B. L. Taylor and D. Burger.
- Identification of 80 rock and mineral specimens for the general public.

Regional Geologist B. L. Taylor, B.Sc., reports:—

Regional work was continued in the North Pieman Mineral Area. The work has consisted of traversing the Pieman River between the Emu Bay Railway Bridge and the Stanley River junction road and rail traverses in the Renison Bell-Rosebery area, and stream and track traverses in the area between Renison Bell and the Wilson River junction. A total of 45 miles of such traverses has been completed. The greater part of these traverses has been in rocks of the Cambrian Group and the work has served to give a much better understanding of the lithology and structure thereof.

The following geological investigations were carried out:—

Montana Silver-Lead Mine, Zeehan (Second Report).

This report was in the nature of an appendix to the main report dated 16th November, 1951, and detailed the state of affairs obtaining as at 15th January, 1952.

S. de Bomford's Prospect Near Queenstown.

This report was based on field work carried out during the previous November. The prospect is a poor one and little hope was held for its development. The structural conditions of the prospect were detailed and recommendations were made for any future prospecting.

E. J. Cornish's Show at North-East Dundas.

A report was furnished on this tin-wolfram prospect by D. Burger in 1951. During this year two further short investigations were made by D. Burger, the first on the value of the alluvial deposits and the second relating to an application by Cornish for financial assistance under the Aid to Mining Act.

Lease No. 101M/47, S. A. Clark, Zeehan.

This investigation was undertaken following an application by Clark for assistance under the Aid to Mining Act. The lease is located south of and adjoining that of the Montana Silver-Lead Co. N.L., and the lode system is an extension of that being worked by the latter company. Recommendations for further prospecting were made.

The Five Mile Copper-Nickel Deposits.

Interest in these deposits has been revived following the taking of an option over the leases by an English Company. At the request of the Director of Mines, the Bureau of Mineral Resources undertook to carry out a geophysical survey over an area of 7,000 feet by 1,000 feet. The staff of this office also carried out a detailed geological investigation over the same area together with a general investigation of the surrounding area. Much new light was shed upon the conditions governing the deposition of the ore and the prospects for the revival of the field appear to be good. A planned programme of investigation will be undertaken by the company based on the results of the geological and geophysical investigations.

Supply of Clay—Messrs. Wunderlich Ltd., Launceston.

This company was experiencing difficulties in the manufacture of glazed terra cotta tiles at their Tasmanian factory at Launceston. The cause of the difficulty was traced to variations in the alumina content of the clays. Recommendations were made for overcoming these difficulties using present stocks of clay and also for obtaining alternative supplies of clays.

Lease No. 58M/48—G. W. & W. C. Clark, Zeehan.

This investigation was made as the result of an application for financial assistance under the Aid to Mining Act. The investigation was mainly carried out by D. Burger. The geological conditions governing the deposition of ore were detailed and recommendations for further prospecting were made.

Survey.

Assistance was given to the Bureau of Mineral Resources geophysical party in the matter of laying down a grid at the Five Mile Copper-Nickel Area. Approximately 2,800 pegs were laid out.

Pieman Track and Cage Crossing.

A field depot consisting of a permanent living camp and a combined storeroom and garage was erected in the vicinity of the proposed Pieman River cage crossing. In August, general responsibility for all track work relating to the North Pieman Mineral Area was assumed. During the latter part of the year, personnel were engaged and the track completed from the field depot to the river. Detailed plans were drawn up for the cage crossing and a contractor was engaged to carry out the work. Completion of this project is expected early in the new year.

Mineral Determinations.

Sundry mineral determinations have been made for local prospectors as required.

Regional Geologist J. N. W. Elliston, B.Sc., reports:—

Following the selection of Lorinna as a base for a regional survey, a forward move was made in the erection and equipment of buildings to comprise an establishment consisting of staff quarters, offices, store, garage and general amenities.

The establishment was completed, occupied and regional work was commenced. A re-appreciation was undertaken of the silver-lead series at Round Hill but detailed work was temporarily suspended in favour of regional work aimed at a rigorous interpretation of the structure and metallogenetic environment of the deposit.

A survey was made of the ore-vein series at Sayers Block at Moina and a report was furnished thereon.

APPENDIX II.**REPORT OF THE CHIEF CHEMIST AND METALLURGIST.**

The Chief Chemist and Metallurgist (Mr. W. St. C. Manson), Launceston, reports:—

DETERMINATIONS AND ANALYSES.

Determinations were made of gold, silver, tin, lead, aluminium, arsenic, antimony, barium, beryllium, boron, bismuth, calcium, cadmium, chlorine, chromium, copper, iron, magnesium, manganese, molybdenum, nickel, potassium, phosphorous, silicon, sodium, sulphur, titanium, thorium, tungsten, uranium, zinc, zirconium, and coal.

Analyses were made of ores, minerals, rocks, mill and research products associated with ore dressing investigations, clays, coal and water. The number of determinations approximated 4,000.

ORE DRESSING INVESTIGATIONS.

Ore dressing investigations were made of silver-lead zinc ore and mill tailings, pyrite ore, mill products from the King Island Scheelite Company's mill, magnetite-limonite ore and a wolfram scheelite-molybdenite ore.

These investigations included differential flotation and gravity concentration processes. Beneficiation of magnetite-limonite ore, after grinding to specification, was performed by continuous pilot plant processes to simulate commercial conditions, and consisted of crushing by jaw crusher and rolls and finally grinding by ball mill and sizing in a mechanical classifier. The ground product was then subjected to treatment in a Dings-Crockett wet magnetic separator to produce a high grade magnetite of suitable quality for use in heavy media processes. A mill sampling, sizing and analysis programme resulted in a valuation of vanner concentration at the King Island Scheelite Company's mill. The economic minerals in the wolfram-scheelite-molybdenite ore were successfully concentrated by a combination of gravity and flotation concentrations. Molybdenite in gravity tailings and residual quantities in tungsten gravity concentrates were concentrated by flotation.

Attention has been given to installation of research units in the laboratory at Wellington Street.

Appreciation is recorded of the services rendered by the staff.

APPENDIX III.**REPORT OF THE CHIEF INSPECTOR OF MINES.**

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

MINES AND WORKS REGULATION ACT.*Employment.*

The average number of men employed in mining, quarrying and metallurgical operations was 6,820 as compared with 5,928 for the previous year. Rising employment was mainly the result of increases in the number of men employed in mining of copper, scheelite, tin and zinc ores, together with increased employment at the Risdon Works of the Electrolytic Zinc Company, and upon constructional works at the aluminium production project at Bell Bay.

Accidents.

The number of accidents registered under the provisions of Section 23 of the Act was 61 as compared with 49 for last year.

The appended tabulations relate to:—

- (1) Fatalities and non-fatal casualties at mines, quarries and works which, later, involved absence from work for not less than 14 ordinary days; and
- (2) The average number of persons employed and the rate, per 1,000 employed, of fatal and non-fatal injuries in the State and in each Mineral Division.

