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(No. 3.)

TASMANIA

REPORT

OF THE

SECRETARY FOR MINES

FOR

YEAR ENDING DECEMBER 31

1924

INCLUDING REPORTS OF THE INSPECTORS OF MINES, GOVERNMENT GEOLOGISTS, GOVERNMENT CHEMIST AND ASSAYER, MOUNT CAMERON WATER-RACE BOARD, &c.

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

Tasmania:

JOHN VAIL, GOVERNMENT PRINTER, HOBART

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REPORT OF THE SECRETARY FOR MINES.

Mines Department,
Hobart, 27th May, 1925.

SIR,

I HAVE the honour to submit my report on the Mines Department and the Mining Industry for the year ending 31st December, 1924.

GENERAL REMARKS.

The aggregate value of minerals raised during the year was £1,496,804, being an increase of £277,348 on the output for the previous year.

The principal increases were in copper, £21,973; Gold, £4924; lead, £27,339; limestone, £23,712; silver, £6498; tin, £38,059: zinc, £90,485; while there were decreases in coal, £4242; osmiridium, £9025; pyrites, £26,737; and wolfram, £3365.

APPENDICES.

Appended will be found:—

Annual Report of Mt. Cameron Water-race Board.
Reports of the Government Geologists and Government Chemist and Assayer.
Report of the Chief Inspector of Mines.
Report of the Chief Inspector of Explosives.
Reports of the Inspectors of Mines.

AID TO MINING.

Operations under the "The Aid to Mining Act" have been fairly well sustained, although the quantity of ore raised has considerably decreased compared to the previous year, with the No. 2 and No. 6 Argent mines working and producing regular quantities of ore.

No developments of importance have occurred on the tributing areas, but the prospects on several of the blocks are encouraging, and may eventually lead to more permanent productive work.

At the new discoveries made north-west from Zeehan, continuous work in a limited way has been carried on, and a steady output of high-grade galena has been maintained.

Some further new discoveries, a short distance to the west of those made some two years ago, have been investigated by surface trenching, with encouraging results. To thoroughly prove and develop these deposits it will be necessary to sink a shaft, and by that means carry out exploratory work at a reasonable depth below the outcrops of the various formations exposed. The assay value of the ore taken from the outcrops is high in both silver and lead.

At the old T.L.E. Mine a local Syndicate erected a water-wheel for pumping purposes. The main shaft, which is 100 feet deep, was unwatered, and the old levels cleaned up. Further work was discontinued towards the end of the year owing to the fine weather causing a shortage of water for power. With the approach of the wet season work will be resumed. The prospects of ore production at this mine when again reopened are favourable.

Operations at the Swansea Mine are being carried on with very successful results. The main shaft has been sunk to 130-feet level, and driving on the lode, both north and south, has been undertaken.

The work done has proved the downward extension of a strong, well-defined ore body, carrying a high proportion of clean galena.

ZINC-LEAD ORES.

It was confidently expected, with the establishment by the Electrolytic Zinc Company of a flotation plant at the Zeehan works for the treatment of mixed zinc-lead ores unsuitable for exportation, that a market for such ores would be readily available at remunerative rates. For reasons not disclosed, following the purchase of a limited quantity of customs ores, buying transactions were discontinued, the Company confining its operations to the treatment of ore from its own mines at Mount Read.

Investigations made by Mr. W. D. Reid, the Government representative at Wembley Empire Exhibition, for a direct market in Europe for zinc and other ores produced at Zeehan and adjacent districts, are proceeding, and it is hoped that within the next few months arrangements will be completed for the direct shipment of ore from producer to buyer, thus to a great extent eliminating many unavoidable charges made against small lots of ore under the present system of marketing.

The provision made for assaying ores, as in the past, has been continued, tributors and others taking full advantage of having their assaying work carried out at a nominal charge. During the term, 193 sale samples and 411 prospect samples have been assayed, and many mineral identifications made.

All tribute surveys where required were carried out free of charge.

Assistance to the extent of £218 was advanced to tributers for 495 feet of driving, with satisfactory results.

The total quantity and value of ore sold during the year on account of State tributers was as follows:—

Quantity.	Value.
Tons.	£ s. d.
261·64	5,639 16 9

The amount received from ore sales was £6144 12s. 11d., which was distributed as follows:—

	£	s.	d.
Paid to tributers	5,423	13	11
Royalty paid to lessees	51	7	10
Royalty paid to State	669	11	2
	£6,144	12	11

EXPENDITURE.	£	s.	d.
Salaries and wages	474	15	0
Assistance to prospectors under Part I.	218	2	6
Assistance to prospectors under Part III.	400	0	0
Expenses incurred in connection with No. 6 Argent Mine	147	13	7
Assay material	111	8	6
Office expenses	10	4	10
Miscellaneous expenses	33	8	8
Refund of royalties	0	17	9
Advance to Z.L. Prospecting Syndicate, N.L.	300	0	0
	£1,696	10	10

RECEIPTS.	£	s.	d.
Royalty paid to tributers	669	11	2
Assay fees	72	7	0
Interest on loans	134	9	7
Proceeds sale of rails	3	5	0
Use of mill	16	19	0
	£896	11	9

No. 2 Argent Prospecting Syndicate, No Liability.

