

TASMANIA

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REPORT

OF THE

DIRECTOR OF MINES

FOR

YEAR ENDED 31ST DECEMBER

1951

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



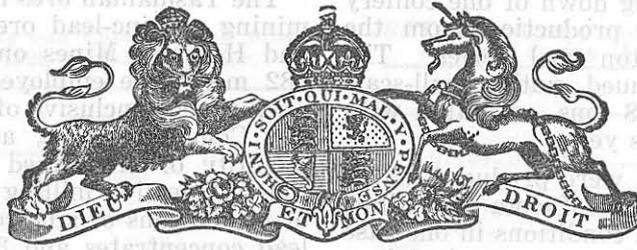
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TASMANIA



REPORT OF THE DIRECTOR OF MINES

Department of Mines,

Hobart, 3rd November, 1952.

I HAVE the honour to present my report on the mining industry for the year ended on the 31st December, 1951.

The total value, based on Australian prices, of the output of minerals and mineral products was £8,846,612 as compared with £5,705,751, representing an increase of £3,140,861. On the basis of Sterling metal prices, the composite gross value of the production was £11,222,287, the marked difference being due mainly to higher average Sterling prices for lead, tin and zinc.

The added value of products was due to rising prices and to increases in the output of coal, copper, scheelite, wolfram and tin. There were lowerings in the production of cadmium, gold, lead, silver and zinc due to power restrictions and not to exhaust points in production capacities.

The number of men employed in mining, quarrying and metallurgical operations was 5,928, as compared with 5,892 for the previous year. The slight increase was a useful contribution to standing requirements for labour but insufficient for planned developmental and productive operations and for programmes related to the investigation and exploration of the mineral resources.

There were minor interruptions in the continuity of operations but coal mining continued to prosper and the output reached a new high-level of 236,888 tons, being 14,537 tons greater than for the previous year. The rising trend in production since 1940, when the output was 83,136 tons, has amply demonstrated the suitability of native coals as fuels for industrial and domestic purposes. No advances were made in the utilization of sub-anthracite coal for metallurgical purposes and, in the absence of known seams of normal low-pressure gas and coking coal, no positive results accrued from experimentation in the coking properties of available coals but samples of selected coals are to be exported for a new series of tests in coking properties.

The Cornwall Coal Company again functioned as the major producer. Operations at the three collieries provided an output of 149,335 tons. Bord and pillar mining, pillar extraction and developmental work resulted in a production of 97,468 tons at the Cornwall Colliery. The electrically motivated continuous "miner" operated successfully and a new battery locomotive was installed to facilitate haulage, but neither unit

was worked to capacity. Mechanised and other coal mining resulted in an output of 35,013 tons at the Mount Nicholas Coal Mine and increased activities at the Duncan Colliery provided an output of 16,854 tons of coal.

The Jubilee Coal Company proceeded with a programme of work designed for increased production. There were innovations in haulage and pumping equipment, improvements were effected in ventilation circuits and plans were formulated for more active coal winning. The recorded output was 25,050 tons as compared with 22,806 tons of coal for the previous year.

At the Dalmaine Coal Mine, operations continued to be confined to the lower section of the seam which provides a coal favoured as a fuel for railway engines. Small-scale mining resulted in an output of 2,796 tons. Definition of areal faulting has been established by diamond drilling and the extent of future production will be governed by economic appreciations in the development of the faulted fields of coal.

The installation of electric drills and innovations in the haulage system enabled a progressive approach to greater production to be maintained at the Fingal Coal Mine. The recorded output was 23,663 tons as compared with 22,252 tons for the previous year.

Roof weighting and a reduction in the number of employees hampered productive operations at the Stanhope Coal Mine and the output declined to 7,251 tons of coal.

There was a progressive improvement in the output of coal at the Merrywood Coal Mine as the result of more active opencast mining of the seam westerly from the underground workings. The total output was 18,026 tons, as compared with 8,208 tons for the previous year.

Troubled seam conditions hampered the regular mining of coal at the Langloh Coal Mine, Hamilton, and the output receded to 7,669 tons. It is significant in the utilization of native coals, that quantities of this coal were used for lime production and other purposes at carbide works under conditions of difficulty in obtaining supplies of coke.

Sub-anthracitic coal continued to be mined at the Sandfly Colliery, for fuel requirements in hop-kiln practices. An output of 1,385 tons resulted from small-scale operations.

As a result of the closing down of one colliery there was a lowering of production from the thin seam of the Spreyton coal series. The Illamatha Colliery continued with small-scale mining and produced 1,018 tons, compared with 1,092 tons for the previous year.

Small quantities of coal were produced at the Silkstone Colliery, Fingal, and Kaoota Coal Mine, Sandfly, but troubled seam conditions in one case and inferior coal in the other case resulted in a suspension of operations.

An output of 7,659.59 tons of copper represented a rising of 418.13 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 continued to function as the major producer of copper and operations were again characterised by a progressive approach to the mining and processing of large volumes of low-grade ore. The output of crude ore, from surface and underground mining, was 1,517,466 tons, and 95 tons of copper precipitate were recovered from mine waters. In addition, 1,089,840 tons of waste material was stripped and dumped.

Selective milling of 1,518,945 tons of crude ore resulted in a recovery of 35,042 tons of copper-pyrite concentrate and 57,223 tons of iron-pyrite concentrate.

An improvement in the effective period of smelting resulted in 31,421 tons of copper-pyrite concentrate and 95 tons of copper precipitate being smelted for a recovery of 7,429 tons of blister copper, containing 7,371 tons of copper, 22,749 oz. of silver and 4,319 oz. of gold.

A quantity of 49,925 tons of iron-pyrite concentrate was exported to the mainland for acid manufacture but cumulative stockpiling of concentrate continued and now represents a substantial reserve of sulphide-sulphur material of significant value for easing the problem of importations of elemental sulphur from sources exterior to the Commonwealth.

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 the Hercules and Rosebery Mines on the West Coast.

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 57,303 tons of zinc, valued at £A3,724,695; 155.1016 tons of cadmium, valued at £A347,427; and 12.9812 tons of cobalt oxide, valued at £A12,250. Zinc concentrates, from Tasmanian ores, actually calcined and processed, returned 19,241 tons of zinc, 36 tons of cadmium, 883 tons of lead, and 86,967 oz. of silver.

The manufacture of sulphuric acid was continued and further progress was made in the project for the future production of sulphate of ammonia.

The Tasmanian ores resulted, mainly, from the mining of zinc-lead ore bodies at the Rosebery and Hercules Mines on the West Coast, where 482 men were employed in mining and milling operations. Inclusive of 50 tons of zinc ore from the Comstock Mine, at Zeehan, the combined quantity of ore mined and milled was 150,606 tons. Selective milling resulted in the recovery of 42,000 tons of zinc concentrates, 8,901 tons of lead concentrates and 3,716 tons of copper concentrates. The recoverable quantity of metallics was fixed at 20,435.09 tons of zinc, 6,789.92 tons of lead, 288.59 tons of copper, 37.8 tons of cadmium, 836,677.96 oz. of silver and 9,559.94 oz. of gold. The zinc concentrates were railed to Risdon for processing and the lead and copper concentrates were exported.

Production was less than for the previous year owing to power restrictions and a lowering in available labour but general planning in mining, milling and amentities was progressed for a rising in future activities.

Regional activities, in the form of geological and geophysical surveys and diamond drilling, again characterised the interest of the Company in mineral exploration but no major discovery was recorded.

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 but there was no major development.

There was a lowering of 875.311 tons in the output of lead as a result of restrictions in productive operations by the Electrolytic Zinc Company of Australasia Limited at the Hercules and Rosebery Mines and not as any consequence of depletion to points of exhaustion of known ore occurrences. The productive potential was greater than the output and developments, at established mines, symbolise increased production with the availability of power and suitable labour and the maturing of milling projects.

Operations by the Electrolytic Zinc Company of Australasia Limited accounted for the greater portion of the total output of 7,850.97 tons of lead and although there was a lowering in production by that Company it was significant that there was an overall increase in the output from operations at smaller mines.

Zeehan Mines Proprietary Limited continued with developmental operations on No. 1 and 2 levels at the Oceana Mine. Lode developments were encouraging but an influx of water at No. 2 level inundated the workings and disrupted the planned programme of development. Additional pumping equipment was installed but the water was not cleared for a resumption of operations at No. 2 level.

At the Montana Silver-Lead Mine, Zeehan, the Company proceeded with a programme of mine development and milling innovations. Ore developments were encouraging and, pending the installation of a flotation plant, jigging units, with complementary reduction units, were installed for coarse recoveries of silver-lead concentrate, the tailings being stacked for subsequent milling under flotation conditions. Ore mined, crushed and jigged was 2,161 tons. The concentrates recovered and exported amounted to 292.35 tons and contained 171.765 tons of lead and 23,314.614 oz. of silver.

The Farell Mining Company mined and milled 6,961 tons of silver-lead ore for a recovery of 1,326 tons of concentrate, containing 863 tons of lead and 99,255 oz. of silver. Developments in the undepleted zone between the old and new workings were of major significance and have added materially to the productive future of the mine.

Export metal prices continued to favour the mining of silver-lead ores and several parties were engaged in small-scale productive operations in the Zeehan and Dundas areas but there were no major developments in connection with these activities.

Metallic tin, in the product from lode and alluvial mining, was 705·834 tons, as compared with 684·948 tons for the previous year. Further risings in tin prices favoured operations and although there were no developments to provide for the opening up of new mines much interest was centred in appreciating production activities at established mines and in the economic potentials of lode and alluvial deposits undepleted in earlier years.

Aberfoyle Tin N.L., operating on a multiple lode series; Renison Associated Tin Mines, mining and milling tin-pyrite ores; Briseis Tin N.L., 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 583·644 tons of metallic tin.

Miscellaneous parties, tributing under the provisions of the Aid to Mining Act, restored the Mount Bischoff Tin Mine to importance in the group of lesser producers. Operations on lode remnants, tramways and tailings resulted in a recovery of 33·886 tons of concentrate containing 22·972 tons of tin.

Goshen Tin Mines N.L., continued with the sluicing of areas of alluvial ground at St. Helens, and underground mining was pursued on the wolfram-tin lodes at the Storey's Creek Mine. The output of concentrate from these operations contained 16·898 tons of metallic tin.

Small mines and miscellaneous parties were mainly engaged in the sluicing of tin-alluvials. Production activities were less but these operations usefully contributed 82·32 tons to the total output of metallic tin.

Aberfoyle Tin N.L. maintained its progressive policy in the development and mining of the multiple tin-wolfram lode series at Rossarden. The output of finished products, from the mining and milling of 37,081 tons of ore, amounted to 475·554 tons of tin concentrate, containing 339·158 tons of metallic tin, and 196·43 tons of wolfram concentrate. Results of exploration of lower ore horizons have merited an early deepening of the main shaft.

Bucket-dredging was continued on the Dorset Flats at South Mount Cameron but power restrictions lowered the throughput to 1,661,000 cubic yards of ground. The lowered throughput was offset by a higher overall grade and the recovery of concentrate increased to 155 tons, containing 116·019 tons of metallic tin and 560·594 oz. of gold.

Operations by the Endurance Tin Mining Company, at South Mount Cameron, were characterised by the mechanically controlled

sluicing of an area of comparatively shallow ground, left by earlier operators, and hydraulic mining of the deep ground comprising the main lead. The throughput of ground was 375,600 cubic yards and 59·771 tons of concentrate, containing 43·21 tons of metallic tin, was recovered.