There was an increase in the number of accidents in the Northern and Southern Division and in the Eastern Division but the accident incidence was less serious in the other divisions.

Thirteen accidents occurred in underground workings and 48 were allied with surface operations at mines, quarries and metallurgical works.

There was one fatality and this occurred at an open cut workings. A contract miner commenced to work below ground, which had been shocked by "bulling charges," before the leader of the party had examined the ground. A large rock fell from the face, struck the miner and inflicted fatal injuries.

Of the non-fatal accidents, one miner was injured as the result of a fall of ground in underground workings, one miner was injured when he was caused to fall down an ore-pass, one miner was boring a large boulder in an underground stope when the boulder rolled on to his leg and fractured his ankle, and an experienced faceman was working on the bench of a quarry when loose material fell from the face, forced him off the bench and caused him to fall about 30 feet. The remainder of the accidents were of a miscellaneous nature.

Health and Sanitation.

High relative humidities prevailed in underground workings but atmospheric temperatures were comfortably below the upper limits of legislative tolerance. Investigations, however, revealed many instances of inadequate control of air migration to provide desirable ventilation and to assist in the dilution of atmospheric dust escaping normal means of suppression. Ventilation and atmospheric dust surveys were made and measures were instituted for the ultimate correction of deficiencies.

Surveillance was exercised in matters of meal places, bath and change house, drainage and general sanitation in the interests of health.

A forward move was made in modernising legislation relating to bath and change houses.

Inspectorial.

The inspectorial staff was maintained at normal level and the extent to which inspectors functioned, in matters of health and safety, is revealed in the summarised reports.

TABLE showing Rate per Thousand Killed and Injured in different Mineral Divisions for the Year 1952.

Mineral 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	3080	31	...	31	31	10.065	...	10.065
North-Eastern	236	1	...	1	1	4.237	...	4.237
Eastern	640	12	...	12	12	18.75	...	18.75
North-Western	516	1	...	1	1	1.938	...	1.938
Western	2348	16	1	15	16	6.814	0.426	6.388
Total	6820	61	1	60	61	8.944	0.147	8.797

COMPARATIVE Table of Statistics of Accidents in and about the Mines of Tasmania from 1st July, 1892, to 31st December, 1951.

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	8.800	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	1	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
" 1933 " 1933	4510	77	7	71	78	17.295	1.552	15.742
" 1934 " 1934	4843	108	4	105	109	22.506	0.826	21.680
" 1935 " 1935	5409	142	1	141	142	26.252	0.184	26.067
" 1936 " 1936	5432	97	4	96	100	18.409	0.736	17.673
" 1937 " 1937	5876	107	5	103	108	18.379	0.850	17.529
" 1938 " 1938	5891	103	2	102	104	17.654	0.339	17.315
" 1939 " 1939	5928	87	2	87	89	15.013	0.337	14.676
" 1940 " 1940	6000	103	2	102	104	17.333	0.333	17.000
" 1941 " 1941	5856	85	5	85	90	15.368	0.853	14.515
" 1942 " 1942	5572	89	4	86	90	16.152	0.718	15.434
" 1943 " 1943	5535	73	6	67	73	13.188	1.084	12.104
" 1944 " 1944	5439	73	4	71	75	13.789	0.735	13.054
" 1945 " 1945	5178	46	2	44	46	8.883	0.386	8.497
" 1946 " 1946	5255	63	1	62	63	11.989	0.19	11.798
" 1947 " 1947	5316	74	...	74	74	13.920	...	13.920
" 1948 " 1948	5399	07	3	64	67	12.409	0.555	11.854
" 1949 " 1949	5659	65	1	64	65	11.481	0.176	11.308
" 1950 " 1950	5892	62	2	62	64	10.862	0.339	10.524
" 1951 " 1951	5928	49	2	50	52	8.772	0.337	8.335
" 1952 " 1952	6820	61	1	60	61	8.944	0.147	8.797

* Mount Lyell disaster.

APPENDIX IV.

REPORT OF THE CHIEF INSPECTOR OF EXPLOSIVES.

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

EXPLOSIVES ACT, 1916.

The following quantities of explosives were imported through the ports of Hobart, Launceston, Devonport, Burnie, Regatta Point and Currie:—

	lbs.
Monobel	31,500
Gelignite	2,360,650
Gelatine Dynamite	4,400
Ligdyn	5,600
Ajax	89,800
Blasting Powder	1,000
Detonating Fuse:	Feet.
Cordtex	396,000
	No.
Detonators	842,966

Detonators were of the ordinary, delay and electric types.

All nitro-compounds were of "Polar" manufacture to provide a higher resistance to hardening under the low order of temperatures prevalent in Tasmania. Precautions were taken to ensure that all compounds were in good chemical and physical condition at the date of importation and there was no record of defective explosives at points of consumption.

There was one recorded explosive accident. In this case an employee at a quarry sustained serious injuries as the result of an explosion of several detonators when he was preparing a number of priming fuses. No fault could be traced in available detonators and there was no factual evidence to indicate the cause of the explosion.

INFLAMMABLE LIQUIDS ACT, 1929.

There was added activity and progress in the distribution and means of distribution of inflammable liquids and in the building of major terminals and country depots for storage purposes. The terminal at Bell Bay was completed sufficiently for the reception and bulk storage of liquids discharged from tanker-vessels at Bell Bay. Further progress was made with the building of a second terminal at Devonport.

The installation of electric petrol service pumps, necessary re-modelling of service stations and the building of new stations and other premises were significant developments in the storage and retailing of petrols throughout the State.

In one instance there was a spillage of petrol from the storage tank positioned over the engine of a tractor and a fire occurred but no person was injured. With the exception of that incident there were no untoward happenings in the storage and handling of inflammable liquids.

APPENDIX V.

REPORTS OF INSPECTORS OF MINES AND EXPLOSIVES.

Inspector K. A. Rae, Queenstown, reports:—

Employment.

The average number of persons employed in mining and metallurgical operations was 1,661, as compared with 1,577 for the previous year. The Mount Lyell Mining and Railway Company Limited employed 1,591 persons.

Accidents

Thirteen accidents, resulting in fatal injuries to one person and non-fatal injuries to twelve persons, were registered under the provisions of the Mines and Works Regulation Act. All accidents were allied with surface operations. In four cases the injuries were the result of misadventure. Inexperience was the cause of one accident. Carelessness resulted in eight persons being injured.

The fatal accident occurred at an opencut. A contract miner commenced work under a face before the leader of the party had examined it after firing "bulling" charges. A large rock fell and struck the miner while he was shovelling debris at the toe of the face.

The non-fatal accidents resulted in five persons sustaining injured fingers, in injured feet in five instances, in a fractured arm in one case and in strained muscles of the back in one instance. The periods of incapacity ranged from 14 to 43 ordinary working days.