A sum of £170 11s. 4d. was received in royalty, and was allocated as follows:—

	£	s.	d.
Tribute royalty	56	17	1
Pumping Account	56	17	1
Installation of plant (Loan Account)	56	17	2
	£170	11	4

The Syndicate's loan account at the 31st December, 1924, stood as follows:—

	£	s.	d.
Total amount advanced	3,222	10	4
Repaid by royalty on ore sold	1,074	10	1
Balance owing	£2,148	0	3

GOLD.

The following return shows the quantity and value of gold won during the year:—

	Fine Ozs.
Beaconsfield	81·93
Lefroy	10·17
Lisle, Golconda	163·14
Mt. Claude	121
Mt. Cameron, Mt. Victoria, and Warrentinna	451·71
Mathinna	1,571·46
North-West and West Coasts	2,226·19
Total	4,625·60

Value, £21,563.

Beaconsfield.— Tasmania Gold Mine Limited.—Clearing-up work has been carried on during the past year at the battery site, and gold to the value of £293 13s. 2d. has been recovered. Some concentrates were sent at the end of the year to Port Kembla, but results have not yet been reported. Five men have been employed. The right to treat all gold-bearing material at the battery site has now been sold to a mainland Syndicate.

At Lefroy, Back Creek, and Golconda, prospecting work of an intermittent character has been carried out during the year without establishing anything of importance.

Lisle, Mount Arthur.—Here the New Bonanza Company, by hydraulic sluicing, have tried various places—chiefly terrace wash—for small returns, and at present the work is stopped pending reconstruction and the installation of more suitable plant.

Forrester Settlement.—The Linton Prospecting Association.—Upon the completion of a 5-head battery, bulk crushings were put through and gave returns worth over an ounce to the ton, but the reef being small and unpayable, operations ceased towards the close of the year. It is proposed to increase the capital and sink to a greater depth.

Alberton. — Ringarooma United. — Active operations were continued on this property practically throughout the year, and "makes" of rich stone were discovered in Hannah's (top) and the main or lower (long) adits during such operations, especially in the stone from the engine winze below the level floor. A 10-head battery, with necessary accessories, has been erected, and a crushing was put through towards the end of the year, but the results did not come up to expectations. A further crushing is to be taken out.

Central Ringarooma Mine. — The Manager (Mr. J. L. Lane) reports that at the beginning of the year, for three months, two men, and sometimes three, were employed cleaning-up tunnel, laying rails, and picking-up drive, which had fallen in, to reach face of drive going south. Driving and tunnelling totalling approximately 300 feet was done by a company, and was stopped on a break in the reef, which, I believe, was as far back as 1902; driving has been continued 14 feet on this reef, which shows 2 feet of stone. Values were estimated at about 6 dwts., but considered hardly payable. By continuing this drive payable ore should be met with, as a good deal of battery stone was obtained above this level when worked by the previous company. In the month of June two men were employed surface prospecting, when a reef 15 inches wide was opened up by costeans, about three chains east of the Central reef, and payable prospects obtained. The country on this portion of field is soft and easily worked, consisting of slate and sandstone. I consider reefs from 12 to 15 inches, yielding from 18 to 24 dwts., should be payable with a crushing plant handy. Other properties in the district, including the Long Struggle, Forest King, Wallace's, and Fowler's shows, have received attention, but no fresh development has attended any of them.

Mathinna.—New Golden Gate Consolidated.—A considerable amount of progressive work has been done between Nos. 2 and 10 levels. At No. 7 a new make of stone was cut and followed westerly for 70 feet from what is termed the "zig-zag," which provided a fair block of stoping ground over this level. Drives are being put out from the succeeding levels below with the view of picking up this make. The shaft has been unwatered below No. 12 level, and the unwatering will be continued until the mine is again dry, whereby further investigations may be resumed at the deeper levels.

Miner's Dream.—The Manager, Mr. J. E. Egan, reports:—During the term ending 31st December, 1924, the work on the mine has been confined to sinking the main shaft. But, owing to the influx of water, sinking was suspended until the installation of a pumping plant. This was completed when sinking was resumed. The present depth of shaft is about 160 feet, and it is proposed to sink 300 feet before opening out to intercept the lode. An average of 12 men have been employed.