Briseis Tin N.L. remained in constant operation on marginal ground along the course of the Cascade lead at Derby. The volume of ground sluiced was substantially greater, being 484,736 cubic yards but the overall grade was lower and resulted in a recovery of 54·102 tons of concentrate, containing 39·221 tons of metallic tin.

Renison Associated Tin Mines was normally engaged in the mining and milling of tin-pyrite ores at Renison Bell. Production of ore was mainly related to opencutting but 828 tons accrued from stoping, and developmental work provided 612 tons. The approximate volume of ore mined was 9695 tons and it was recorded that 8844 tons were milled for a recovery of 67·715 tons of concentrate, containing 46·038 tons of metallic tin. Geophysical surveys continued to trace anomalies of sufficient significance to merit a programme of diamond drilling in areas exterior to the actual producing sections, and interpretations have favoured recorded opinions of a tin potential commanding systematic exploration to determine the merits of a more progressive policy in the mining and milling of the tin-pyrite ores of the North Dundas tin-field.

The Mount Cameron Water Race Board again functioned as an authority in supplying water to parties engaged in the sluicing of tin-alluvials in the Gladstone district but there was no improvement in productive 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 N.L. but, with the Cascade Section rented to Briseis Tin N.L. the functions of the Board were restricted to the control and maintenance of the Ringarooma Race. With limitations in revenue from the sale of water from this race it was necessary for the Government to provide finance to meet a heavy deficit in the working of the system.

Progressive risings in the production of tungsten minerals have brought the potential resources of scheelite and wolfram into major significance in the mineral industry of Tasmania. The output of scheelite was 1020 tons and that of wolfram 378·834 tons, both outputs being new-high-levels in production.

The mining of tungsten minerals has been favoured by prices and consumption markets, factors that have incited interest in the capacity of the resources to respond to greater production. A discovery of scheelite in a wolfram series in a remote region of Tasmania proper, movements to rehabilitate operations in an almost abandoned area embracing a multiple lode system, a revival of interest in the mining of wolfram lodes in three

distinct localities, and the studied capacity of established mines to increase production were evidence of greater activity in the mining of tungsten minerals. A positive tungsten potential exists and it is expected that a rising in production will result if favourable prices and consuming markets are sustained.

A forward policy of quarrying and milling was maintained by King Island Scheelite (1947) Limited on King Island. The throughput of ore was 163,367 tons and 1020 tons of finished scheelite concentrate was recovered.

In addition to 475·554 tons of tin concentrate, Aberfoyle Tin N.L. recovered 196·43 tons of wolfram concentrate from the mining and milling of 37,081 tons of ore from the multiple tin-wolfram lode series at Rossarden.

Shortage of labour continued to hamper development and production at the Storey's Creek Mine. Lode developments maintained their productive potential but there was a lowering, to 6843 tons, of the quantity of ore mined and milled and recoveries declined to 93·15 tons of wolfram concentrate and 12·75 tons of tin concentrate, the latter containing 8·41 tons of metallic tin. Advances were made in the provision of housing and amenities to off-set the labour shortage.

Miscellaneous parties were engaged in the production of small parcels of wolfram from lode occurrences at Gipp's Creek and Scamander but there were no major developments in connection with these activities.

Interest was sustained in production possibilities at the Shepherd and Murphy Mine and neighbouring areas at Moina and negotiations were continued with a view to the rehabilitation of productive mining.

A discovery of scheelite in association with the wolfram series at Interview River added interest in the exploration of occurrences of tungsten minerals in this remote region.

Production of gold declined to 14,445·676 oz. mainly as the result of a lowering of the mining of zinc-lead ores containing gold. The output regioned in the order of 4319 oz. from processing copper ores, 9,559·94 oz. from the mining of

zinc-lead ores, and 560·594 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. The recorded output of 33·378 oz. resulted from the working of alluvial ground at Adamsfield.

The Australian Commonwealth Carbide Company, at Electrona and Ida Bay, and the Goliath Portland Cement Company, at Railton, were the major producers and users of limestone in the manufacture of calcium carbide and cement.

The recorded production of limestone was 154,010 tons of which 128,437 tons was used in the manufacture of carbide and cement. Metallurgical, agricultural and building industries absorbed 25,573 tons in crushed, pulverised and lime forms.

Iron ore, to an amount of 2420 tons, was quarried and used in the manufacture of cement.

Limonite was used in gas purification processes. The quantity quarried and marketed was 377·5 tons.

Magnetite assumed significance in its use as a medium in heavy-media separation as applied to the beneficiation of coals and 436·75 tons was quarried and exported for that purpose.

There was less demand for red ochre for the manufacture of pigments and the output decreased to 28 tons.

There was a lowering from 10,199 to 8075 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 Commonwealth-State project for the production of ingot aluminium continued to rest with a Commission and material progress was made in matters related to the establishment of the industry at Bell Bay.

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

Production of tungsten minerals has been restricted to the control and maintenance of the Kingsrooms Race. With limitations in revenue from the sale of water from this race it was necessary for the Government to provide the necessary heavy deficit in the working of the system.

Progressive findings in the production of tungsten minerals have brought the potential resources of scheelite and wolfram into major significance in the mineral industry of Tasmania. The output of scheelite was 1020 tons and that of wolfram 378·234 tons, both outputs being new high-levels in production.

The mining of tungsten minerals has been favoured by prices and consumption markets, factors that have invited interest in the capacity of the resources to respond to greater production. A discovery of scheelite in a wolfram series in a remote region of Tasmania proper, movements to rehabilitate operations in an almost abandoned area embracing a multiple lode series, a revival of interest in the mining of wolfram lodes in three

Production activities were less but these operations actually contributed 82·32 tons to the total output of metallic tin.

At Rossarden the N.L. maintained its progressive policy in the development and mining of the multiple tin-wolfram lode series at Rossarden. The output of finished products from the mining and milling of 37,081 tons of ore, amounting to 475·554 tons of tin concentrate, containing 255·56 tons of metallic tin, and 196·43 tons of wolfram concentrate. Results of exploration of wolfram lodes have merited an early deepening of the main shaft.

Rehabilitation was continued on the Dorset Flats at South Mount Cameron but power restrictions lowered the throughput to 1,681,000 cubic yards of ground. The lowered throughput was offset by a higher overall grade and the recovery of concentrate increased to 155 tons, containing 118,110 oz. of metallic tin and 560·594 oz. of gold.

Operations at the Sandstone Tin Mining Company at South Mount Cameron were controlled by the mechanically controlled

QUANTITY AND VALUE OF MINERALS.

STATISTICS RELATING TO THE MINING INDUSTRY FOR THE YEAR ENDING 31ST DECEMBER, 1951.

1952.

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(No. 44.)

Mineral.	MINING DIVISIONS.					Total Quantity.	VALUE.	
	Northern and Southern.	Eastern.	North-Eastern.	North-Western.	Western.		Sterling.	Australian Prices.
							£S.	£A
Antimony (tons)	....	....	....	....	0.982	0.982	300	375
Aluminium (tons)	....	....	....	....	....	....	....	....
Bismuth (tons)	....	....	....	....	....	....	....	....
Copper (tons)	....	....	....	....	7659.59	7659.59	1,664,423	1,882,796
Coal (tons)	9139	226,731	....	1018	....	236,888	....	305,548
Cadmium (tons)	....	....	....	....	37.80	37.80	77,236	84,671
Carbide and Cement (tons)	7968	....	....	91,275	....	99,243	....	576,600
Gold (fine oz.)	0.358	....	561.410	....	13,983.908	14,445.676	179,126	225,319
Granite (tons)	60	....	....	....	....	60	....	834
Kaolin (tons)	818	2489	4768	....	....	8075	....	29,991
Lead (tons)	....	....	....	0.607	7,850.363	7850.970	1,278,907	510,312
Limonite (tons)	....	....	....	377.5	....	377.5	....	1,914
Limestone (tons)	7279	....	....	13,252	5042	25.573	....	35,223
Magnetite (tons)	....	....	....	436.75	....	436.75	....	1,505
Ochre (Red) (tons)	....	....	....	28	....	28	....	80
Osmiridium (oz.)	33.378	....	....	....	....	33.378	1,216	1,544
Pyrites (tons)	....	....	....	....	49,925	49,925	....	107,339
Scheelite (tons)	....	....	....	1,020.09	....	1020.09	1,692,631	1,957,055
Silica (tons)	....	....	....	213	6849	7062	....	4,726
Silver (fine oz.)	....	....	....	9.941	984,216.131	984,226.073	321,056	327,747
Tin (tons)	1.881	366.2102	264.270	23.158	50.311	705.834	742,683	855,981
Wolfram (tons)	....	378.781	....	0.053	....	378.834	715,295	606,918
Zinc (tons)	....	....	....	....	20,463.609	20,463.609	3,485,654	1,330,134
Total Value with Sterling Metal Prices .....	....	....	....	....	....	....	£11,222,287	....
Total Value with Australian Metal Prices .....	....	....	....	....	....	....	....	£8,846,612
Average Number of Men Employed	2537	548	215	502	2126	5928	....	....
Limestone (tons)	15,529	....	....	112,908	....	128,437	Used in the manufacture of Carbide and Cement.	
Iron Ore (tons)	....	....	....	2420	....	25,573	Used for other purposes.	
						2420	Total Limestone, 154,010 tons. Used in the manufacture of Cement.	

The Electrolytic Zinc Company of Australasia Limited recovered 57,303 tons of zinc, valued at £3,724,695 Australian; 155.1016 tons of cadmium valued at £347,427 Australian; and 12.9812 tons of cobalt oxide, valued at £12,250 Australian from other than Tasmanian ores and employed an average number of 1842 men at Risdon.

ASBESTOS.

RETURN showing the Quantity and Value of Asbestos produced from 1899 to 1951 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
1946-1951.....	—	—
Total.....	3979·85	£17,142

BARYTES.

RETURN showing the Quantity and Value of Barytes produced from 1899 to 1951 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
1947-1951.....	—	—
Total.....	2196·2	£8138

BISMUTH.

RETURN showing the Quantity and Value of Bismuth produced from 1904 to 1951 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.....	—	—
Total.....	83·6359	£28,432

COAL.

RETURN showing the Quantity and Value of Coal raised to 31st December, 1951.

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
Total.....	5,852,974	£4,862,295

COPPER.

The production for the year was 7659.59 tons, valued at £1,664,423.

RETURN showing the Quantity and Value of Copper in Blister Copper, Copper Ore, and Zinc Lead Ore during the Years 1919 to 1951 inclusive.

Year.	In Zinc Lead Ore.		In Blister Copper.		In Copper Ore.		Total	
	Qty.	Value.	Q'ty	Value.	Q'ty.	Value.	Q'ty.	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	4.78	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	70,891	7371	1,811,905	...	...	7659.59	1,664,423
Total.....	3869.25	365,387	287,543.475	20,517,767	404.094	9491	291,316.819	20,674,272

The Mount Lyell Mining and Railway Company Limited.
Return for the Calendar Year 1951.

Ore and metal-bearing material smelted:—

Source of Material.	Tons (Dry).
Concentrates:—From the Company's North Lyell Mine, Royal Tharsis Mine, and West Lyell Mines ore	35,042
Precipitate	95
Total	35,137

Source of Material.	Tons (Dry).
Limestone delivered at works (tons)	5,042
Silica delivered at works	6,849
Pyritic concentrate shipped from Regatta Point (tons), approx. value £A107,339	49,925
Blister copper produced, 7429 tons, containing:	
Copper (tons) 7,371	Approximate value £A1,954,407
Silver (oz.) 22,749	
Gold (oz.) 4,319	
Average number of men employed—	
Mining Department—At the Company's	
North Lyell Mine	—
Ditto, Royal Tharsis Mine	80
Ditto, West Lyell Mines	504
Miscellaneous	158
Total	742
Reduction Works Dept. (including Lake Margaret)	661
Railway Department—Mount Lyell Railway	103
Total	1,506

Copper produced from the inception of the Company to the 31st December, 1951, 446,137 tons.