Safety.

Inspection services continued to be related to the production and maintenance of safe conditions, on the surface and underground, in all details of mining and metallurgical operations.

Ventilation.

The ventilation of underground workings and surface installations received customary attention. Ventilation observations and konimeter surveys resulted in the establishment of proper conditions at a foundry and exposed the existence of inferior conditions in portions of an established mine.

Health and Sanitation.

Supervision was maintained in matters affecting the health of employees. At one mine, the main change-house and crib-place had been declared inadequate and new amenities are being provided. Otherwise the conditions were of a reasonable standard.

Explosives.

There were no recorded accidents from the use of explosives and no complaints were received with regard to the quantity of the compounds, detonators and fuse in use. No defective explosives were found.

Machinery.

Maintenance and protection of machinery and appliances were kept under surveillance. In several instances directions were given to improve protective devices on machines. Generally, conditions were satisfactory.

Inflammable Liquids Act.

Storage premises were examined and a general improvement was made at several service stations where manual pumps were replaced by electric pumps. No accidents occurred from fire or explosion.

Explosive Act.

Supervision was maintained of the landing of explosives at Regatta Point and of storage at points of destination. Quantities of 969,650 lbs. of Polar A.N. Gelignite and 126,000 feet of Plastic Detonating Fuse were landed and railed to Queenstown.

The quality and burning rate of safety fuse were satisfactory.

The Workers' (Occupational Diseases) Relief Fund Act.

Medical certificates were received and registered in respect of 429 new employees. The health standard of the majority was satisfactory. A few were noted as showing definite markings on lungs but were accepted. Four applicants were rejected.

Biennial examination of 810 employees of the Mount Lyell Mining and Railway Company resulted in 49 persons being certified as affected by silicosis or tuberculosis. Forty of these were re-examined by the Medical Referee Doctor, who certified 31 of them as not affected. Of the remaining 18 affected persons, six have been listed in former reports. The 12 newly affected persons were mainly old employees of the Company who have not been examined for many years.

PRODUCTION AND DEVELOPMENT.

Antimony.

A parcel of 8.85 tons of ore, containing 3.45 tons of lead, 1.68 tons of antimony and 22.05 oz. of silver, was sold by a party which had been testing a complex ore deposit in the vicinity of Carbine Hill, North Dundas.

Copper.

The Mount Lyell Mining and Railway Company Limited.—The output from all operations was 1,454,928 tons of ore mined and 111 tons of copper precipitate recovered from mine drainage water, representing a decrease of 62,538 tons of ore and an increase of 16 tons of copper precipitate as compared with the previous year.

Surface mining at the West Lyell group of mines resulted in 1,415,932 tons of ore, representing a decrease of 56,827 tons as compared with last year. Additional to this, 17 tons of copper precipitate were recovered from drainage waters.

Selective mining and the formation of overburden batter limits resulted in the removal of 1,255,081 tons of waste rock. The combined quantity of ore and waste rock was 2,671,013 tons, representing an increase of 108,414 tons and a record figure for this opencut workings.

Production of ore from underground workings again declined by 5,711 tons owing to the lack of skilled labour.

The following tabulation sets forth the sources of production of ore and copper precipitates:—

	Ore Mined Tons	Copper Precipitate Tons
West Lyell Open-cut Mines	1,415,932	17
The Royal Tharsis underground Mine	38,996	....
The North Lyell Mine	....	79
The Lyell Comstock Mine	....	15
Totals	1,453,928	111

Major items of new equipment installed at the West Lyell mines were a Le Tourneau rubber tyred bulldozer, two churn drills and two Euclid heavy duty transport trucks.

At the Reduction Works, the concentration mill operated for 345 days and treated 1,454,494 tons of ore for a recovery of 30,658 tons of copper-bearing concentrate and 57,541 tons of iron-pyrite concentrate.

The smelters operated for 293.66 days and treated 40,777 tons of copper-bearing concentrate and 110 tons of copper precipitate for an output of 9,631 tons of blister copper, which, after treatment in an electrolytic refinery, yielded 9,555 tons of cathode copper, 30,188 oz. silver and 5,666 oz. gold.

In addition to the foregoing mining operations 4,400 tons of limestone and 9,249 tons of silica were quarried and delivered to the Reduction Works for fluxing purposes.

Gold.

In addition to production by the Mount Lyell Mining and Railway Company, 2.17 oz. of alluvial gold was recovered by miners in the Jane River area making a total of 5,688.17 oz. for this district.

Silver-Lead-Zinc.

Production of ore employed 23 men continuously and 3 on part-time and resulted in 490,834 tons of concentrate and hand-picked ore being sold. This product contained 226,856 tons of lead; 29,722.438 oz. silver and 54,658 tons of zinc.

In addition a quantity of ore was mined and stockpiled at the Oceana and Montana mines.

The Zeehan Mines Pty. Ltd.—At the Oceana Mine, development work on No. 1 level produced approximately 374 tons of milling grade ore which has been stockpiled. During the first five months of the year approximately 400 feet of driving and the completion of a small three compartment ventilation shaft comprised the main development work underground. Since then, work has been mainly confined to surface operations and pumping. An average of 37 men was employed.

The Montana Silver-Lead Mine.—Ore production of 2,643 tons yielded 357,695 tons of concentrate and hand-picked ore which was sold and contained 207,029 tons of lead; and 28,408.396 oz. silver. In the latter part of the year, the main productive portion of the mine was closed in order to concentrate on reconstruction of the mill which is being converted to a crushing and flotation unit. An average of 21 men was employed.

W. J. Hodge, East Dundas.—Two men, working spare time, produced 5,971 tons of concentrate, containing 4,364 tons of lead and 416,639 oz. silver, from the treatment of old dump material.

Clark and Jones.—From operations on and adjacent to the Comstock leases, two men produced and sold 105,918 tons of hand-picked ore, containing 11,793 tons of lead; 853,353 oz. silver and 49,789 tons of zinc.

D. Saville, 5-Mile, Zeehan.—This man sold a parcel of ore of 4.5 tons containing 0.22 ton lead; 22 oz. silver and 1.44 tons of zinc.

W. F. Thomas, Zeehan.—Working in spare time this man produced and 7.9 tons of ore, containing 3,429 tons of zinc.

Tin.

Eight men were continuously employed and three were partially employed in the production of 6,212 tons of tin concentrate which was sold and contained 3,518 tons of metallic tin.

Razor Back Tin Mine, Dundas.—Four men, working lode tin, produced 353 tons of ore which yielded 4,043 tons of concentrate containing 2,273 tons of metallic tin.

E. Coleman, South Heemskirk.—From lode deposits, one man obtained 1,243 tons of concentrate, containing 0.637 ton of metallic tin.