Old Boys'.—Here the Messrs. Brock Bros., by the aid of a whim, have sunk a well-proportioned main shaft 160 feet that it is purposed to continue over 200 feet before opening out on a rather extensive formation that, at a depth of 100 feet, is stated to prospect satisfactorily.

At Norcott's farm, some 7 miles from Mathinna, off the road from Fingal, the same parties have done some prospecting and purpose further extending their operations by diamond drilling at an early date.

Tower Hill.—A main shaft, equipped with a steam winding plant, has been sunk and opened out at 100 feet. At this depth a crosscut was put out, and penetrated the formation for 50 feet, but failed to establish prospects similar to those recovered in the shallower workings overhead.

Close by another show (Hill and Chesshire's) was sunk on for 40 feet, but the gold diminished as depth was attained.

West Coast.—A small syndicate acquired an area embracing the old Diamond Creek mine and commenced operations thereon. The previous operators abandoned the property before battery results had been accomplished, parts of a ten-head stamper battery, which was obtained for crushing, being left strewn along the track to the mine. A knoll composed of "milk-white" crystalline and drusy quartz occurs on the property. The quartz shed therefrom is cemented with clay and carries gold, and this is receiving the immediate attention of the syndicate. A five-head stamper battery and water-wheel were erected, and a trial crushing of 10 tons was put through for a battery return of 3 oz. of gold valued at £13 19s. 0d. The operators expressed satisfaction with the result and, latterly, proceeded with the construction of a tramway and other surface arrangements for more economical working.

SILVER-LEAD.

The quantity of silver produced was 642,158 oz., valued at £97,837.

The producers were:—

	Ounces.	Value. £
Zeehan Mines—		
Nike	13,881	2,106
Zeehan-Montana	1,206	183
Oonah	2,511	384
Swansea	3,150	476
Zeehan Queen	1,569	237
No. 6 Argent	635	96
No. 2 Argent	1,712	259
Sunshine	2,435	370
N. Zeehan	3,209	489
Others	11,156	1,702
Dundas Mines—		
Jupiter	9,694	1,464
Hercules-Rosebery	67,521	10,408
Mt. Jasper	75	11
North Mt. Farrell	194,702	29,679
Magnet Mine	151,084	22,942
Round Hill	24,169	3,672
Mt. Lyell Mine	147,376	22,439
Tasman	6,073	920
Total	642,158	97,837

The quantity of lead produced was 4559·11 tons, valued at £154,881.

The producers were:—

	Tons.	Value. £
Zeehan Mines—		
Nike	136·55	4,578
Zeehan-Montana	10·57	347
Oonah	15·25	500
Swansea	88·18	3,037
Zeehan Queen	17·63	582
No. 6 Argent	5·30	179
No. 2 Argent	16·96	524
Sunshine	30·65	1,061
N. Zeehan	29·72	1,009
Others	95·82	3,250
Dundas Mines—		
Jupiter	107·46	3,383
Hercules-Rosebery	700	24,193
Mt. Jasper	·75	23
North Mt. Farrell	1,933·15	66,173
Magnet Mine	900·75	30,145
Round Hill	368	12,284
Tasman	102·37	3,608
Total	4,559·11	154,881

Northern and Southern Division.—The Round Hill Silver and Lead Mining Co., No Liability.—The Mine Manager (Mr. J. J. Andrew) reports:—

South-east Drive, Shaft Level: During the year this drive has been extended 110 feet on the course of the lode, making total distance from shaft 474 feet. The lode, during the period, has been patchy, but has turned out a fair quantity of milling ore.

South Crosscut, South-east of Shaft: To test the country south of the quartz lode a crosscut has been put in 60 feet. Nothing of importance has been met with.

Drive, North-west of Shaft: During the year considerable work has been carried out north-west of the shaft, that is coming back under the approach of No. 1 tunnel, 80 feet above our shaft level. We have driven here 260 feet, making total distance north-west of shaft 349 feet. We have yet approximately 100 feet to drive before we reach a point vertically under the rich ore worked by tributers some time ago, where we hope to meet with a rich lense of ore at this level.

Stoping: Stoping has been carried out on the quartzite and quartz lodes, four rock-drills operating. The lode has been fairly productive and in places showing excellent values.

Summary of Development and Exploratory Work: During the year the following work has been carried out:—Drives, 370 feet; crosscuts, 95 feet; rises, 150 feet.

Concentrator Plant: During the year the mill has worked one shift constantly and treated 7656 tons of second-class ore, from which was produced 638 tons of concentrates containing 121 oz. gold, 24,169 oz. silver, and 368 tons of lead, the total value being £16,298. The plant has been kept in good repair and is running efficiently.