Silver produced from the inception of the Company to the 31st December, 1951, 15,540,419 oz. (fine).
Gold produced from the inception of the Company to the 31st December, 1951, 520,778 oz. (fine).
Dividends paid during the year, £145,312.5.
Dividends paid from the inception of the Company to the 31st December, 1951, £7,127,716.

CADMIUM.

The quantity recovered was 37.80 tons, valued at £77,236 compared with 43.70 tons, valued at £75,334 for 1950.

RETURN showing the Quantity and Value of Cadmium recovered for the Years 1936 to 1951.

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
Total	726.1157	£433,953

CEMENT, CARBIDE, AND LIMESTONE.

The combined value of output from these three industries amounted to £611,823, as compared with £578,480 for 1950.

GOLD.

The quantity won was 14,445·676 oz. fine valued at £179,126, as compared with 15,577·788 oz., valued at £193,164 for 1950.

RETURN showing the Quantity and Value of Gold won to 31st December, 1951.

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
Total	2,347,807·934	10,711,368

GRANITE (RED).

RETURN showing the Quantity and Value of Red Granite produced during the Years 1935 to 1951 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
Total.....	3443·5	52,451

IRON PYRITES.

RETURN showing the Quantity and Value of Iron Pyrites produced during the Years 1915 to 1951 inclusive.

Year.	Quantity.	Value.
	Tons.	£
1915.....	12,835·59	8945
1916.....	14,005·084	13,597
1917.....	7,685·549	7137
1918.....	5,105·600	4667
1919.....	3,456·95	4288
1920.....	4,440	7346
1921.....	606·5	2579
1922.....	8,276	18,620
1923.....	11,882	26,737
1924-1930	—	—
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
Total	775,052·973	1,081,040

KAOLIN.

RETURN showing the Quantity and Value of Kaolin produced during the Years 1940 to 1951 inclusive.

Year.	Quantity.	Value.
	Tons.	£
1940.....	835·5	988
1941.....	1130	1428
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
Total.....	56,367·25	153,777

LIMESTONE.

RETURN showing the Quantity of Limestone produced during the Years 1919 to 1951 inclusive.

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

Year.	Limestone used in the Manufacture of Carbide and Cement.	Limestone used for Metallurgical, 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
Total	1,758,132	2,039,436

LEAD.

The output was 7850·970 tons, valued at £1,278,907, compared with 8726·281 tons, valued at £951,574 for 1950.

RETURN showing the Quantity and Value of Lead included in Silver Lead during the Years 1919 to 1951 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
Total.....	207,014·310	£8,459,353

NICKEL.

RETURN showing the Quantity and Value of Nickel produced from 1927 to 1951 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
1939-51.....	—	—
Total.....	222·55	£38,850

OCHRE.

RETURN showing the Quantity and Value of Ochre produced during the Years 1918 to 1951 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
Total.....	1804·25	3966

OSMIRIDIUM.

The quantity of metal won during the year was 33·378 oz., valued at £1,216, as compared with 46,141 oz., valued at £1,339 for 1950.

RETURN showing the Quantity and Value of Osmiridium produced during the Years 1910 to 1951 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.....	781·95	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
Total.....	30,803·916	£667,699

SILICA.

RETURN showing Quantity and Value of Silica produced during the Years 1936 to 1951 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
Total.....	102,335·75	49,139

SHALE.

RETURN showing the Quantity and Value of Shale produced during the Years 1910 to 1951 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	1559		
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		
1936-1951.....	—	—		
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
1935-50	Tasmanite Shale Oil Company Ltd.....	—
	Total	357,115

SCHEELITE.

RETURN showing the Quantity and Value of Scheelite produced during the Years 1917 to 1951 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	465,296		
1951.....	1,020·09	1,692,631		
Total.....	6,797·331	£3,643,360		

SILVER.

The output was 984,226·073 oz. (fine), valued at £321,056, as compared with 1,129,840·034 oz., valued at £304,814 for 1950.

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 1951 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	75,598	147,376	22,439	...	...	...	...	...	...	642,158	97,837
1925	597,012·67	86,283	133,181	19,226	...	...	...	...	...	...	730,193·67	105,509
1926	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	24,0·4	6476	...	...	...	...	990,739·25	267,377	1,129,840·034	304,814
1951	124,799·113	40,618	22,749	9423	...	...	...	...	836,677·96	272,915	984,226·073	321,056
Total	15,945,078·435	1,916,290	3,156,962·9	430,590	232	25	44	4	8,296,158·70	1,519,104	27,398,476·035	3,866,013

TALC.

RETURN showing Quantity and Value of Talc produced during the Years 1928 to 1951 inclusive.

Year.	Quantity.		Value.	
	Tons.	£	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		
1949-51.....	—	—		
Total.....	333·35	1077		

TIN.

The output was 705·834 tons, valued at £742,683, as compared with 684·948 tons, valued at £505,668 for 1950.

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.	£	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		
Total.....	137,173·890	£23,417,521		

WOLFRAM.

RETURN showing the Quantity and Value of Wolfram produced during the Years 1899 to 1951 inclusive.

Year.	Quantity.		Value.	
	Tons.	£	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		
Total.....	6591·816	£2,070,088		

ZINC.

RETURN showing the Quantity and Value of Zinc produced during the Years 1919 to 1951 inclusive.

Year.	Quantity.		Value.	
	Tons.	£	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		
Total.....	374,238·896	£17,592,725		

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

ELECTROLYTIC ZINC COMPANY OF AUSTRALASIA LIMITED.

RETURN FOR THE YEAR 1951.

Concentrates Produced—

EXTRACTIONS FROM ORES AND CONCENTRATES:
RISDON.

Zinc concentrates	42,000
Lead concentrates	8,901
Copper concentrates	3,716

From other than Tasmanian Ores—

Zinc	57,303	tons
Cadmium	155·1016	tons
Cobalt oxide	12·7686	tons

Total 54,617

From Tasmanian Ores—

Zinc	19,241	tons
Cadmium	36	tons
Cobalt oxide	0·2126	tons
Lead	883	tons
Silver	86,967	oz.

Recoverable Quantity in Ores Mined—

Zinc	20,435·09	tons
Lead	6,789·92	tons
Copper	288·59	tons
Cadmium	37·80	tons
Silver	836,677·96	oz.
Gold	9,559·94	oz. f.

Men Employed—

The average number of men employed was 1841.

WEST COAST DIVISION.

Ore Mined—

From Hercules Mine	33,553
From Rosebery Mine	117,003
From Comstock Mine	50

Average Number of Men Employed—

Hercules Mine	55
Rosebery Mine	427
Zeehan Smelters	4
Comstock Mine .....	.....

Total 150,606

Total 486

QUANTITY AND VALUE OF METALS AND MINERALS PRODUCED.

RETURN showing Quantity and Value of Metals and Minerals Produced in Tasmania as at 31st December, 1951.

Mineral or Metal.	Quantity.	Value with Sterling Metal Prices.	Value with Aust. Metal Prices.
Antimony	0·982	300	375
Asbestos	3,979·85	17,142	17,142
Barytes	2,196·2	8,138	8,138
Bismuth	83·6359	28,432	29,644
Cadmium	726·1157	433,953	487,980
Carbide, Cement, and Limestone	3,496,801·6	6,644,302	6,644,302
Carbide to 1936 (now under Carbide, Cement, and Limestone)	62,090	1,212,207	1,212,207
Cement to 1936 (now under Carbide, Cement, and Limestone)	525,391	2,004,014	2,004,014
Coal	5,852,974	4,862,295	4,862,295
Cobalt Oxide	6·02	2,764	3,376
Copper (Blister) to 1918 (now shown under Silver and Copper)	166,600	13,788,527	13,788,527
Copper Matte	6,227	133,736	133,736
Copper Ore to 1918 (now under Copper)	41,768·63	577,873	577,873
Copper (from 1919)	291,316·819	20,674,272	23,435,521
Dolomite	10	25	25
Gold	2,347,807·934	10,711,368	11,343,639
Granite (Red)	3,443·5	25,451	25,451
Graphite	22	36	36
Ilmenite	550	1,256	1,256
Iron Ore	46,181·5	31,776	31,776
Iron Pyrites	775,052·973	1,081,040	1,081,040
Kaolin	56,367·25	153,777	153,777
Lead (from 1919)	207,014·310	8,459,353	6,249,107
Limestone to 1936 (now under Carbide, Cement, and Limestone)	2,108,943	1,439,674	1,439,674
Limonite	744	2,629	2,629
Magnetite	436·75	1,505	1,505
Manganese	·6	3	3
Monazite	32·6	488	607
Nickel	222·55	38,850	40,518
Ochre	1804·25	3,966	3,966
Osmiridium	30,803·916	667,699	688,858
Rutile	·5	18	18
Scheelite	6,797·331	3,643,360	4,139,445
Silica	102,335·75	49,139	49,139
Shale	41,572	31,231	31,231
Silver-Lead ore to 1918 (now under Silver and Lead)	1,083,897·821	6,429,291	6,429,291
Silver (from 1919)	27,398,476·035	3,866,013	4,470,481
Talc	333·35	1,077	1,077
Tin	137,173·890	23,417,521	24,540,021
Wolfram	6,591·816	2,070,088	1,992,087
Zinc	374,238·896	17,592,725	10,927,464
Total .....	.....	£130,107,314	£126,849,251

STATISTICS OF PRODUCTION.

RETURN showing the Annual Published Value of Mineral Products for the State of Tasmania from 1880 to 1951 inclusive.

Year.	Value.	Year.	Value.
	£		£
1880	554,031	1918	1,444,814
1881	602,723	1919	1,301,090
1882	556,306	1920	1,421,104
1883	560,873	1921	822,851
1884	468,302	1922	1,013,415
1885	518,885	1923	1,219,456
1886	489,966	1924	1,496,804
1887	593,256	1925	1,700,861
1888	616,733	1926	1,808,847
1889	504,718	1927	1,621,027
1890	444,210	1928	1,593,828
1891	528,888	1929	1,790,653
1892	526,909	1930	1,270,114
1893	627,909	1931	894,986
1894	732,764	1932	897,168
1895	575,692	1933	1,053,373
1896	662,058	1934	1,037,351
1897	1,006,140	1935	1,387,511
1898	1,071,084	1936	1,979,637
1899	1,660,622	1937	2,653,822
1900	1,888,695	1938	2,294,735
1901	1,763,896	1939	2,520,282
1902	1,378,406	1940	3,137,330
1903	1,354,044	1941	3,055,838
1904	1,379,204	1942	2,832,189
1905	1,729,129	1943	2,686,664
1906	2,257,147	1944	2,581,366
1907	2,277,159	1945	2,201,324
1908	1,650,027	1946	3,190,033
1909	1,574,995	1947	4,595,685
1910	1,432,193	1948	4,884,660
1911	1,349,497	1949	5,171,548
1912	1,493,502	1950	7,677,831
1913	1,415,700	1951	11,222,287
1914	1,007,038	Value of production 1867-1945, previously unrecorded	2,067,650
1915	1,225,575		
1916	1,521,050		
1917	1,580,354		
Total.....			£130,107,314

RETURN showing the Total Number of Leases and Licences in Force on 31st December, 1951.