H. G. Watson, Eureka Creek, North Heemskirk.—From alluvial deposits, this man produced 0.284 ton of concentrate, containing 0.185 ton of metallic tin.

C. A. Anderson, Old Federation Mine, South Heemskirk.—In occasional work, this man produced 0.148 ton of concentrate, containing 0.082 ton of metallic tin.

T. Dunn, North Heemskirk.—A party of two men commenced operations, in May and had produced 0.237 ton of concentrate, containing 0.163 ton of metallic tin, by the end of the year, on alluvial ground.

C. Cook, North Heemskirk.—From occasional sluicing, two men recovered 0.197 ton of concentrate, containing 0.140 ton of metallic tin.

H. Stokes, Zeehan.—From intermittent operations this man produced 0.059 ton of concentrate containing 0.040 ton metallic tin.

Inspector L. F. Egan, Upper Burnie, reports:—

Employment.

The average number of men employed in the industry was 959 as compared with 782 for the previous year. This represents an increase of 177 persons.

MINES AND WORKS REGULATION ACT.

Accidents.

Three accidents causing non-fatal injuries to a like number of persons, were registered under the provisions of the Mines and Works Regulation Act.

All three accidents happened in underground workings at West Coast mines. The most serious accident occurred when a miner, building up an ore pass from the inside, grasped a loose piece of timber and struck himself on the forehead. He lost his balance and fell 80 feet on to ore in the bottom of the pass. The fall resulted in severe shock and bruises.

A bruised back and ankle were sustained by a miner when he lost his grip on a rope and slipped 15 feet down the footwall of a rise.

In the third instance a miner was boring a large boulder, in a rill stope, when the boulder shifted and rolled on to his left leg causing a fracture of the ankle.

Safety.

Inspection services followed the pattern of previous years, the routine safety requirements covering blasting practices, both in open cuts and underground; maintaining safe working batters on open-cut faces and rill stopes underground; insistence on the use of lifelines, with special attention to their state of repair; and the maintenance of sound scat-free walls and "backs" underground and on faces in open-cuts. The use of bulk timber, close filling, set timber or the removal of distressed ground by blasting were measures commonly resorted to in dealing with unsafe ground.

Health and Sanitation.

The use of compressed air-water jets was a trial measure introduced underground at one West Coast mine in an effort to allay dust more effectively after firing. Considerable improvement was noted when it was used immediately after firing and at frequent intervals during the shift. Such measures, however, are inadequate unless there is adequate fan ventilation.

A further aid to rise and slot ventilation has been the provision of a diamond drill hole connecting the face of the rise or slot with the level above. This hole is connected with the compressed air supply and a continuous supply of fresh air is maintained at the face.

Crib rooms and change houses were inspected regularly to ensure clean and warm conditions. In one instance, an extra underground crib place was constructed to meet expanding activities.

At all mines, satisfactory latrine arrangements and disinfectants were standard requirements. Reasonable conditions were maintained throughout the inspectorate.

First Aid equipment was maintained at a high level of efficiency at all mines and competent First Aiders were appointed in all cases for the purpose.

In addition, at one large mine "Rescue Boxes" containing an axe, saw, rope and safety belt, &c., are installed on all levels at strategic points throughout the underground workings.

Workers' (Occupational Diseases) Relief Fund Act.

New employees' registers were kept up to date and results of medical examinations recorded.

Two examinations were conducted, in one instance a further deterioration being noted and the applicant receiving additional compensation. In the other instance, the applicant was refused a Certificate of Partial Incapacity by the Certifying Medical Officer, an opinion which was shared by the Medical Referee to whom the case was submitted.

Explosives Act, 1915.

Controls relating to the landing, conveyance, and storage of 215,450 lbs. of nitro-glycerine compounds and 20 cases of Cordtex detonating fuses were enforced. In all, 5 shipments were involved.

New industrial firms from overseas, intending to use explosives, were advised regarding storage requirements of the Explosives Act.

The usual inspections of magazines were carried out.

Inflammable Liquids Act, 1929.

Administration of the Inflammable Liquids Act, 1929, was continued on similar lines to previous years. Increased activity resulted from the change to one brand service stations, or independent resellers, and the setting-up of many new businesses.

An important innovation was the introduction of electric petrol pumps throughout the inspectorate.

Importation of petrols and oils continued on an increased scale, and supervision was exercised over the discharge of 13 oil tank ships. There was an increase of over a million gallons in the total gallonage (6,908,814), of all products discharged.

MINING OPERATIONS AND PRODUCTION.

Cadmium.

West Coast mines, Hercules and Rosebery controlled by the Electrolytic Zinc Company of Australasia Limited, were the only producers of Cadmium in the State, the total output being 41.88 tons.

Copper.

In the mining of the zinc-lead ore bodies at Rosebery and Hercules Mines, the Electrolytic Zinc Company of Australasia Limited recovered 4,317 tons of copper concentrates containing 314.8 tons of copper. This represented an increase of 601 tons of copper concentrates containing 26.21 tons of copper, over the previous year.

Gold.

The total output of gold for the division was 10,035.47 fine oz. and this occurred as an important constituent of the zinc, lead and copper concentrates produced from the Hercules and Rosebery mines of the Electrolytic Zinc Company of Australasia Limited.

Limonite.

Production of limonite amounting to 519.75 tons was again confined to the Iron Cliff deposit at Penguin.

Red Ochre.

There was very little demand for this material, the total production being 23.5 tons from the Spalford deposit.

Scheelite.

The production of 969.59 tons of scheelite concentrate was 50.5 tons less than for the previous year. Production was the result of King Island Scheelite (1947) Limited, King Island, quarrying and milling 174,563 tons of ore. In addition, 380,000 tons of overburden was removed. A third ball mill, twenty concentrating tables and auxiliary equipment were installed to increase the milling capacity to 5,000 tons of ore weekly. Additional quarrying equipment in the form of an excavator, tractor, waggon drills and compressor were procured to augment the quarrying of ore.

Miscellaneous, Interview River.—A small mining group was engaged in the prospecting of a wolfram-scheelite series at Interview River. Much preliminary work was necessary to provide easy access to the area and prospecting has been attended with promising results.

Miscellaneous, King Island.—There was some irregular prospecting for scheelite in southern and central parts of King Island but no major development occurred exterior to the area occupied by King Island Scheelite (1947) Limited.

Silver-Lead.

The Farrell Mining Company Limited was the sole producer of straight silver-lead ores. Ore mined and milled was 6,805 tons and 1,671 tons of concentrates were produced, containing 1,113 tons of lead and 135,637 oz. of silver. Developmental work, comprising 500 feet of driving and cross-cutting, was carried out mainly in the southern section of the workings where lode exposures have substantially enhanced the productive life of the mine. The water level in the old mine was lowered and maintained at a lower level, by pumping to eliminate any hazard of a seepage through to the present productive workings.

Tin.