Power Plant.—Our power for mining purposes has been derived from 120 h.p. suction gas engine and 90 h.p. suction gas engine. Both plants are doing excellent work. The average consumption of firewood being 1 ton, or 80 cubic feet, per 8 hours per 100 h.p.

Men Employed: During the year the mine has employed on an average 40 men.

Washington Silver-Lead Mine, Moina.—Prospecting and development work is proceeding under the management of Mr. T. Kitto.

North-western Division.—Magnet Silver Mine.—The Mine Manager (Mr. R. G. Hales) reports:—Ore treated, 14,665 tons; metal obtained, 2157 tons; silver, 151,084 oz.; lead, 900·75 tons; gross value, £53,280; net value, £39,511; men employed, 165.

The principal production of ore has been confined to stoping over the north and south drives at No. 14 level, which have produced the bulk of the ore mined. And, although the bands of metal are small, they extend over a width of from 18 to 48 feet, all of which have to be taken out to ensure that no ore is left. The waste rock or mullock being used for filling.

No. 13 Level: The stopes over this level have been depleted, but further prospecting is to be carried out with the hope of meeting with other payable shoots of ore.

No. 11 Level: Stoping has been continued over the north hangingwall drive, from which payable seconds have been obtained, with prospects of continuing above No. 10 level.

No. 8 Level: The south footwall drive has been extended to a point 1200 feet from the main crosscut and a rise commenced which is to make a connection with the south adit. This will give another exit and also improve the ventilation of the mine. Although nothing of value has been met with it is intended to crosscut, at intervals, west to prove the extension or otherwise of ore in the lode channel which is 100 feet wide.

Main shaft: The main shaft has been sunk 210 feet, making a total depth from No. 4 adit of 950 feet, or 1200 feet from the outcrop at No. 16, or bottom of the shaft; part of the plat has been cut and left in abeyance until the lode is cut at No. 15 level. The crosscut is now in 218 feet and the lode should be cut at 434 feet from the shaft. Everything depends upon the lode at this level, we hope that it will maintain the ore values at the bottom levels.

The scarcity of good miners, together with shaft sinking, has retarded production, but I am hopeful, now, that more good miners will be offering so that a larger output can be maintained. I could easily employ 30 to 40 more good miners. There is ample labourers offering.

Mt. Jasper Mine.—During the early part of the year some underground work was carried out and, just as work was stopped, a vein of a few inches of galena was cut.

North Mount Farrell Company, No Liability.—Mr. Owen B. Williams (General Manager) reports:—During the year a total of 23,988 tons have been mined and treated for a return of 3303 tons of marketable ore containing 184,190 oz. of silver and 1933 tons of lead, valued at £96,224.

Work was carried on continuously throughout the year and the development work carried out was as follows:—

Main Shaft: This has been sunk to a point 93 feet below No. 7 level.

No. 7 Level: The main north drive has been advanced a further 245 feet north. At 269 feet north of main crosscut a new make of ore was met with, and was driven on for 108 feet. It is a very strong-looking lode and shows some high-grade ore. It has every appearance of permanency. Four rises have been put through from this level to No. 6 level as required.

No. 6 Level: This level has been advanced a further 16 feet north and has shown fair-grade milling ore in some places.

No. 5 Level: North main drive has been advanced a further 367 feet in rubbly lode matter showing good values here and there.

General ventilation has received considerable attention during the period and, on the surface, a new Mill engine of 220 h.p. has been installed. The main hoisting engine has been turned over from air to electric power.

Western Division.—Nike Mining Company.—Development and mining of the main lode below the 160 feet level were proceeded with during the year. From the bottom of the main winze, previously sunk 50 feet in the hanging wall country, a crosscut was driven and a connection effected with the exploratory winze sunk in the main lode channel. South driving developed a very promising ore occurrence, but, at 60 feet, the drive entered a faulted zone and the ore cut out. Attention was then confined to stoping the developed ore.

A small isolated ore occurrence in the northern end of No. 1 level was stoped out and tributers also recovered small lots of ore from the workings and surface dumps.

A quantity of second-class ore, accumulated at the mine, was put through the No. 6 Argent mill with satisfactory results.

The gross producion of metallics by the Company and tributers was 13,881 oz. silver and 136·55 tons lead. Operations gave employment to an average number of 15 men.

No. 2 Argent Mine.—A quantity of second-class ore, accumulated at the mine from previous operations, was put through the No. 6 Argent mill for a gross production of 1199·39 oz. silver and 13·07 tons lead.

Limited mining was caried out at Hornby's tribute and other parts of the leasehold for a gross production of 418·91 oz. silver and 3·23 tons lead.