Mineral.	Number.	Number of Sluiceways.	Area
			Acres.
Bauxite	1	...	129½
Barytes	1	...	10
Coal	37	...	6962
Clay	10	...	256
Copper	1	...	33
Gravel	1	...	31
Granite	4	...	30
Gold	28	...	598
Iron	2	...	107
Limestone	11	...	689
Lead-Zinc	1	...	80
Minerals	34	...	10,485
Nickel	5	...	249
Osmiridium	1	...	10
Ochre	2	...	24
Pyrites	1	...	80
Scheelite	3	...	281
Silica	2	...	25
Silver Lead	19	...	740
Stone	15	...	1520
Sand	2	...	13
Serpentine, &c.	3	...	240
Tin	220	...	7209½
Wolfram	1	...	20
Mining Easements	93	...	1366½
Water Licences	159	843	356
Licences to Search	2	...	1200
Total	659	843	32,744½

STATISTICS OF MINING COMPANIES.

RETURN showing the Amounts Paid in Dividends by Mining Companies during the Year ending 31st December, 1951.

Mines.	Dividends.
	£ s. d.
Copper	83,958 0 0
Gold	...
Tin	288,221 0 0
Silver	...
Coal	...
Scheelite	800,000 0 0
Zinc	* 1,050,000 0 0
Total	£2,222,179 0 0

* This amount represents total dividends out of Tasmanian and ex-Tasmanian profits.

RETURN showing the Mining Companies Registered during the Year ended 31st December, 1951.

Number of Companies.	Capital.
Nil	Nil

No agents for foreign companies under the Mining Companies (Foreign) Act, 1884, were registered. No syndicates under Part V. of the Mining Companies Act, 1884, were registered.

RETURN showing the Total Amount of Rents, Fees, &c., received by the Mines Department during the Year ending 31st December, 1951.

Head of Revenue.	Amount.
	£ s. d.
Rent of Auriferous and Mineral Lands	7359 0 8
Fees, Auriferous and Mineral Lands	556 14 2
Survey Fees	948 4 0
Fees under the Explosives and Inflammable Liquids Act	4063 15 3
Total	£12,927 14 1

RETURN showing the Total Area of Land and Number of Sluiceways of Water Applied for during the Year ending 31st December, 1951.

Mineral.	Number.	Area.	Sluiceways.
		Acres.	
Clay	3	38	...
Copper-Lead	1	10	...
Coal	1	640	...
Copper and Gold	1	20	...
Dolomite	1	7	...
Gold	4	115	...
Gold-Silver Lead	1	10	...
Gold-Wolfram	1	20	...
Limestone	2	215	...
Minerals	9	336	...
Ochre	11	547	...
Stone	1	5	...
Silver-Lead, Zinc	4	194	...
Silver-Lead	1	40	...
Tin	44	669	...
Tin-Wolfram	6	450	...
Tin-Wolfram-Bismuth...	1	20	...
Wolfram	14	575	...
Zinc-Lead	2	60	...
Mining	5	22	...
Water-rights and Dam Sites	14	11	46
Licences to search for Coal and Oil	2	1200	...
Total.....	119	5204	46

RETURN showing Total Number and Area of Leases and Licences Issued during the Year ending 31st December, 1951.

Mineral.	Leases.	Area.	Sluiceways.
		Acres.	
Coal	2	719	...
Gold	2	119	...
Stone	5	607	...
Tin	8	368	...
Minerals.....	1	8	...
Water-rights and Dam Sites	1	2	3
Licences to Search for Coal and Oil	2	1200	...
Total.....	21	3023	3

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 1951 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.....	9,459 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

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, 1936 to 1951 inclusive.

Nature of Lease.	In force on 31st Dec., 1937.		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.	
	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.	603	21,368	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
For Coal, Stone, Shale, &c.	50	6778	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
For Gold Mining Easements	22	2619	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
Machinery Sites	112	663	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
Licences to search for Coal or Oil	6	10,600	2	1180	2	1180	—	—	—	—	—	—	1	900	2	1800	—	—	—	—	—	—	1	200	1	200	—	—	2	1200
Water-rights, Mineral and Gold	467	2243 & 2049 sluice-heads	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	1999.4 & 1221 sluice-heads	212	1807.4 & 987 sluice-heads	152	819.25 & 912 sluice-heads	160	362.25 & 862 sluice-heads	159	356 & 843 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.
	£ 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
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 0	Electrolytic. 25 0 0	Electrolytic. 25 0 0	Electrolytic. 48 17 6	Electrolytic. 85 7 6	Electrolytic. 95 10 0	102 6 0	107 17 6	162 18 3
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	
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
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
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. 23 10 0	£ s. d. 36 4 0
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
	W.O. ₂	W.O. ₂	W.O. ₂	W.O. ₂	W.O. ₂	W.O. ₂	W.O. ₂	W.O. ₂	W.O. ₂	W.O. ₂	W.O. ₂	W.O. ₂	W.O. ₂	W.O. ₂
Gold: per f. oz.	7 2 6	7 15 2	8 8 0	8 8 0	8 8 0	8 8 0	8 8 0	8 10 10	8 12 3	8 12 0	8 12 3	9 14 2	12 8 0	12 8 0

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 £600 was expended and £864 5s. 4d. was repaid against advances made under the Act.

An area, embracing the Mount Bischoff Tin Mine, was reserved for tributing purposes. Several parties were engaged on lode remnants, tramways and tailings and operations resulted in an output of 33·862 tons of concentrate, containing 22·972 tons of metallic tin. This forward policy usefully contributed to the production of

tin, ensured employment for several miners and preserved the Waratah township against near-extinction. Royalty payments amounted to £138 12s. 9d.

An amount of £150 was repaid by the Jubilee Coal Company against financial assistance made available from sources other than the Mining Trust Fund and the Aid to Mining (Federal Grant) Trust Fund.

A 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. An amount of £475 was repaid leaving an outstanding balance of £4,275.

THE AID TO MINING ACT, 1927.

STATEMENT OF RECEIPTS AND PAYMENTS OF THE MINING TRUST FUND FOR YEAR ENDED 31st DECEMBER, 1951.

RECEIPTS.			PAYMENTS.		
	£	s. d.		£	s. d.
Balance, 31st December, 1950	11,428	6 1	Assistance	600	0 0
Repayments of loans	864	5 4	Insurance	1	6 2
Sale of plant	125	0 0			
Tribute royalties	138	12 9	Total Payments	601	6 2
			Excess of receipts over payments	11,954	18 0
	£12,556	4 2		£12,556	4 2

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 (commencement) to 31st Dec., 1951.		1st Jan., 1951. to 31st Dec., 1951.		Item.	March, 1935 (commencement) to 31st Dec., 1951.		1st Jan., 1951. to 31st Dec., 1951.		
	£	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	33 6 3	Excess receipts over payments	5,349	13 4	5,349	13 4	
Plants and operation thereof		11	18 8							
Metallurgical investigations		0	7 11							
Staff		0	10 10							
Balance brought forward period ended 31st December 1950,			5,316	7 1						
		£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 (COMMONWEALTH) DEPOSIT ACCOUNT FOR THE YEAR ENDED 31st DECEMBER, 1951.

RECEIPTS.			PAYMENTS.		
	£	s. d.		£	s. d.
Balance brought forward, 31st December, 1950	2,000	0 0	Advances	2,000	0 0
Repayments			Excess receipts over payments		
Interest					
	£2,000	0 0		£2,000	0 0

DRILLING.

Departmental drilling plants were in constant operation on hire to the 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 6,144 feet were drilled. Expenditure in all fields of boring was £5,238 4s. 11d. and £3,501 1s. 5d. was repaid under drilling agreements.

Diamond drilling was continued at Dalmayne in tracing the areal extent and horizons of a seam which provided coal suitable as a single fuel unit in railway locomotives. Small-area faulting has persisted and has retarded economic developments of major magnitude.

A diamond-drilling unit was engaged in testing tin and wolfram lodes at three 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. Thirty bores, aggregating 2711 feet, were completed. Twenty-seven bores located adequate supplies of water and three were classed as "dry-holes".

Difficulties in holding personnel, either as experienced drillers or trainees, limited the effective operating period of the second percussion plant but twenty-six bores, aggregating 1941 feet, were completed. Sixteen bores located supplies of underground water and ten were classed as "dry-holes".

DETAILS OF EXPENDITURE ON DRILLING DURING THE YEAR ENDED 31st DECEMBER, 1951.

Table with 3 columns: Plant, Location, Amount Expended. Rows include Junior Straitline Diamond Drill, Goldfields No. 10 Diamond Drill, G.33 Percussion Drill, and Preparation for drilling and drilling Longford District. Total amount: £5,238 4 11.

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, investigations of rock structure, location of underground water and to the general development of mining.

The mineral industry continues to be 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.

STAFF.

There were no major alterations to the staff of the Department.

MINES DRAFTING BRANCH.

Table with 2 columns: Description, Quantity. Rows include Number of working plans in use and kept up to date (232), Instructions issued to Surveyors (122), Diagrams received from Surveyors (5), Diagrams drawn on Leases (39), Consolidated and other diagrams drawn (6), Lithographs entered to date (175), Various tracings prepared (63), Tracings and photostats for Launceston office (10), Manuscripts entered to date (12), Manuscripts photo-lithographed (5).

Table with 2 columns: Description, Quantity. Rows include Manuscripts traced for reproduction (3), Underground survey plans examined and computations checked (3).

Draughting officers 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 Registrar 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.

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:—

An investigation was made of the underground water resources of the Deloraine Municipality.

Deposits of low grade calcareous material, suitable for agricultural purposes, were further tested by boring, on private property, near Bridport.

Investigations were made of tin prospects at Bicheno, Coles Bay and Goulds Country, and of gold prospects at New River.

Towards the close of the year a detailed examination was commenced of tin possibilities of the Gladstone district.

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

Field work was of a general nature, the major investigation being related to the mapping and determination of structure, extent and quality of the limestone deposits at Loongana and Gunns Plains.

Other investigations were related to:—

- Limestone at Campania.
- Limestone on King Island.
- Underground water resources, King Island
- Commercial Talc in Tasmania.
- Dedication of a State Forest near Mount Barrow.
- Sulphur resources of Tasmania.
- Commercial Graphite in Tasmania.
- Scheelite prospect on King Island.
- Mineral prospects at Upper Blessington.
- Alacrity Gold Mine.
- Underground water at Spreyton.
- Coal-bearing strata at Tarleton.

A brief article was prepared on the Beaconsfield and Lefroy Goldfields for the Fifth Empire Mining and Metallurgical Congress.

Geologist G. Everard, B.A., reports:—

In addition to field investigations related to southern and eastern portions of the State, petrological and mineralogical examinations were made of an increased volume of rocks and minerals for Departmental and public purposes.

Surveys were made of deposits of limestone, for cement and agricultural purposes, at Maria Island, Ida Bay, Gray and Silver Hill.

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

In addition to regional work in the North Pieman mineral area, the geological establishment, at Zeehan, was engaged in investigations of silver-lead, tin, wolfram and other mineral deposits.

A statement upon the occurrence of silver-lead veins at the Argent Tunnel could not be confirmed by examination but the conclusion was reached that the area is mineralised.

A comprehensive survey was made of the lode system at the Montana Silver-Lead Mine. The lodes contain silver, lead and zinc. Structural conditions were determined and conclusions were reached with regard to the order of deposition and their physical relationship, thereby enabling recommendations to be made upon likely areas in which to explore for extensions of the lodes.

Investigations were made of the occurrence of tin ores at the Razorback Tin Mine, of tin-wolfram alluvial deposits at North Dundas, of deposits of silver-lead ore at Zeehan and of mineral occurrences near Queenstown.

Assistance was afforded in a geophysical survey of the Renison Bell tin-field.