There was a total production of 126,632 tons of concentrate, containing 84,944 tons of metallic tin. Production was mainly from operations by Renison Associated Tin Mines and by tributaries at the Mount Bischoff Tin Mine.

Renison Associated Tin Mines.—A quantity of 10,079 tons of sulphide ore was mined and milled for a recovery of 82.23 tons of tin oxide, containing 55,407 tons of metallic tin.

The "Central Cut, Heatherington's Workings" was sampled and a series of six diamond drill holes were bored to test values. Results were sufficient to merit the construction of a transport road from the workings to the existing tram.

Mount Bischoff Tin Mine.—Tribute parties continued with operations on lode remnants, mill tailings and ore spillages on old tramways. The major tribute party commenced mining operations on the sulphide ores of the Greisen Lode.

The aggregate production by tribute parties amounted to 38,632 tons of concentrate, containing 26,264 tons of metallic tin. Operations afforded employment for 24 men and substantially contributed to the stability of Waratah.

Miscellaneous.—Miscellaneous operations by two parties in the Renison Bell area accounted for an output of 1,676 tons of tin oxide, containing 1,037 tons of metallic tin.

Small-scale operations at Balfour and Hampshire resulted in an output of 0.177 ton of concentrate, containing 0.07 ton of metallic tin.

Lead-Zinc-Copper.

The Electrolytic Zinc Company of Australasia Limited pursued a vigorous policy of exploration and development, at the Hercules and Rosebery mines, in the mining and milling of complex zinc-lead ore bodies.

Crude ore mined and milled totalled 163,084 tons while an additional 56 tons of zinc ore was derived from the Comstock mine at Zeehan. Selective milling resulted in a recovery of 46,538 tons of zinc concentrates, 9,087 tons of lead concentrates and 4,317 tons of copper concentrates. Recoverable metallics were fixed at 21,861 tons of zinc, 7,084 tons of lead, 314.8 tons of copper, 41.88 tons of cadmium, 10,035.47 oz. of gold and 902,296.25 oz. of silver.

Developmental work included the excavation of No. 12 level loading station, timbering thereof and the formation of a complementary ore pocket. The main pumping station at No. 11 level was completed and placed in service. The milling rate for the year was 19.48 tons per hour.

Regional exploration was continued in the Stitt, Sterling Valley, Waratah and Pieman areas.

Inspector R. J. Muir, Launceston, reports:—

Employment.

The average number of men employed in mining and allied industries, other than coal mining, was 1458, as compared with 1053 for the previous year. The increase was due to a more ready availability of labour and a demand for more labour in connection with the aluminium production project being established at Bell Bay.

Accidents.

There were no fatalities. Twelve accidents were registered under the provisions of the Mines and Works Regulation Act. Five accidents occurred in underground workings and seven were associated with surface operations. One accident was due to a fall of rock in underground workings and an employee lost the sight of an eye when struck by a blast of freshly manufactured cement. The other accidents were of a miscellaneous nature.

Safety.

Inspection services were primarily related to the production and maintenance of safe working conditions in both surface and underground workings. Lighting conditions, ladderways, use of and storage of explosives, shaft equipment, batters on open-cut faces, and other details of mining practice were regularly examined in the interests of safety.

At one large alluvial mine, due to the floods which occurred during the latter part of the winter, the main workings were flooded but ample warning was given and the men were able to vacate the mine in comfortable time.

Health and Sanitation.

Supervision of matters affecting the health of employees was maintained. Change-houses and bathing accommodation, crib places and latrines were reasonably well maintained. At one of the larger mines it was considered that the ventilation could be improved and representations to the management had the desired effect.

The Workers' (Occupational Diseases) Relief Fund Board was assisted in carrying out the examination of mining employees. The introduction of compulsory biennial examinations increased the amount of time it was necessary to devote to giving this assistance.

Explosives.

Launceston continued as a port for the importation of explosives and personal supervision of the unloading was carried out, the explosives being found in good condition on arrival. No reports were received of faulty explosives nor were any accidents concerning the use of explosives reported. All nitro-compounds, detonators and safety fuse inspected were found to be in good order and condition.

Machinery.

Maintenance and protection of machinery and similar appliances were regularly supervised and in co-operation with the Inspector of Machinery a reasonably good standard was maintained. At one of the larger mines there was a failure of a winding-rope due to internal corrosion. Enquiries are being made for a more suitable type of lubricant and it is intended to reduce the service life of these ropes in future.

Inflammable Liquids.

An observance of the provisions of the Inflammable Liquids Act was required particularly in reference to the licensing and installation of petrol pumps and storage compounds. A new tanker ship unloading terminal came into operation at Bell Bay and this entailed additional duty in the supervision of the unloading of these ships.

There was a reasonable compliance with the regulations. One fire was brought under notice. A tractor was being serviced with petrol, the petrol tank being situated over the engine. The tank was allowed to overflow and when the engine was started the spilt petrol ignited. The fire was extinguished without any injuries being caused to any person.

Aid to Mining.

Reports were compiled in connection with applications for financial assistance under the Aid to Mining Act. As opportunity permitted, assistance, in the form of advice, was given to the smaller operators.

MINING OPERATIONS AND PRODUCTION.

Tin.

The market price of tin did not vary greatly for the year and the production of 680-718 tons of metallic tin was only a slight improvement on the previous year, the Aberfoyle Mine being again responsible for slightly more than half of this production.

Miscellaneous, Moorina.—Conducting sluicing operations near the Weld and Frome Rivers on alluvial ground, 5 men produced 4-109 tons of tin concentrates, containing 2-538 tons of metallic tin.

Weldborough Tin Mines, Weldborough.—Productive operations were confined to sluicing an area of combined granitic formation and alluvial material near Main Creek. Seven men were employed and accounted for the treatment of 29,124 cubic yards of material, for a recovery of 3-473 tons of tin concentrate, containing 2-419 tons of metallic tin.

Miscellaneous, Weldborough.—A combined production of 2-851 tons of tin concentrates, containing 1-908 tons of metallic tin, was the result of operations by seven men working alluvial mines.

Cambria Mine, Weldborough.—Using a hydraulically driven stamp battery, two men crushed granitic stone picked from the old dumps and recovered 0-961 ton of tin concentrate, containing 0-696 ton of metallic tin.

Miscellaneous, Lottah and Blue Tier.—Two new parties carried out some mining at the Blue Tier towards the end of the year but the results were apparently not satisfactory. The combined production was 0-646 ton of tin concentrate, containing 0-441 ton of metallic tin.

Miscellaneous, Goshen and Goulds Country.—Individual endeavours were continued by four men to extract tin concentrates from the bed of the Groome River, but the quantity of stones to be handled presented a serious obstacle. However, 0-386 ton of tin concentrate, containing 0-211 tons of metallic tin was produced.