North Mount Zeehan Mines (Messrs. Clark and Brown).—Operations were pursued on a limited scale at these mines, attention being principally confined to the "Big Ben" lode (Blacklow's) workings where the underlie shaft was advanced to 50 feet in faulted country. From the bottom of the shaft a level was opened up and driven 25 feet N 30° E on the lode channelling. The ore occurrence continued to be characteristically irregular and troubled by a faulting zone.

At Quiglev's old workings the south drive from the tunnel was advanced to about the vertical alignment of the eastern lode exposure without anv promising development ensuing. A small parcel of ore was won from the western lode by further trenching and shallow sinking.

The gross metallic contents of ore produced from these mines were 3209 oz. silver and 29·72 tons lead.

Interest in this part of the Zeehan field was revived by a reported discovery of several new lodes by Messrs. Clarke and Duff. The discoveries are situate westerly from the North Mount Zeehan mines and about 2½ miles north-westerly from the Zeehan township. The argentiferous galena submitted for assay is high-grade, but sufficient work has not been done to enable a definite opinion to be recorded upon the value of the discoveries. About 60 chains W 25° S from the "Big Ben" lode workings a little surface prospecting on an iron-stained quartzose formation carrying secondary silicifications revealed galena occurring in slates. The galena assayed well for silver and lead, and, at the close of the year preparations were being made for trenching and tunnelling to determine the character and value of the discovery. Southerly, and a little westerly, from this exposure a similar formation was broken, and revealed siliceous slates and galena. Further to the south quartzose formations carrying secondary silicifications were broken, and revealed mineralisations, but nothing material has yet been done to indicate the precise character and value of the discoveries.

Several leases have been taken up in the locality and operations will be followed with interest during the coming year.

Tributers operating on the Zeehan-Western area produced 4836·7 oz. silver and 35·42 tons lead, valued at £1924·62. The only development of importance ensued at Ellison and Bell's tribute when an eastern tunnel penetrated a lode channel and revealed a small seam of high-grade drusy galena. Shallow winzing and driving developed a block of ore from which 4669·66 oz. silver and 33·13 tons of lead had been produced up to the close of the year.

Several small tribute parties operated sporadically on the Zeehan-Queen and Montana areas and produced 2775 oz. silver, 28·20 tons lead, and 4·16 tons zinc, but there is nothing of material importance to be recorded in connection with developments.

At the Oonah mine Bell Brothers operated continuously in different parts of the leasehold, and, although there is no development of consequence to be recorded, their efforts resulted in a gross production of 2456·56 oz. silver, 14·76 tons of lead, and 10·8 tons of zinc. A second party produced 55·79 oz. silver and ·5 ton of lead, from the same property.

Swansea Mine.—Promising developments ensued at this mine. Consequent upon a depletion of developed ore above No. 2 level, attention was directed to a persistence of ore occurrences below that level. A pilot shaft was sunk 30 feet from the bottom of the main shaft, and north and south drives were driven 40 and 23 feet respectively on the line of lode channelling. At the close of the period the south drive had not attained the alignment of ore persisting in the floor of the level above. The north drive penetrated and was driven some distance on a well-defined lode of clean ore several inches wide. About 36 feet northerly from the shaft, on No. 2 level, a winze was sunk at the converging point of two ore occurrences and a connection was effected with the north drive on the bottom level. The lode in the winze is well-defined, and the work undertaken has revealed an encouraging persistence of ore below No. 2 level, in the northern end of the mine.

The gross production of metallics from this mine was 3150 oz. silver and 88·18 tons lead. The ore production resulted from the development work undertaken, and a little overhand stoping at No. 2 level, in the northern end of the mine.

An option was, latterly, taken over the mine but had not been exercised at the close of the period under review.

Sunshine Mine.—Open cutting reached the lateral extremities of the formation carrying fragmental silver-lead ore, consequent upon which the mine was idle for a short period, and then let on tribute when operations were pursued in the floor of the opencut with good results. The gross production of metallics was 2435 oz. silver and 30·65 tons lead.

Britannia Mine.—Two parties carried out restricted stoping above the main tunnel and at other parts of the property, and produced 1761 oz. silver and 14·49 tons lead.

T.L.E. Mine.—A local syndicate, registered as the Z-L Syndicate, proceeded with the unwatering of this mine. Encouraging reports of ore left by previous operators incited the venture. Pumping and winding arrangements were installed and the workings were unwatered to the 110 feet level. Attention was first directed to the T.L.E. lode, but results were disappointing, and, latterly, preparations were made for entering Hughes' old workings.

Several small parties of State tributers, and others, intermittently operated in small shows, and on surface dumps, and in old workings at previously abandoned mines at Zeehan, Comstock, Austral, Montagu, Oceania, and Dundas, and produced several parcels of silver-lead ore, the gross metallic contents of which approximated 2770 oz. silver and 35·3 tons lead; but there are no noteworthy developments to be recorded in connection with operations.