Regional work was progressed in the North Pieman mineral area. Four fossil horizons have been discovered, several rock types have been petrologically investigated, and progress has been made in the establishment of a type stratigraphic section to serve as a base for future mapping. Age horizons have been studied and, at least, two major faults and several lesser fractures have been located. Evidence of zinc mineralisation has been traced in one of the latter.

Work was continued on the Zeehan—Pieman River track and preparations were made for the erection of a cage-crossing at the river.

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

Geological services were of a general nature but were mainly related to reconnaissance work in the selection of a region embracing mineral potentialities favourable for the setting up of a geological establishment to engage in specialised services in the investigation and exploration of the mineral resources under the provisions of the Mineral Resources Act.

The Moina-Round Hill-Pelion mineral region was selected and preparations were made for the setting up of an establishment at Lorinna as a central headquarters base for future operations.

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, bismuth, calcium, cadmium, chlorine, chromium, copper, iron, magnesium, manganese, molybdenum, nickel, potassium, phosphorus, silicon, sodium, sulphur, titanium, thorium, tungsten, 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 mill tailings, oxidised copper ore, scheelite concentrate, tin-bearing pyrite mill product and other mineral-bearing materials.

A programme of research was carried out in the beneficiation of coals.

Ore dressing investigations were related to research in the processing by gravity, jigging, flotation and other media to determine possibilities in the economic extraction of commercial minerals and to improving the grade of mill products. Coal samples were subject to heavy media processing to determine the possibilities of improving the quality by reducing the ash content and by lowering the calcite content to reduce clinkering characteristics.

Much attention was given to the transfer to and installation of research units at the new laboratories in Wellington Street, Launceston. The equipment now includes a sink float concentrating machine generously donated to the Department by Aberfoyle Tin N.L.

Appreciation is recorded of the services rendered by the laboratory 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 5,928 as compared with 5,892 for the previous year. Programmes of development and production continued to be hampered by a shortage of suitable labour.

Accidents.

The total number of accidents, registered under the provisions of Section 23 of the Act was 49 as compared with 62 for last year.

The appended tabulations relate to:—

- (1) Fatalities and non-fatal casualties at mines, quarries and works which, latter, 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 a slight increase in the number of accidents in the Northern and Southern, and North-Eastern divisions but the accident incidence was less in other divisions.

Two persons were killed and 50 persons were injured in the 49 accidents. Twenty-seven accidents occurred at metalliferous mines, 18 being allied with surface operations and nine being related to underground practices. Six accidents occurred in the underground workings of coal mines, two were associated with quarrying operations and 14 occurred at surface works.

A platman attempted to step into a moving cage at an underground level of a vertical shaft. He failed to enter the cage, fell down the shaft and was killed. The second fatality was the result of a person being struck by a piece of slag, trajected, when an explosion resulted from hot converter slag sliding into water at a copper reduction works.

A collapse of the square-set timbering in the "slot section" of an underground stope caused injuries to four persons. This accident was of major significance and resulted in a special investigation with a view to the aversion of similar incidents. One person was seriously injured when a quantity of ground fell from the hanging wall of a stope. When a ganger was demonstrating the use of a copper loading-tube, at an open-cut working, the tube withdrew the "primer" which exploded and inflicted injuries to one of his legs. The remaining accidents were of a miscellaneous nature.

Health and Sanitation.

Thermometrical conditions were comfortably below the upper limits of legislative tolerance. There was a conscious regard for atmospheric dust at works and in mines. Surveillance was exercised in matters of ventilation circuits, meal places, bath and change houses, drainage and general sanitation, in the interests of health.

Prosecutions.

Legal proceedings were instituted in one case. The driver of an electric crane was found to be in a state of intoxication, whilst operating the machine, and was prosecuted. He was convicted and fined.

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 1951.

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	2537	16	...	16	16	6.303	...	6.303
North-Eastern	215	5	...	5	5	23.256	...	23.256
Eastern	548	10	1	9	10	18.252	1.825	16.427
North-Western	502	2	...	2	2	3.984	...	3.984
Western	2126	16	1	18	19	8.937	0.470	8.467
Total	5928	49	2	50	52	8.772	0.337	8.335

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:—

Monobel	79,240
Gelignite	1,756,900
Gelatine Dynamite	34,500
Ligdyn	5,100
Ajax	38,000
Blasting Powder	10,300
Detonators	No. 2,908,352
Detonating Fuse:	Feet.
Cordtex	352,500

Compounds were of "Polar" manufacture and care was exercised to ensure that they were in good chemical and physical condition at the date of importation.

Instances of deliquescence were observed and necessitated the destruction of small quantities of nitro-compounds but the overall condition of explosives was stable under rotational storage.

INFLAMMABLE LIQUIDS ACT, 1929.

There was continued activity in the installation of petrol pumps, building of compounds for storage in 44-gallon drums, alteration of bulk-storage depots and in the provision of new terminals for the storage of inward shipments of petrols, kerosenes and heavy oils. Further progress was made in the building of new terminals at Devonport and Bell Bay and it is expected that the latter terminal will be commissioned next year.

Proposals for the installation of electric petrol service pumps and necessary re-modelling of service stations and other premises will result in an improved service and a lowering of the fire hazard.

APPENDIX V.

REPORTS OF INSPECTORS OF MINES AND EXPLOSIVES.

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

Employment.

The average number of employees in the mining and metallurgical operations was 1577, as compared with 1558 for the previous year. The Mount Lyell Mining and Railway Company Limited employed 1506 persons.

Accidents.

Eleven accidents, resulting in fatal injuries to one person and non-fatal injuries to ten persons, were registered under the provisions of the Mines and Works Regulation Act. All accidents were allied with surface operations. Four were the result of misadventure whilst the remainder were due to carelessness.

The fatal accident resulted when an occupant of the cabin of an overhead crane was struck by a fragment of slag trajected by an explosion following hot slag into a pool of water on the floor of a copper reduction works.

An opencut ganger was instructing a party of New Australians in the method of charging and firing a "bulling shot". Without being noticed the "primer" adhered to the copper loading tube and when the latter was withdrawn, the former exploded, inflicting injuries to one of the legs of the ganger.

The remaining accidents were of a miscellaneous nature.

Safety.

Inspection services continued to be related to the production and maintenance of safe conditions in surface and underground workings.

Ladderways, shaft equipment, lighting conditions, ore pass covers, safety ropes, opencut faces, explosives in use, surface and underground transport, and other details of mining practice have been regularly examined in the interest of safety. Strict attention was given to the removal or otherwise securing affected ground in working places.

An influx of water in the underground workings of one mine, caused some concern and directions were issued to ensure that future operations will be conducted safely.

Ventilation.

The ventilation of underground workings and surface installations received customary attention.

Ventilation surveys resulted in the production of a general improvement of the ventilation system at one mine. Konimeter surveys enabled a reasonable standard of atmospheric dust to be maintained.

Health and Sanitation.

Supervision has been exercised in matters affecting the health of employees. Required improvements have been made to crib-places, changing and bathing accommodation and latrines, and, in general, a good standard has been maintained.

Explosives.

The one accident connected with explosives was due to a ganger failing to operate a "loading tube" correctly.

With the introduction of machine wrapped cartridges, a softer compound resulted and there appeared to be a higher rate of deliquescence but there were no complaints from users.

Machinery.

Maintenance and protection of machinery and appliances were kept under surveillance and satisfactory conditions were preserved.

The Inflammable Liquids Act.

Storage premises were inspected. It was necessary to insist upon the use of approved appliances for the servicing of underground tanks from 44-gallon drums.

The Explosives Act.

Supervision was maintained of the landing of explosives at Regatta Point and of storage at points of destination.

The quality and burning rate of safety fuse was satisfactory.

The Workers' (Occupational Diseases) Relief Fund Act.

Certificates were received and registered in respect of 395 new employees. X-ray examinations disclosed that nine persons had increased markings of the lungs but they were considered eligible as new employees.

Following the amendment to the Workers' (Occupational Diseases) Relief Fund, Act, 1950, requiring employees to present themselves for examination biennially, 158 persons were examined and 22 were deemed to be affected. Of those affected, nine persons were known to have been afflicted and such cases had been recorded previously.

The following tabulation is a comparison of the new cases with those recorded during the previous year:—

Incapacity	1950.	1951.
Incapacitated (100 per cent affected) Tuberculosis only	1	1
Partial Incapacity (over 50 per cent affected)	1	2
Partial Incapacity (under 50 per cent affected)	1	10
	3	13

Prosecutions.

One person was prosecuted under the provisions of Section 74 of the Mines and Works Regulation Act for driving an electric mobile crane while under the influence of intoxicating liquor. He was convicted, fined £5 and ordered to pay costs.

PRODUCTION AND DEVELOPMENT.

Antimony.

A test parcel of hand picked ore was obtained from a complex lead-zinc-antimony prospect in the vicinity of Carbine Hill, North Dundas, and contained 0.982 ton of antimony.

Copper.

The Mount Lyell Mining and Railway Company Limited.—The output from all operations was 1,517,466 tons of ore mined and 95 tons of copper precipitate recovered from mine drainage water, representing an increase of 17,552 tons of ore and a decrease of 18 tons of precipitate as compared with the previous year.

Surface mining at the West Lyell group of mines resulted in 1,472,759 tons of ore, representing an increase of 28,627 tons as compared with last year. Additional to this, 22 tons of copper precipitate were recovered from drained water.

Selective mining and the formation of a safe batter line for future open-cut workings resulted in the removal of 1,089,840 tons of waste rock. The combined volume of ore and waste rock was 2,607,306 tons, representing an increase of 322,627 tons and a new high-level in the mining and removal of material.

Production of ore from underground workings continued to decline owing to the shortage of miners. The Royal Tharsis mine produced 44,707 tons of ore. This was 11,075 tons less than for the previous year.

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	1,472,759	22
Royal Tharsis underground Mine	44,707	66
North Lyell Mine	.....	7
Lyell Comstock Mine	.....	.....
Totals	1,517,466	95

Mechanisation of surface mining was augmented by the purchase of two 4.5 yard capacity electric shovels and a second churn drill.

At the Reduction Works, the concentration plant operated for 349 days and treated 1,518,945 tons of ore for a recovery of 35,042 tons of copper-bearing concentrate and 57,223 tons of iron-pyrite concentrate.

The smelters operated for 243 days and treated 31,421 tons of copper-bearing concentrate and 95 tons of copper precipitate for an output of 7,429 tons of blister copper, which, after treatment in the electrolytic refinery, yielded 7,371 tons of cathode copper, 22,749 oz. of silver and 4,319 oz. of gold.

In addition to the foregoing mining operations, 5,042 tons of limestone and 6,849 tons of silica were quarried and delivered to the Reduction Works for fluxing purposes.

Gold.

Apart from the production of 4,319 oz. produced by the Mount Lyell Mining and Railway Company, no other production has been recorded from this district.

Silver-Lead-Zinc.

Production of ore employed 22 men continuously and 5 on part time and resulted in 431.574 tons of concentrate

and hand picked ore being sold. This product contained 202.618 tons of lead; 25,534.169 oz. silver; and 28.519 tons zinc. In addition, a quantity of ore was mined and stock-piled at the Oceana and Montana Mines.

The Zeehan Mines Pty. Ltd.—An average of 44 men was employed. Several thousand tons of good grade milling ore has resulted from development work and is stacked on surface.

Developmental progress at the No. 2 level (300 ft.) was brought to a standstill when the workings were inundated by water from underground sources. Additional pumping units were installed and commissioned but the water was not lowered below No. 1 level, at which level developmental work was continued to the close of the year.