Goshen Tin Mines, St. Helens.—Operations were continuous but as only 11 men were employed it was necessary to interrupt productive operations at times to carry out essential repairs to races and other miscellaneous activities. A production of 4-611 tons of tin concentrates, containing 3-158 tons of metallic tin, resulted from the treatment of 36,700 cubic yard of ground at the Georges Bay and Argonaut faces.

Bell Creek Mine, St. Helens.—When water was available sluicing was carried on at a new location over the bridge from the Main Workings in the Scamander River watershed, and a production of 1-962 tons of tin concentrate, containing 1-430 tons of metallic tin, was obtained from the treatment of 7,000 cubic yards of alluvial ground.

Miscellaneous, St. Helens.—An average of four men was engaged in miscellaneous operations and accounted for a combined production of 1-948 tons of tin concentrate, containing 1-205 tons of metallic tin.

Aberfoyle Mine, Rossarden.—The progressive company operating this mine had no difficulty in maintaining their position as the largest tin and wolfram producer in the division. The employment of an average of 184 men was necessary to carry out the mining and treatment programme. A production of 550-044 tons of tin concentrate, containing 383-469 tons of metallic tin, and 337-652 tons of wolfram concentrates resulted from the mining and milling of 40,332 tons of ore.

Development work, including shaft sinking, was carried on at a rate sufficient to cause no lowering of ore reserves as the result of ore extraction.

Storey's Creek Mine, Storey's Creek.—Operations of this mine are reviewed under "Wolfram".

Miscellaneous, Gipps Creek and Avoca.—An average of four men found employment on the alluvial deposits on the southern slopes of Ben Lomond and the small lode mines at Gipp's Creek. The production was 1-076 tons of tin concentrate, containing 0-763 ton of metallic tin.

Miscellaneous, Scottsdale.—Production by the four men working in this area was 0-717 ton of tin concentrate, containing 0-426 ton of metallic tin.

Arba Mine, Branxholm.—Six men were employed in the Grouper Workings. Including old tailings which have been deposited over the alluvial tin-bearing wash, 42,000 cubic yards of ground were sluiced for a recovery of 7-164 tons of tin concentrate, containing 5-374 tons of metallic tin.

Miscellaneous, Ringarooma.—Five men were engaged in mining and prospecting but their production was limited to 0-636 ton of tin concentrate, containing 0-426 ton of metallic tin.

Ruby Flat, Branxholm.—Walsh and Company worked this mine with two men. The site of operations was shifted around the hillside to the old Gordon workings. The transfer involved a considerable amount of preparatory work, but production was reasonably well maintained and amounted to 3-308 tons of tin concentrate, containing 2-386 tons of metallic tin, from the treatment of 13,300 cubic yards of ground.

Ormuz Mine, Branxholm.—Edwards Brothers employed eight men and sluiced 85,432 cubic yards of ground, inclusive of some basaltic overburden, for a recovery of 8,607 tons of tin concentrate, containing 5,842 tons of metallic tin.

Miscellaneous, Branxholm.—Operating at Ruby Flat and near Black Creek, an average of seven men found employment at the small mines and produced 7,358 tons of tin concentrate, containing 5,272 tons of metallic tin.

Briseis Mine, Derby.—A channel was constructed to divert the Cascade River back to its original course, prior to 1929, in order to work the present river bed. This was completed and mining operations were proceeding satisfactorily until floods occurred late in the winter and inundated the workings. Productive operations were hampered but were resumed at the close of the year. In all, 481,748 cubic yards of ground were sluiced for a recovery of 53,703 tons of tin concentrates, containing 38,795 tons of metallic tin. An average of 42 men was employed.

Miscellaneous, Derby.—The greater portion of the production of the small operators was derived from the bed of the Ringarooma River. The combined output of the nine men was 5,265 tons of tin concentrate, containing 3,419 tons of metallic tin.

Miscellaneous, Winnaleah and Herrick.—An aggregate output of 3,104 tons of tin concentrate, containing 2,302 tons of metallic tin, resulted from the sluicing of shallow ground by four men.

Banca Mine, Winnaleah.—Two men operated in a small way and sluiced 5,860 cubic yards of ground for a recovery of 1,623 tons of tin oxide, containing 1,182 tons of metallic tin.

Walsh and Hookway, Bradshaws Creek.—Operations were hampered by bouldery wash in the bed of the Wynifred River, but the party recovered 0,850 ton of concentrate, containing 0,615 ton of metallic tin.

Miscellaneous, Bradshaws Creek and South Mount Cameron.—Miscellaneous parties, aggregating nine men, were engaged in sluicing operations in this area and produced 9,883 tons of tin oxide, containing 7,179 tons of metallic tin.

Dorset Dredge, South Mount Cameron.—Electric power restrictions again prevented this dredge from working at full capacity but, whilst operating, it handled 354 cubic yards per hour of material from the Dorset Flats. An average of 52 men was employed and 1,446,000 cubic yards of ground were dredged for a recovery of 136,030 tons of tin concentrates, containing 102,204 tons of metallic tin and alluvial gold containing 338,848 fine ounces.

Endurance Mine, South Mount Cameron.—A production of 90,674 tons of tin concentrate, containing 66,909 tons of metallic tin, was obtained from the treatment of 235,900 cubic yards of ground sluiced at the Clifton area. In order to carry out this work it was necessary to shift the gravel-pump barge to a new site, seven chains west, where it was connected to a new sluice box.

Mount Cameron Water Race, Gladstone.—This race is a major feature of the tin production of the Gladstone area, and most of the water was sold on a fixed scale basis. One miner obtained water under the royalty scale and from the sluicing of 1,500 cubic yards of ground obtained 0,246 ton of tin concentrate, containing 0,178 ton of metallic tin.

Star Hill Syndicate, Gladstone.—Purchasing water from the Mount Cameron Water Race and then using electrically operated pumping equipment, water was conveyed to the working face for sluicing purposes. A total of 91,000 cubic yards of ground was sluiced for a recovery of 17,789 tons of tin concentrate, containing 12,789 tons of metallic tin. Operations were suspended on the face near the old McGregor Mine. Plant and equipment were transferred to a new site on Lark Creek about 2 miles from the main workings.

Amber Hill Mine, Gladstone.—With the use of water from the Mount Cameron Water Race productive mining was pursued but recoveries were below expectations and operations were ceased, the plant and equipment being removed. The party of four men sluiced 30,500 cubic yards of alluvial ground to obtain 5,387 tons of tin concentrate, containing 3,774 tons of metallic tin.

Miscellaneous, Gladstone.—There was some increased interest by the small producers and two diesel powered pumping units were brought into operation. Eighteen men found employment in miscellaneous sluicing of alluvial ground and recovered 20,8 tons of tin concentrate, containing 13,719 tons of metallic tin.

Strait Islands.—A small production of 1,688 tons of tin concentrate, containing 1,093 tons of metallic tin, resulted from small-scale operations on alluvial ground on Flinders and Cape Barren Islands.