Mt. Lyell. — Tasman Syndicate. — Mr. John Cornish (Manager) reports:—Since commencing for the year 1924 the following work was done:—On 40-acre section—drove

50 feet; No. 3 tunnel, renewed 200 feet; No. 2 tunnel, cut trench 100 feet in length, 4 feet wide, and 4 feet deep. On 20-acre section—renewed 150 feet No. 2 tunnel; sank winze 25 feet below No. 1 level; stoped 300 feet from winze; renewed No. 1 level; renewed 36 feet between No. 2 tunnel and No. 1 level; drove 20 feet off of shaft. Average number of men employed for the 12 months, four.

COPPER.

The quantity of copper produced was 6698 tons, valued at £457,386.

The Mt. Lyell Mining and Railway Company Limited.—Ore and metal-bearing flux smelted (as reported by the general manager) were as follow:—

Ore and Metal-bearing Flux Smelted—

Source of Material.	Tons (dry).
Ore from the Company's Mt. Lyell Mine ...	10,855
Ore from the Company's North Lyell Mine	3,923
Concentrates from the Company's North Lyell Mine ore	36,838
Total	51,616

Blister copper produced, 6761 tons, containing—Copper, 6698 tons; silver, 147,376 oz.; gold, 2134 oz.; approximate value, £488,989.

Average number of men employed—

Mining Department—		
At the Company's Mt. Lyell Mine...	134	
At the Company's North Lyell Mine	369	
At the Company's Lyell Comstock Mine	1	
	——	504
Reduction Works Department (including Lake Margaret)		391
Railway Department—		
Mt. Lyell Railway	109	
North Lyell Railway	8	
	——	117
Total		1012

Dividends paid during year, £128,919 10s. = 2s. per share.
Dividends paid from the inception of the Company to the 31st December, 1924, £4,152,308.
Copper produced from the inception of the Company to the 31st December, 1924, 192,910 tons fine.
Silver produced from the inception of the Company to the 31st December, 1924, 13,353,830 oz. fine.
Gold produced from the inception of the Company to the 31st December, 1924, 382,530 oz. fine.

Mining.—The principal operations were again confined to the North Mount Lyell Mine, which supplied practically the whole of the ore treated, the Mount Lyell Mine being drawn upon only for the small quantity of basic flux required in the blast furnace.

Mount Lyell Mine.—Work in this mine was confined to the extraction, at No. 5 level, of the small tonnage of pyrites required for blast furnace work. The mine was also unwatered down to the No. 6 level to permit of the workings at the latter being drawn upon for pyritic ore when required. A small quantity of copper was recovered, by precipitation, from the mine water during the term.

North Mount Lyell Mine.—Development work was carried out in this mine during the year as required. Ore extraction was actively carried on. A strike of timber-workers, which took place early in the year, hampered the supply of mining timber during several months, slightly affecting the ore output, which, despite this restriction, showed a slight increase over that of the preceding year. The usual quantity of copper precipitates was recovered from the mine water during the year.

Lyell Comstock Mine.—No mining work was done on this property during the year, the maintenance of plant and buildings only receiving attention.

Reduction Works.—Operations in all branches of the ore treatment plant proceeded satisfactorily along usual lines. Plant additions included the installation of a group of concentration tables and the extension of the sub-aeration flotation machine by five boxes, making 14 in all. A Telsmith rock-breaker, of large capacity, was also installed in place of the jaw crushers in use heretofore, and additions to the ventilation equipment were effected.

The metal-bearing material smelted during the year totalled 55,730 tons, including 11,398 tons of Mount Lyell pyrites, 4196 tons of North Lyell high-grade ore, 39,863 tons of concentrates produced from North Lyell ore, and 273 tons of precipitates; these figures showing a general increase over those of the previous year. The blister copper output totalled 7097 tons as compared with 5478 tons for the preceding year, the increase being largely due to the treatment of an accumulation of concentrates brought forward from the previous term.

Hydro-Electric Plant.—The hydro-electric plant at Lake Margaret was in continuous operation, and supplied the whole of the power and lighting required for the company's mines and works as well as the municipal requirements of Queenstown and Gormanston. In addition, a contract was entered into with the Government Hydro-Electric Department for the supply of power to Zeehan, and the erection of the necessary sub-station was taken in hand.

TIN.

The quantity of metallic tin won was 1108·45 tons, valued at £275,014; an average value of £165 8s. 9·7d. per ton.

The statistics for the year are:—

	Tons.	Value. £	Miners Employed.
Northern and Southern Division	1·10	261	41
North-Eastern Division.	628·49	155,668	370
Eastern Division	192·11	47,798	221
North-Western Division	246·39	61,246	235
Western Division	40·36	10,041	47
Total	1,108·45	275,014	914

Northern Division.—The output was 1·10 tons.