The Montana Silver-Lead Mine.—Refitting of the main shaft was completed and a small mill plant; comprising crusher, rolls, jiggs and ancilliary units; was installed and commissioned for a coarse concentrate, the tailings being compounded for treatment when a flotation plant is installed.

An average of 17 men was employed and 2,161 tons of milling ore was mined. The bulk of the ore was hand sorted and jigged for a recovery of 292.935 tons of jig concentrate and hand-picked ore, containing 171.765 tons of lead and 23,314.614 oz. of silver.

Development work approximated 230 feet of driving, 100 feet of rising and 25 feet of winzing. The bulk of the ore resulted from stoping between the 100 feet and adit levels.

The Electrolytic Zinc Company of Australasia Ltd.—A party of tributers operated at the Comstock Mine and produced 50 tons of zinc-lead ore, containing 3.8 tons of lead, 205 oz. silver and 10.2 tons of zinc.

Three men were employed at the Calcining plant at Zeehan, in recovering concentrates left on the site of the dismantled plant.

Swansea Silver-Lead Mine.—Mr. J. J. Hill, working mostly alone, sold 14.605 tons of hand picked and concentrated ore, which contained 5.051 tons of lead, 236.201 oz. of silver and 3.0 tons of zinc.

W. J. Hodge, East Dundas.—The treatment of old dumps resulted in a recovery of 12.441 tons of ore, containing 7.602 tons of lead and 674.886 oz. of silver.

Clarke and Smith, West Zeehan.—This party produced 17.922 tons of hand-picked zinc-lead ore, containing 2.389 tons of lead, 350.183 oz. of silver and 7.298 tons of zinc.

Clark, Jones and Downie, West Zeehan.—This party obtained 22.139 tons of hand-picked ore from dumps located north of the Comstock lease. The ore contained 2.638 tons of lead, 7.807 tons of zinc and 219.036 oz. of silver.

Higgins and Party, North Dundas.—A syndicate of four men was engaged in testing the commercial value of some complex ore deposits in the vicinity of Carbine Hill, North Dundas. Encouraging prospects were located but operations were hampered by lack of suitable access to the area and protracted delays in obtaining final settlements on ore sales. The venture was abandoned.

Ore sold was 6.214 tons, containing 2.361 tons of lead, 0.124 tons of zinc, 0.982 tons of antimony and 372.479 oz. of silver.

Tin.

Six men were constantly engaged and three men were engaged sporadically in tin mining.

Razor Back Tin Min, Dundas.—A party of four men mined 435 tons of ore and sold 4.62 tons of tabled concentrate, containing 3.010 tons of metallic tin.

E. Coleman, South Heemskirk.—This man mined and milled approximately 28 tons of ore for 1.239 tons of concentrate, containing 0.609 ton of metallic tin.

H. G. Watson, Eureka Creek, North Heemskirk.—From alluvial deposits this man obtained 1.940 tons of concentrate containing 0.373 ton of metallic tin.

C. Smith, North Dundas.—Working part time, this man obtained 0.296 ton of concentrate containing 0.195 ton of tin.

C. Anderson, Old Federation Mine, South Heemskirk.—As a sparetime operator, this man obtained 0.135 ton of concentrate, containing 0.071 ton of metallic tin, from the "Black Face" workings.

J. Dixon, Five Mile, Zeehan.—From alluvial deposits, this man won 0.032 ton of concentrate, containing 0.015 ton of metallic tin.

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

The average number of men employed in the industry was 782 as compared with 785 for the previous year.

MINES AND WORKS REGULATION ACT.**Accidents.**

Six accidents, involving non-fatal injuries to nine men were registered under the provisions of the Mines and Works Regulation Act.

All accidents occurred in underground workings, the most serious being the collapse of the square set timbering in the slot-section of a stope. Four persons were injured and a close investigation was made into the cause of the accident and possible means of preventing a repetition.

A second serious accident occurred while a miner was barring down after blasting operations. A quantity of ground unexpectedly fell from the hanging-wall, struck the miner, broke his left leg and bruised his back.

The remaining accidents were of a miscellaneous nature.

Safety.

Regular inspections were made of underground workings. New systems of stoping at one of the major mines, introduced additional potential hazards and demanded an exercise of more than ordinary care. Weak hanging walls, excessively high "backs", loose "scats", unchoked sets, unduly steep "rills", unprotected ore passes, were features calling for particular attention in the reduction of mining hazards.

In the conduct of surface operations surveillance was maintained of batters at opencuts, loose material on faces, frayed or weathered lifelines and unsafe blasting practice.

Health and Sanitation.

In this matter attention was directed to ventilation of underground workings, ventilation of lamp charging sheds and the maintenance of warm, clean and orderly crib places and change houses. In the interests of good health, efforts were continually directed to the rectification of wet and sloppy underfoot conditions on levels.

Workers' (Occupational Diseases) Relief Fund Act.

Registers were kept of new employees and of medical examinations. Five applications for compensation were handled and the medical examinations arranged.

Explosives Act.

Control was exercised over the lading and conveyance of explosives within the inspectorate.

Special attention was given to the storage of explosives, where necessary, the provision of approved magazines was required.

No reports were received of accounts involving the use of explosives.

Inflammable Liquids Act.

There was increased activity under the provisions of the Inflammable Liquids Act.

Supervision was maintained of the discharge of oil tank ships at Devonport. There were ten visits and 5,631,182 gallons of all products were unloaded. With the exception of one pin-hole pitting in the delivery column there were no untoward incidents in connection with the discharge of tankers.

MINING OPERATIONS AND PRODUCTION.**Cadmium.**

The only producer of cadmium was the Electrolytic Zinc Company of Australasia Limited at the Rosebery and Hercules Mines, the recorded output being 37.8 tons.

Copper.

Production of copper was again confined to operations by the Electrolytic Zinc Company of Australasia Limited at the Rosebery and Hercules Mines, 3716 tons of copper-pyrite concentrate, containing 288.59 tons of copper, being recovered in mining of zinc-lead ores.

Some prospecting for copper ores was pursued at Temma and Elliott without any material results.

Gold.

Of a total recorded output of 9,564.908 oz. the Electrolytic Zinc Company of Australasia Limited accounted for 9,559.94 oz. as a result of operations at the Rosebery and Hercules Mines.

The balance of the output accrued from miscellaneous operations in alluvials in the vicinity of the Savage River.

Limonite.

An output of 377.5 tons of limonite resulted from operations on the Iron Cliff deposit at Penguin.

Red Ochre.

There was little interest in the marketing of red ochre, the only recorded production being 28 tons from a deposit at Spalford.

Scheelite.

The production of scheelite rose to 1020.09 tons and this was a new high-level in the output of this tungsten mineral.

The sole producer of scheelite was King Island Scheelite (1947) Limited at Grassy, King Island, where 163,367 tons of ore was quarried and milled for a recovery of 1020.09 tons of finished scheelite concentrate.

Silver-Lead.

The Farrell Mining Company was the only producer of straight silver-lead ore. The Company mined and milled 6961 tons of ore for a recovery of 1326 tons of concentrate, containing 863 tons of lead and 99.255 oz. of silver. The Manager reported that 570 feet of driving, mainly at Nos. 5 and 6 levels south, opened up payable ore and that excellent prospects exist further south towards the old North Mount Farrell Workings. The old workings are to be partially unwatered to provide safe approaches from the present productive mine.

Tin.

The overall output was 101.86 tons of tin concentrate, containing 69.196 tons of metallic tin.

The two main sources of production were Renison Associated Tin Mines and tributaries at the Mount Bischoff Tin Mine.

Renison Associated Tin Mines milled 8844 tons of tin-pyrite ore for a recovery of 67.715 tons of concentrate, containing 46.038 tons of metallic tin. The Manager reported that 9695 tons of ore was mined of which 8255 tons resulted from open-cutting, 828 tons accrued from stoping and 612 tons resulted from developmental work.

Several parties of tributaries were engaged at the Mount Bischoff Tin Mine in cleaning up tailings at the mill site, in lifting tin-bearing spillage along tram-ways, in treating tailings along Waratah Creek, in recovering tin-pyrite concentrate at North Valley, in mining lode remnants and in preparations to resume mining on the "Greisen" ore body. These operations usefully contributed to the total output of tin.

Gatenby and Patterson recovered 0.061 ton of tin oxide, containing 0.035 ton of metallic tin, from beach sands at Naracoopa, King Island.

Lead-Zinc-Copper

The Electrolytic Zinc Company of Australasia Limited continued its progressive policy in the mining of complex ores at the Hercules and Rosebery Mines and in selective milling practices at Rosebery.

In addition to productive mining, systematic exploration was pursued in the Stitt, Sterling Valley, Waratah and Murchison areas.

Inclusive of 50 tons of zinc ore from the Comstock Mine, the crude ore mined and milled was 150,606 tons. Selective milling resulted in the recovery of 42,000 tons of zinc concentrates, 8901 tons of lead concentrates and 3716 tons of copper concentrates. The recoverable quantity of metallics was fixed at 20,435.09 tons of zinc, 6,789.92 tons of lead, 288.59 tons of copper, 37.8 tons of cadmium, 836,677.96 oz. of silver and 9,559.94 oz. of gold.

Inspector R. J. Muir, Launceston reports:—

Employment.

The average number of men employed in mining and allied industries, other than coal mining, was 1083, representing an increase of 211, due largely to increased activities by the Australian Aluminium Production Commission at Bell Bay.

Although there was an improvement in the labour position, requirements were not fully satisfied at some of the larger mines.

Accidents.

Sixteen accidents, involving one fatality and non-fatal injuries to fifteen persons, were registered under the provisions of the Mines and Works Regulation Act. Four accidents occurred in underground workings and twelve were allied with surface operations.

The fatal accident happened when a platman attempted to step into a moving cage at an underground level of a vertical shaft. He failed to enter the cage, fell down the shaft and was killed.

The remainder of the underground accidents and the surface accidents were of a miscellaneous nature.

Safety.

Inspectorial duties were regularly related to the production and maintenance of safe working conditions. As necessary, representations were made for such conditions and those concerned afforded co-operation in connection therewith.

Ladderways, shaft equipment, lighting conditions, open-cut faces and batters, use of explosives, transport and other details of mining practice were kept under surveillance in the interests of safety. In all mining operations, care was exercised to ensure against men working within the influence of affected ground without proper precautions being taken.

Health and Sanitation.

Crib places, canteens, changing and bathing accommodation, latrines and general amenities were regularly inspected in the interests of health and sanitation.

Atmospheric dust was reasonably well controlled in underground workings and at most works but inferior conditions existed at certain quarries and representations were made for improvements.

Facilities for rendering first aid, in case of accident, were provided as required.

Explosives.

A quantity of nitro-compounds was found to have deteriorated, due to age, and was ordered to be destroyed. Three cases of electric delay detonators were condemned owing to water saturation as the result of a faulty container. With those exceptions, all explosives were found to be in good order and no complaints were received.

Supervision was exercised of the landing of inward shipments of explosives at the port of Launceston.

Machinery.

Regular inspections were made of machinery, in co-operation with the Inspector of Machinery, and safety requirements were satisfactorily maintained.

Inflammable Liquids.

There were no recorded fires or other incidents in connection with the handling and storage of inflammable liquids. Much time was expended in inspecting licensed premises and in dealing with applications to install pumps and construct new premises.

MINING OPERATIONS AND PRODUCTION.

Tin.

The total output of metallic tin was 630,361 tons. Aberfoyle Tin N.L. continued as the largest producer. There were no new discoveries of merit. Shortage of labour again curtailed productive operations.

W.X.X. Mine, Moorina.—Sluicing was conducted on a reduced scale, 5000 cubic yards of ground being treated for a recovery of 1,387 tons of tin-oxide, containing 0,864 ton of metallic tin.