Miscellaneous, Moina.—Tin and tin-wolfram concentrates were produced in small lots, the total tin concentrate portion amounting to 0,262 ton, containing 0,171 ton of metallic tin.

Wolfram.

Due to the favourable market for tungsten, production was maintained and some interest was taken by prospectors in the search for new finds and in checking old known occurrences. Production for the division was 462,815 tons of wolfram concentrate. The Aberfoyle Tin No Liability Company was again the largest producer.

Aberfoyle Mine, Rossarden.—Reviewed under "Tin".

Storey's Creek Mine, Storey's Creek.—Developmental work was continued and showed that the lodes maintained their width and grade. Work on the new vertical shaft, which has been contemplated for a considerable time, was commenced, and some of the crusscuts, from the various levels, have been completed. From mining operations, 8,130 tons of ore were forwarded to the treatment plant and 14,500 tons of tin concentrate, containing 9,492 tons of metallic tin and 121,050 tons of wolfram concentrate, were recovered. An average of 63 men was employed.

Miscellaneous, St. Helens and Scamander.—There was some prospecting activity for wolfram in this district. One party of two men reached the producing stage and recovered 0,879 ton of wolfram concentrate.

Miscellaneous, Gipps Creek and Avoca.—An outcrop of wolfram was discovered about two miles from the Avoca township. There was a production of 1,743 ton of wolfram concentrates from operations by four men at Gipps Creek.

Miscellaneous, Alberton.—An outcrop of wolfram was discovered near Bells Hill, but, owing to difficulty of access, developmental work was elementary and only 0,051 ton of wolfram concentrate was produced.

Miscellaneous, Moina.—Three small mines operated at Moina. Parcels of mixed concentrates were sold and, after separation, returned 1,407 tons of wolfram concentrate.

Gold.

There was little interest in gold mining, most of the 369,829 fine ounces, produced in the inspectorate, being a secondary product in alluvial tin-mining operations.

Dorset Dredge, South Mount Cameron.—Reviewed under "Tin".

Miscellaneous.—A small quantity of gold was won from each of the Mathinna, Gladstone, Lisle, Beaconsfield and Lefroy fields, the combined output being 30,981 fine ounces.

Limestone.

Other than for the manufacture of cement, 18,136 tons of limestone were quarried and either burnt or pulverised for building or agricultural purposes.

Melrose Agricultural Lime Quarries, Eugenana.—An average of 15 men was employed in quarrying and pulverising 7,767 tons of limestone for agricultural purposes.

Railton Lime Works, Railton.—A production of 2,122 tons of limestone was quarried and used in the manufacture of burnt lime and for reduction to pulverised limestone.

Beaconsfield Lime Products, Flowery Gully.—A total of 7,477 tons of limestone was quarried from Dally's and Smith's quarries and was used for the production of burnt lime and pulverised limestone.

Beams Bros., Flowery Gully.—Two men were engaged in burning lime for building purposes. A quantity of 1,030 tons of limestone was quarried and carted to the kiln for burning.

Cement.

Goliath Portland Cement Company, Railton.—Production of Cement and Tasbestos Sheets, in various shapes, was well maintained. A total of 130,013 tons of limestone and 3,563 tons of iron ore was quarried locally for use in the manufacture of those products.

Clay.

Most of the clay produced was used in connection with the manufacture of paper at Burnie. Two separate deposits were worked for that purpose, one being the Endurance Mine, South Mount Cameron, and from which 2,874 tons of clay were mined. The second deposit, at St. Helens, was worked for a production of 3,271 tons.

At L. W. Smith's Brickworks, Dulverton, 2,272 tons of clay were used in the manufacture of bricks and earthenware pipes.

Inspector D. Besford, Hobart, reports:—*Employment.*

The average number of persons employed in mines, quarries and works was 2,657, as compared with 2,480 persons for the previous year.

Accidents.

Thirty-three accidents, resulting in non-fatal injuries to a like number of persons, were registered under the provisions of the Mines and Works Regulation Act. Five accidents occurred in underground workings and 28 were allied with surface operations.

The most serious accident occurred in a quarry. An experienced faceman was working on a high bench when loose material fell away from above him, forced him off the bench and caused him to fall about 30 feet. Owing to the width of the bench it was not considered necessary to use a safety-line. He sustained multiple injuries but made a complete recovery.

Safety.

Constant care was directed to the production and maintenance of safe working conditions.

Working places were regularly tested for the presence of inflammable and noxious gas. Wet and dry bulb temperatures were recorded. No gas was found and temperatures were within the prescribed limits.

Underground electrical equipment was regularly examined to ensure its safe operation. The use of faulty equipment was disallowed.

Ventilation.

Regular ventilation tests were made at all coal mines to ascertain if the provisions of the Act were being fulfilled. At one mine, the installation of a main ventilating fan was considered necessary in order to provide a better circulation into the advanced workings.

Health and Sanitation.

Matters affecting health and sanitation have been given due attention, and improvements were effected as considered necessary.

Explosives.

Due attention has been given to the proper storage and handling of explosives. Storage facilities have been inspected. No exudation of nitro-glycerine was observed or reported.

One accident occurred in connection with the handling of explosives. In this case, a workman received very severe injuries as the result of an explosion of several detonators when he was preparing a number of fuses. The workman was employed as "Powder Monkey" at a quarry and was working by himself when the accident occurred. No fault could be detected in the remaining detonators, inside the magazine, and there was no evidence which would indicate the cause of the explosion.

Inflammable Liquids.

Installations were inspected and were generally found to comply with the provisions of the Act. No untoward incident was observed or reported.

Machinery.

Machinery was regularly inspected and was generally found to be in safe condition. Some electrical equipment was found faulty but the faulty equipment was speedily repaired.

Operations and Production.

The output of coal was 247,899 tons, valued at £341,561 at the mine bins. An average of 347 persons was employed at the mines.

The output was again a record and represented an increase of 11,011 tons. Production exceeded the normal demands and orders were curtailed during the latter part of the year, otherwise production would have been higher.

FINGAL-MOUNT NICHOLAS-DALMAYNE COALFIELD.*Cornwall Colliery.*

Pillar extraction was discontinued in the early part of the year. The record output of 106,002 tons was produced from working places in the solid. Mechanised units did not work to full capacity.

Mt. Nicholas Colliery.

This colliery produced 31,170 tons, valued at £32,729, at the mine bins. A new haulage system was introduced in order to reduce the accidental delays from the mine bins to the screens.

Jubilee Colliery.

This colliery produced a record of 25,998 tons, valued at £51,261, at the mine bins, and employed an average of 53 persons. A new weigh-bridge was installed near the mine entrance, preparatory to the introduction of a contract system of payment in an endeavour to obtain an increased production per man-shift.

Dalmayne Colliery.