North-Eastern Division.—The output of tin was 628·49 tons, obtained as follows: —

	Tons.	Tons.
Pioneer and Gladstone Districts.—		
Pioneer Tin Mine	229·59	
Monarch	21·05	
Endurance	36·93	
Harmon	4·26	
Other claims	70·00	
	——	361·83
Ringarooma, Derby, and Branxholm Districts.—		
Briseis Tin Mines	179·40	
Arba Tin Mine	35·17	
Royal Gordon	5·85	
Other claims	41·12	
	——	261·54
Moorina District.—		
Weld Tin Mine	...	1·87
Straits Islands	...	3·25
Total	...	628·49

Eastern Division.—The output of tin was 192·11 tons, obtained as follows:—

	Tons.	Tons.
Weldborough, Lottah, and Blue Tier Mines—		
Total	...	56·05
St. Helens Mines.—		
Argonaut	28·39	
Others	24·85	
	——	53·24
Avoca Mines.—		
Story's Creek	74·20	
Lenna	2·97	
Others	5·65	
	——	82·82
Total	...	192·11

North-Western Division.—The output of tin was 246·39 tons, obtained as follows:—

	Tons.
Mt. Bischoff	222
Mt. Bischoff Extended	17·17
Waratah Sluicing	1·38
Mt. Balfour	—
Others	5·84
Total	246·39

Western Division.—The output of tin was 45·96 tons, obtained as follows:—

	Tons.
Dreadnought Boulder	1·18
Montana	2·83
Renison Bell	10·35
Razorback	6·15
Others	19·85
Total	40·36

Northern Division.—Forth Valley Tin Syndicate, No Liability.—The Manager (Mr. R. Magee) reports:—For the past year extensive prospecting only has been carried on, and, unfortunately, the results obtained do not warrant further expenditure for payable production, and, at time of writing, have advised the directors that I cannot recommend any further expenditure. The above prospecting was assisted by the aid of a 16-inch to 9-inch column, operating a 6-inch giant nozzle with a 100-feet head, through, respectively, 2, 2½, and 3-inch bits. This gave an operating radius of 70 feet, by which several faces of the surface detrital material was tested. No permanent attempt was made to save all the concentrates, the object of the development being to thoroughly prospect the area of 100 acres first. About £100 worth of tin oxide was gathered up from the several faces. But, in all cases, fully 25 to 30 per cent. loss took place through the blow of the jet pressing the concentrate into the soft, false pug-bottom. The detrital material mentioned is simply a massive slip from the tin spur range. This has been conclusively proved by the recent developments of a deep lead which traverses the whole length of the property. It is now proved that this old stream, which is elevated 250 feet above present Forth river-bed, was, on an average, 3 chains wide, and for 77 chains along same the fall was 41 feet. The wash is composed of material which must have travelled from 4 to 8 miles, viz., schist, limestone, quartz, porphyry (unusually large phenocrysts), large boulders of quartz specularite, &c., but, from the many tests taken, no topaz appeared. The conclusion arrived at "that no concentration of the present detrital material had entered the old stream" is evidently correct, as the surface material carrying the tin oxide is in a fine-grained quartz porphyry, also an abundance of topaz. As neither of these was observed in the river-wash, and as the values were far from satisfactory, further expenditure on the deep lead is useless. One peculiarity about this concentrate is the total absence of wolfram, only tin-oxide and gold showing on the main granite bottom, from wash of an average of 5 feet. The development on this lead is certainly interesting, as we have found the wash to be covered with a basalt covering up to 20 feet thick. On this, in places, is resting the big slip, and this in turn is covered with a lignite clay. The immense slip was from the east, and the subsequent wearing down of this mass caused some of the oxide its release from the gangue, and, eventually, the continued wearing down placed the material on the lower ground, or on top of the lignite clays. To carry out this work of prospecting, a road, 10 feet wide and 81 chains long, was built from Black Rock bridge, at a cost of £157. This road passed through 200 acres of exceptionally rich, agricultural, crown land; the water supply was kept constant from a dam on Dolcoath Creek, 250 feet above the area. The total amount expended was £1642, or about £1200 in actual prospecting. In conclusion, I am certain that the direct cause of failure to produce a payable mine, of a very large extent, was the loss through the very sticky, pug false-bottom.