Miscellaneous, Moorina.—Five men were engaged in miscellaneous sluicing of alluvial ground and recovered 2,241 tons of tin concentrates, containing 1,366 tons of metallic tin.

Weldborough Tin Mines, Weldborough.—Plant and leases of the Weldborough Tin Syndicate were acquired by Weldborough Tin Mines and hydraulic mining was commenced near Main Creek. There was a recovery of 3,449 tons of tin-oxide, containing 2,422 tons of metallic tin, from the sluicing of 19,200 cubic yards of ground.

Cambria Mine, Weldborough.—Shortage of water limited the period of working the stamper battery, and, in consequence, only 0,308 ton of concentrate, containing 0,235 ton of metallic tin, was produced.

Miscellaneous, Weldborough.—Seven men were engaged in miscellaneous operations on alluvial ground and these activities counted for an output of 2,319 tons of tin-oxide, containing 1,452 tons of metallic tin.

Miscellaneous, Lottah and Blue Tier.—With the closing down of the Anchor Tin Mine there was very little activity in these areas. Two men produced 0,396 ton of tin concentrate, containing 0,264 ton of metallic tin.

Miscellaneous, Goshen and Goulds Country.—Operations in these areas were mainly confined to the working of the bed of the Groome River, the production being 1,429 tons of concentrate, containing 0,999 ton of metallic tin.

Goshen Tin Mines, St. Helens.—Sluicing operations were practically continuous throughout the year, 11 men being employed. The throughput of ground from the Argonaut and George Bay faces, including a quantity of old tailings, was 64,200 cubic yards and there was a recovery of 14,463 tons of tin concentrate, containing 8,488 tons of metallic tin.

Bell Creek Tin Mine, St. Helens.—Shortage of water limited the period of sluicing and only 6000 cubic yards of ground were treated for an output of 0,966 ton of tin-oxide, containing 0,701 ton of metallic tin.

Miscellaneous, St. Helens.—Miscellaneous parties, operating on alluvial ground in different localities, produced 1,65 tons of concentrate, containing 0,982 ton of metallic tin.

Aberfoyle Tin N.L., Rossarden.—This Company functioned as a major producer of tin and wolfram. Ore mined and milled totalled 37,081 tons and there was a recovery of 475,554 tons of tin concentrate, containing 339,158 tons of metallic tin, and 284,864 tons of wolfram concentrate. Development of the lode system was progressively continued and substantially appreciated the ore reserves.

Storey's Creek Tin Mine, Storey's Creek.—The production of tin concentrate was 12,75 tons, containing 8,41 tons of metallic tin. Operations are reviewed under "Wolfram".

Miscellaneous, Avoca.—Interest was centred on production possibilities at Gipps Creek and at Royal George but there was no development of moment, the only production being 1,106 tons of tin concentrate, containing 0,752 ton of metallic tin.

Miscellaneous, Scottsdale.—There was little activity by miscellaneous parties in the Scottsdale area. Two men were engaged in sluicing, and recovered 0,265 ton of tin concentrate, containing 0,173 ton of metallic tin.

Miscellaneous, Ringarooma.—Four men were engaged in small-scale mining but production was limited to 0,609 ton tin-oxide containing 0,414 ton of metallic tin.

Arba Tin Mine, Branxholm.—Walsh and party sluiced 33,200 cubic yards of material, including a large quantity of old tailings, at the Grouper Workings. The recovery was 0,516 ton of concentrate, containing 0,359 ton of metallic tin but it is expected that the output will be augmented by a major clean-up early in the new year.

Bakers Discovery Mine, Branxholm.—After cleaning up old races and recovering 0,311 ton of oxide, containing 0,17 ton of metallic tin, the lessee ceased operations.

Ruby Flat Mine, Branxholm.—Two men were employed and 15,000 cubic yards of ground were sluiced for a production of 4,129 tons of concentrate, containing 3,111 tons of metallic tin, portion of which resulted from operations last year.

Ormuz Mine, Branxholm.—Overburden stripping and sluicing of tin-bearing drifts, resulted in a throughput of 80,608 cubic yards of ground for a recovery of 15,592 tons of tin-oxide, containing 10,283 tons of metallic tin.

Miscellaneous, Branxholm.—Six men found employment in small-scale sluicing of alluvial ground at Black

Creek and Ruby Flat and recovered 4,430 tons of concentrate, containing 2,996 tons of metallic tin.

Briseis Tin Mine, Derby.—Productive mining was mainly related to the sluicing of remnant ground along the old Cascade Workings. An output of 54,102 tons of tin concentrate, containing 39,221 tons of metallic tin, resulted from the sluicing of 484,736 cubic yards of ground.

Miscellaneous, Derby.—Seven men were engaged in minor sluicing operations and produced 3,739 tons of tin-oxide, containing 2,649 tons of metallic tin. Most of this production resulted from the working of the bed of the Ringarooma River.

Miscellaneous, Winnaleah and Herrick.—Four men were engaged at small mines and, from the sluicing of shallow ground, recovered 1,951 tons of concentrate, containing 1,389 tons of metallic tin.

Banca Tin Mine, Winnaleah.—This mine was worked on a small scale and 6,444 tons of concentrate, containing 4,673 tons of metallic tin, resulted from the sluicing of 14,500 cubic yards of ground.

Walsh and Hookway, Bradshaws Creek.—Shortage of water hampered sluicing operations and only 3,750 cubic yards of ground was treated for a recovery of 1,199 tons of tin-oxide, containing 0,858 ton of metallic tin.

Miscellaneous, Bradshaws Creek and South Mt. Cameron.—Miscellaneous parties were engaged in sluicing operations and produced 16,397 tons of concentrate, containing 12,012 tons of metallic tin.

Dorset Tin Dredge, South Mt. Cameron.—Restrictions in the supply of electric power hampered the operating capacity of the dredge but an overall rising in the value of the ground resulted in an increased recovery of tin and gold. There was an output of 155 tons of tin concentrate, containing 116,017 tons of metallic tin, and alluvial gold, containing 561,768 fine oz., from the dredging of 1,661,000 cubic yards of ground, comprising a part of the Dorset Flats, flanking the Ringarooma River.

Endurance Tin Mine, Sth. Mt. Cameron.—Hydraulic mining was continued along the deep lead in the Clifton area and, with the completion of a new flood race, it was possible to sluice an area of comparatively shallow ground by-passed by the Clifton Tin Mining Company. A total of 375,600 cubic yards of ground was sluiced for a recovery of 59,771 tons of tin-oxide, containing 43,210 tons of metallic tin.

Mount Cameron Water Race.—This scheme was responsible for the major portion of tin concentrate sold from the Gladstone area. Working on fixed scale and royalty bases, several parties contributed to an output of 3,239 tons of concentrate, containing 2,210 tons of metallic tin.

Star Hill Syndicate, Gladstone.—With the use of water from the Mount Cameron Water Race and electrically driven pumping equipment, this syndicate sluiced 61,500 cubic yards of alluvial ground for a recovery of 15,118 tons of tin-oxide, containing 10,848 tons of metallic tin.

Lanka Tin Mine, Gladstone.—Operations at this mine were limited to the extent of an output of 0,166 ton of tin concentrate, containing 0,101 ton of metallic tin. An option was taken on certain holdings and boring was proceeded with on the Great Mussel Roe River but a final determination on future production possibilities was not made.

Amber Hill Mine, Gladstone.—Preparatory work was completed and with the use of water from the Mount Cameron water race, 39,600 cubic yards of ground were sluiced for a recovery of 9,263 tons of tin-oxide, containing 6,621 tons of metallic tin.

Miscellaneous, Gladstone.—Eleven men were engaged in miscellaneous sluicing activities and these operations resulted in an output of 10,552 tons of concentrate, containing 6,562 tons of metallic tin.

Straight Islands.—There was no increase in tin mining on Flinders Island and Cape Barren Island. The recorded production was 0,586 ton of tin-oxide, containing 0,39 ton of metallic tin, from small-scale sluicing.

Wolfram.

Favourable markets and rising prices for tungsten ores contributed to an increase in the output of wolfram but such increase was mainly due to operations at the Aberfoyle Tin Mine, Rossarden.

Aberfoyle Tin N.L., Rossarden.—Operations at the Aberfoyle Mine have been reviewed under "Tin".

Storey Creek Mine, Storey's Creek.—A quantity of 6834 tons of ore was mined and milled for an output of 93,15 tons of wolfram concentrate, and, in addition, 12,75 tons of tin concentrate, containing 8,41 tons of metallic tin, were recovered. The output of wolfram was less but the production of tin concentrate was slightly higher, the overall lowering of production being due to shortage of labour. Necessary developmental work was continued and lodes maintained their productive merits. The provision of housing and amenities was progressed with a view to improving the labour position.

Miscellaneous, Avoca.—Four men were engaged in miscellaneous operations at Gipps Creek and accounted for an output of 0,585 ton of wolfram concentrate.

Miscellaneous, St. Helens and Moina.—Small-scale operations in these areas resulted in an output of 0,235 ton of wolfram concentrate.

Gold.

With the exception of a small quantity, the output of gold resulted from operations on tin bearing stanniferous alluvials.

Dorset Tin Dredge, South Mt. Cameron.—Alluvial gold containing 560,594 fine oz., was extracted from concentrate recovered from the dredging of gold-bearing stanniferous alluvials.

Miscellaneous, Lefroy and Gladstone.—A small quantity of gold containing 1,174 fine oz., resulted from miscellaneous operations in these areas.

Silver-Lead-Zinc.

A small parcel of silver-lead ore from the Round Hill area, contained 0,67 ton of lead and 9,941 oz. of silver, but there was no further production and work was confined to prospecting activities.

Limestone.

Limestone was produced and marketed as pulverised limestone and burnt lime for building and agricultural purposes.

The Melrose Agricultural Lime Quarries at Eugenana produced 10,887 tons of limestone which was pulverised and sold for agricultural purposes.

The Railton Limeworks, Railton, produced 2365 tons of limestone which was marketed as both pulverised limestone and burnt lime.

The Beaconsfield Lime Products, Flowery Gully, quarried 4,823 tons of limestone, portion being converted to burnt lime and portion being marketed as pulverised lime.

Beams Bros., Flowery Gully, produced 1100 tons of limestone mainly for conversion to burnt lime for building purposes.

Cement.

Goliath Portland Cement Company, Railton.—Production of cement and asbestos sheets and moulds was well maintained.

Clay.

Exclusive of clays used in the manufacture of bricks, tiles, earthenware and other ceramics, quantities of clay were produced for use in the manufacture of paper.

Production of clay was continued on the tin-mining lease of the Endurance Tin Mining Company at South Mount Cameron and 4768 tons were used in the manufacture of paper.

A quantity of 2489 tons of clay was extracted from a deposit at St. Helens and this also was used in the manufacture of paper.

Inspector D. Besford, Hobart, reports:—

Employment.

The average number of persons employed in mines, works and quarries was 2,480.

Accidents.

There were no fatal accidents and of sixteen accidents, causing incapacity for at least fourteen working days, nine were associated with surface operations at metal-

urgical works, five occurred underground at coal mines, and one occurred in a quarry. No serious accident was due to falls of roof or sides in underground workings. Most of the injuries were of a minor nature and were the result of simple causes, eight persons receiving injuries to their hands, six persons sustaining injuries to feet or legs, one person sustaining an eye injury and one workman spraining his back.

Safety.

Attention was directed to the maintenance of safe working conditions, working places being regularly inspected to ensure that workmen were not exposed to danger. Underground roadways, used for travelling and haulage purposes, were regularly examined. Where any danger or weakness was detected, necessary precautions were taken for safety.