Production was increased to 3,402 tons, valued at £7,967, at the mine bins. An average of seven persons was employed.

The stone drive was completed and resulted in improved ventilation of the underground workings and also provided a second means of egress, to replace the existing road which had become unfit for travelling.

Fingal Colliery.

Production of 21,867 tons, valued at £34,472 at the mine, resulted from solid places worked on the same pattern as previously.

Duncan Colliery.

Production from solid places continued and the output was increased to 21,729 tons, valued at £22,821, at the mine bins.

AVOCA COALFIELD.*Stanhope Colliery.*

The output from this colliery declined to 6,998 tons, valued at £18,112, at the mine bins. Production was obtained from solid places operating on the same pattern as previously.

The new prospecting tunnel was advanced a considerable distance but the results were not encouraging.

Merrywood Colliery.

Output increased to 21,683 tons, valued at £37,429, at the mine. Production from underground operations was 13,332 tons and 8,351 tons resulted from opencut mining.

A new ventilating fan was installed to provide a constant flow of air into the advanced headings.

Crushing and handling plant was installed at the Avoca railway siding to provide a suitable product for consumers.

UPPER DERWENT COALFIELD.*Langloh Colliery.*

Output from this colliery declined to 6,733 tons, valued at £18,736. Operations continued on the same lines as formerly, using the Arc Wall coal cutting machine and electric drills. An old section was re-opened to replace the productive section near the outcrop where conditions became difficult.

The Carbide Company continued to use this coal for lime burning and the Hobart Gas Company also used a small quantity.

SANDFLY COALFIELD.*Sandfly Colliery.*

This colliery increased production to 1,442 tons, valued at £3,223, at the mine. The market for this class of coal became saturated, otherwise production would have been greater.

MERSEY COALFIELD.*Illamatha Colliery.*

Output from this colliery declined to 875 tons, valued at £3,509, at the mine bins, and four men were employed.

Operations continued on the same pattern as formerly and faulting continued to hamper production.

Ore Treatment.

The Electrolytic Zinc Company processed 176,769 tons of calcines at the Risdon Works, and recovered 88,591 tons of Zinc, valued at £6,637,275; 225.45 tons of Cadmium, valued at £471,974; and 16.29 tons of Cobalt Oxide valued at £18,249.

Production was higher than the previous year as a result of an easing in power restrictions.

Superphosphate production exceeded 60,000 tons and was greater than the demand. The excess was stored at the works. Production was curtailed owing to the falling-off in the demand.

Construction of the necessary buildings to house the new Sulphate of Ammonia Plant continued, and some of the new plant was installed. Construction work in connection with the second unit of the Contact Acid Plant progressed favourably. New plant was being installed for the treatment of residues and thereby recover some of the remaining zinc. The extraction of this zinc will automatically reduce the quantity of residues which have to be shipped to the mainland for further treatment.

Carbide and Limestone.

The Australian Commonwealth Carbide Company produced 7,384 tons of Calcium Carbide and employed an average of 144 persons at the works. The reduced output was chiefly caused by a breakdown in the electrical system when a bank of transformers accidentally burnt out.

Constructional work in connection with the new electric furnace continued and this furnace should be brought into production during the coming year.

Limestone quarried at Ida Bay increased to 17,199 tons and an average of 30 persons was employed.

Production of limestone from Granton declined to 1,015 tons.

Granite.

Production of red granite from Coles Bay increased to 93 tons, valued at £1,387, and two men were employed.

Osmiridium.

The output of osmiridium from alluvial mining at Adamsfield, increased to 48.61 oz., valued at £2,431. Shortage of water, due to dry weather, restricted production.

Tin.

The output of tin-oxide from Cox Bight and Coles Bay was 2.164 tons, containing 1.597 tons of metallic tin. An average of three men was employed.

Kaolin.

Kaolin production, from the open-cut at Surges Bay, increased to 2,216 tons, valued at £19,740. Five men were engaged on production.

MOUNT CAMERON WATER RACE BOARD.

The Chairman of the Board (Mr. W. H. Williams) reports:—

The Mount Cameron Water Race Board functioned in supplying water from the race system to alluvial tin mines in the Gladstone district.

Production of tin-oxide, from all activities, was 25.245 tons, as compared with 24.7299 tons for the previous year, representing an increase of 0.5151 ton.

The output of tin-oxide under the fixed scale of payment for water was 24.9236 tons and that under the royalty scale was 0.3214 ton, representing an increase of 3.43075 tons in the former and a decrease of 2.91565 tons in the latter productions.

Revenue was £1,215 11s. 10d. as compared with £1,469 5s. 8d. for last year.

Expenditure was £2,114 12s. 3d. as against £1,917 8s. 4d. for the previous year.

There was a loss of £899 0s. 5d. in the normal working of the race system. The loss included a rising of £200 12s. 5d. in the salary and wages of employees. Revenue from the sale of water on the fixed scale was higher, following the rising in the rate per sluichead-week, but this was off-set by a reduction in the quantity of water supplied and almost complete disappearance of the sale of water in the royalty scale.

All races, syphons, flumes, dams and other units of the system were maintained in a serviceable condition but the hydraulic capacity of the main race had become lowered by growths of aquatic weed. It was planned to clean out the race early in the new year and to examine all sources of possible revenue in order to ease the financial liability of maintaining the race system in operation.

STATEMENT FOR THE YEAR ENDED 31ST DECEMBER, 1952.

Rainfall.

The registered rainfall for the year was as follows:—

Great Mussel Roe 56 inches 49 points.
Little Mussel Roe 56 inches 65 points.

Revenue.

Revenue from the sale of water for mining purposes was £1,215 11s., representing a decrease of £252 13s. 10d. as compared with that of the previous year.

Statistics.

The Statistics for the year are as follows:—

Average number of claims supplied per week 3.4

Greatest number supplied in any one week 6
Total number of heads supplied:—
Fixed or cash sale 1,224
Royalty or credit scale 68

Tin ore raised:—

	tons	cwts.	qrs.	lbs.
Under fixed scale	24	18	1	25
Under royalty scale	—	6	1	20
	25	4	3	17

Average number of men employed per week 8.3

Statement of Receipts and Payments of the Mount Cameron Water Race Suspense Account for the Year Ended 31st December, 1952.

Receipts.		Payments.	
£	s. d.	£	s. d.
Sale of water—		Salary and wages	1,947 19 0
Fixed scale	1,187 14 5	Pay-roll Tax	48 14 1
Royalty scale	27 17 5	Car allowance—Manager	50 0 0
	1,215 11 0	Insurance	32 5 6
Balance—(Excess Payments over Receipts) Loss on Race	899 0 5	Advertising and printing	7 16 9
	£2,114 12 3	Timber and general requisites	15 19 10
		Rubber boots	10 1 1
		Freight and cartage	1 16 0
			£2,114 12 3