Quarry faces were regularly inspected and it was sometimes necessary to withdraw workmen from the bottom of faces until suitable safe batters were provided. Instructions were often issued for the removal of unstable rock from ledges to provide safe conditions for persons working below. The provision of suitable benches was ordered when necessary.

Electrical apparatus was regularly inspected to provide for its safe maintenance and use.

Ventilation.

Air currents were regularly measured to determine whether an adequate amount of air was available to maintain the underground workings in a fit state for working and travelling.

Underground working places were tested for inflammable gas but none was detected.

Wet and dry bulb temperatures were recorded in underground places and the highest recording was 73° F. W. B. and 72° F. D. B. This recording of temperatures occurred where old coal pillars were being extracted and with the exception thereof, temperatures were generally less than 62° F. D. B. and 60° F. W. B. The state of ventilation in underground workings was generally adequate but in some cases workmen were withdrawn owing to sluggish air conditions, and were not allowed to resume work in such places until satisfactory ventilation had been provided.

Health and Sanitation.

Due regard was given to matters affecting health at mines and works, and conditions were generally quite satisfactory. Improved facilities for sanitation were obtained as required.

Explosives.

Attention was given to the storage and handling of explosives and to the provision of suitable magazines. No exudation of nitro-glycerine was observed or reported. Deliquescence was observed in the case of some nitro-compounds at one mine. The compound was unsuitable for use and was destroyed.

Investigations were made into a case of miss-fires at one quarry and the fault was traced to a defective exploder. A new exploder was provided and there was no further trouble.

Inflammable Liquids.

Installations were inspected and were generally found to comply with the provisions of the Inflammable Liquids Act. Irregularities were rectified without recourse to legal proceedings.

Machinery.

Underground electrical equipment was regularly examined and tested to ensure that it was in a safe condition. Some electrical equipment was found to be below the required standard and had to be replaced.

Operations and Production.

The output of coal was 236,888 tons, valued at £305,548 at the mine bins, and an average of 329 men was employed.

Fingal-Mt. Nicholas-Dalmaine Coalfield.

Production of coal from this field was 201,454 tons, as compared with 191,281 tons for the previous year.

Cornwall Colliery.

Operations continued on the same lines as previously and there was an output of 97,468 tons of coal from pillar extraction and solid places. An electrically motivated "continuous miner" and a new battery locomotive was installed to facilitate haulage, but neither unit was worked to capacity.

Mt. Nicholas Colliery.

Mechanised and other coal mining resulted in an output of 35,013 tons, valued at £36,764, at this colliery. Faulting hampered the progress of operations.

Jubilee Colliery.

This colliery produced 25,050 tons, valued at £45,066 at the mine bins. New haulage equipment was installed and is capable of handling an increased output. Productive operations were on the same pattern as formerly and much work was done to improve the ventilation system.

Dalmaine Colliery.

This colliery produced 2796 tons, valued at £5,499 at the mine bins. Slow progress was made with the new stone drive, from the surface, for better ventilation of the underground workings.

Fingal Colliery.

There was an output of 23,663 tons, valued at £33,243, at this colliery. Production resulted from bord and pillar places and the installation of electric drills and innovations to the haulage system enabled a progressive approach to greater production to be maintained.

Duncan Coal Mine.

Production continued from solid places and the output reached 16,854 tons, valued at £17,697 at the mine bins.

The Silkstone Colliery.

Following a programme of preparatory work, coal winning was commenced, but after 610 tons of coal had been produced operations were suspended owing to seam troubles and water accumulations.

*AVOCA COALFIELD.**Stanhope Colliery.*

Roof weighting and a reduction in the number of employees retarded productive operations and the output declined to 7,251 tons, valued at £16,867. A new road was connected to the surface and resulted in a betterment of the ventilation conditions and provided a new means of egress.

Merrywood Colliery.

There was a progressive improvement in the output of coal at this mine as a result of more active opencut operations westerly from the underground workings. The total production was 18,026 tons, valued at £25,885.

*UPPER DERWENT COALFIELD.**Langloh Colliery.*

This colliery produced 7,669 tons valued at £14,883 at the pit mouth. Operations were on the same lines as formerly but small faults caused inconvenience. Coal from this mine was used at Carbide works in place of coke, for lime-burning and for use in the electric furnace in the production of calcium carbide.

*SANDFLY COALFIELD.**Sandfly Colliery.*

There was an output of 1,385 tons, valued at £2,802 at this colliery. An electric drill and an electric pumping unit were installed for better working. A large fall occurred in one of the roads and interrupted operations until the roadway had been recovered.

Kaoota Colliery.

This new mine was opened but was closed down, after there had been a production of 85 tons, owing to the unsatisfactory quality of the coal.

*MERSEY COALFIELD.**Illamatha Colliery.*

There was an output of 1,018 tons, valued at £3,326, from the regular small-scale working of a thin seam of coal.

Ore Treatment.

The Electrolytic Zinc Company processed, at Risdon, 154,503 tons of calcines from imported and Tasmanian zinc products, and recovered 76,544 tons of zinc, valued at £4,975,360; 191,1016 tons of cadmium, valued at £428,067; and 12.98 tons of cobalt oxide, valued at £12,250. Production was lower than for the previous year owing to power restrictions.

Superphosphate and zinc sulphate continued to be manufactured and marketed.

Constructional work was progressed in the second unit of the Contact Acid Treatment Plant and in the plant for the future production of sulphate of ammonia.

Carbide and Limestone.

The Australian Commonwealth Carbide Company produced 7968 tons of calcium carbide and employed an average of 162 men.

Limestone quarried at Ida Bay was 16,885 tons and the construction of a deep-water jetty has greatly facilitated the handling of limestone.

Small quantities of limestone were quarried at Granton and converted to lime.

Granite.

Production of red granite, for monumental and ornamental purposes, was on a limited scale, the total output at Coles Bay being 60 tons valued at £834.

Osmiridium.

The output of osmiridium, from alluvial mining at Adamsfield, declined to 33-398 oz., valued at £1,544.

Tin.

The output of tin-oxide was 2-672 tons, containing 1-99 tons of metallic tin. Production was mainly related to the working of alluvial ground at Cox Bight. A small quantity of concentrate was produced at Coles Bay.

Kaolin

Kaolin to an amount of 818 tons, valued at £6,645, was produced at Surges Bay and used in the manufacture of paper.

MOUNT CAMERON WATER RACE BOARD.

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

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

Production of tin-oxide, from all activities, was 24-7299 tons as compared with 20-8071 tons for the previous year, representing an increase of 3-9228 tons.

The output of tin-oxide under the fixed scale of payment for water was 21-49285 tons and that under the royalty scale was 3-23705 tons, representing an increase of 8-71785 tons in the former and a decrease of 4-79505 tons in the latter productions.

Revenue was £1,469 5s. 8d. as compared with £1,280 17s. for last year.

Expenditure was £1,917 8s. 4d. as against £1,592 12s. 6d. for the previous year.

There was a loss of £448 2s. 8d. in the normal working of the race system. The loss included a rising of £372 8s. 10d. in the salary and wages of employees.

A rising of 18-85 per cent in the overall production and a further incline in the price of tin favoured an increase in revenue but any possible increase was off-set by a substantial lowering in the output of tin-oxide under the royalty scale of payment, operators taking advantage of the financial benefit to be derived from using water on the fixed scale of payment.

Members of the Board were conscious of the recurring financial loss and whilst it was appreciated that the continued working of the system was desirable in the interest of employment and the production of essential tin, it was reasoned that a more equitable charge should be made for water supplied under the fixed scale. With the concurrence of all users, the rate was lifted from £1 to £1 10s. per sluichead-week, with a minimum of 17s. 6d. per sluichead-week under the machinery clause of the regulations governing the charges for water.

All races, syphons, flumes, dams and other units of the system were maintained in a serviceable condition.

STATEMENT FOR THE YEAR ENDED 31ST DECEMBER, 1951.

Rainfall.

The registered rainfall for the year was as follows:—

Table with 2 columns: Location and Rainfall. Great Mussel Roe 32 inches 60 points. Little Mussel Roe 32 inches 37 points.

Revenue.

Revenue from the sale of water for mining purposes was £1,468 5s. 8d., representing an increase of £187 8s. 8d. as compared with that of the previous year. Total revenue, from all sources, amounted to £1,469 5s. 8d.

Disbursements.

Expenditure amounted to £1,917 8s. 4d., representing an increase of £324 16s. 1d. as compared with that of the previous year. The increase was due to basic wage adjustments.

Statistics.

The Statistics for the year are as follows:—

Table with 2 columns: Metric and Value. Average number of claims supplied per week 4. Greatest number supplied in any one week 6.

Table with 2 columns: Category and Value. Total number of heads supplied: Fixed or cash sale 1,688. Royalty or credit scale 520.

Table with 4 columns: Scale, tons, cwts, qrs, lbs. Under fixed scale: 21 tons, 9 cwts, 3 qrs, 12 lbs. Under royalty scale: 3 tons, 4 cwts, 2 qrs, 27 lbs. Total: 24 tons, 14 cwts, 2 qrs, 11 lbs.

Average number of men employed per week 12

Statement of Receipts and Payments of the Mount Cameron Water Race Suspense Account for the Year Ended 31st December, 1951.

Large table with 2 main columns: Receipts and Payments. Receipts: Water sold under fixed scale (884 0 0), Water sold under Royalty scale (584 5 8), Sale of old boards (1 0 0), Balance—Excess of Payments over Receipts (448 2 8). Total Receipts: £1,917 8 4. Payments: Salaries and wages (1,747 6 7), Pay-roll Tax (43 14 1), Tools for use on race (38 2 6), Insurance (27 8 3), Car allowance for manager (50 3 6), Printing and telephones (10 13 5). Total Payments: £1,917 8 4.

RINGAROOMA—CASCADE WATER RACE BOARD.

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

The Ringarooma-Cascade Water Race Board functioned to the extent necessary in the control of the Ringarooma-Cascade Water System.

The Cascade Section was used by Briseis Tin N.L. on a basis of rental at the rate of £211 per annum and responsibility for maintenance of the system to the satisfaction of the Board.

The early proposal to develop a system for sluicing high-level tin ground at Branxholm lapsed through failure to secure a contract for cutting and building a main race from the Cascade River to Branxholm. An expected source of revenue and a benefit to tin mining at Branxholm did not result in consequence. Briseis Tin N.L. maintained the Ringarooma Race on a cost plus supervision basis but small revenue from users of the water and high costs of maintenance of the system made it necessary to provide an amount of £3,645 14s. 9d. to meet the overall deficit.

Statement of Receipts and Payments of the Ringarooma and Cascade (Water) Suspense Account for the Year ended 31st December, 1951.

<i>Receipts.</i>			<i>Payments.</i>		
	£	s. d.		£	s. d.
Revenue from sale of water for mining purposes from the Ringarooma Race	978	9 9	Ringarooma Race—		
Rent of Cascade Race and Dams	211	0 0	Wages—Caretakers	1,768	4 7
			Wages—Maintenance	1,396	17 0
			Holiday pay	210	1 5
	£1,189	9 9	Pay-roll tax	89	1 3
Balance—Excess Payments over receipts	3,645	14 9	Workers' Compensation Insurance	69	15 1
			Stores	490	18 1
			Hire motor truck	227	16 6
			Hire of horse	51	12 0
			Supervision	165	0 0
			Rent of private lands	32	9 0
			Miscellaneous	6	7 10
			Interest on capital cost of the Ringarooma and Cascade Water System	327	1 9
	£4,835	4 6		£4,835	4 6