New Shepherd and Murphy Mining Company, No Liability.—The General Manager (Mr. W. E. Hitchcock) reports as follows:—Output: Tons treated, 940; concentrates, 9·25 tons, containing Sn., WO^3 and Bi. The concentrates are under treatment at our Launceston works by magnetic separation, and, until this is completed, the value will not be available. Labour: An average of eight men have been employed during the year. Operations: These have consisted of completion of concentrating mill, erection of air compressor, overhauls, renewals, and connections to hydraulic pipe line, overhaul and improvements to water-race. In the mine the workings have been overhauled and timbering renewed where necessary. Some development work has been done on No. 2 lode at No. 3 adit. The mine and plant have been made ready, and kept so, for active production. This is contingent upon the ability to meet working costs, and, at the present, the value of the ore is too low owing, mainly, to the low price of one of our products—wolfram. The future depends upon an improvement in the market price of this product or, alternatively, a high price for tin.

North-Eastern Division.—Derby.—The Briseis Tin and General Mining Company Limited.—The General Manager (Mr. C. Lindsay Clark) reports:—I have to report that there is little variation from the usual routine for the year ending 31st December, 1924. As we go down the lead the height to which the drift requires to be elevated is increasing. Overburden removal, which can only be undertaken during the winter, when there is a satisfactory supply in the Cascade river, has made fair progress. Heavy overburden has to be removed from the eastern side of the gutter, and, in the meantime, the output has been seriously affected. To improve the water supply a start has been made on the construction of a rock-fill dam, in the Cascade river, which is laid out to ultimately store about 3000 acre-feet of water. The information desired is sent herewith. Average number of men employed, 125; black tin won, 258 tons; equivalent metallic tin, 183 tons; value, £44,650.

Notes on Cascade Dam.—Particulars of dam are as follows: Height of dam above lowest point, approximately, 70 feet; length of crest, 430 feet; area submerged, 20 acres; water impounded, 750,000,000 gallons. It is situated in a rocky gorge on the Cascade River, and will be of the rock-fill type, granite rocks forming a bank across the valley, with hand-packed face, on which is laid a thin water-resisting sheet of concrete. The main culvert control valves, etc., are in place, and the dam, with its concrete face, has been raised 20 feet in height, which will assist in the regulation of our water supply by permitting us to store three shifts of water, and that running away on Sunday for use on one or two shifts, as desired on overburden. The ultimate size of the dam has been determined from approximate statistics gathered for 20 years, and the size adopted is considered to be about the most economical for the stream upon which it is built.

Branxholm.—Arba Tin Mine.—The Manager (Mr. R. Rogers) reports:—The following work was done on the mine, which was worked by four parties of tributers. Ground sluiced during the year, 75,000 yards, mostly old working that was worked before; output of tin ore, 48 tons; value of ore, £760·9 number of men empolyed, 19.

New Ruby Flat Tin Mining Company.—The following particulars have been furnished by the Manager (Mr. J. Power):—Amount of tin won, 9 tons 8 cwt.; value, £1550; tributers on Ruby flat, 7 cwt.; value, £45. Six men employed (white). The tin was recovered from old ground, with the exception of some small solid blocks that were left when worked earlier. We had a good season for water, as sluicing operations were continued for eight months.

Royal Gordon.—Mr. J. Power (Manager) reports:—The tin won at the Royal Gordon for the year ended 1924 was 4 tons 4 cwt.; value, £672. Tributers on Royal Gordon, Bounday and party, 2 tons 15 cwt.; value, £440. A. Johnstone, 11 cwt.; value, £88. Rattray and Newman, 6 cwt.; value, £48.

The tin at the Royal Gordon was recovered from new ground, principally from a dyke formation with a large number of Greisen veins traversing the dyke. Width of the Greisen varies from half-an-inch to 15 feet. The best values are found where the Greisen widens or opens out. There is 15 years' work on this dyke at the present level of working depth, 60 feet. Water is scarce on this mine; last season was very good, sluicing operations were carried on for seven months. Four men employed (white).

Bradshaw's Creek.—The Pioneer Tin Mining Company Limited.—The General Manager (Mr. C. G. Ryan) reports:—For the year ended 31st December, 1924, 562,900 cubic yards of drift was pumped, or sluiced, for a return of 296 tons 15 cwt. 2 qr. 13 lb. of stream tin; an average of 60 men being employed. A more even distribution of the rainfall enabled sluicing operations to be carried out for longer than usual during the summer months. At the company's sawmill, employing 24 men, work has been carried on continuously. The Argonaut Mine, at St. Helens, employing 15 men, sluiced 77,200 cubic yards, with a hydraulic elevator, for a yield of 37 tons 9 cwt. 2 qr. 13 lb. of stream tin.

South Mount Cameron.—Endurance Tin Mining Company.—Work was continued in the flat, near the base or southern toe of Mount Cameron, for the best part of the year, but a more profitable block being acquired on the north-eastern boundary the plant is being removed to that position for future operations. In the same neighbourhood (1) Harman, (2) Ponsford, and others have won a little tin.

Gladstone.— Apart from the Monarch Tin Mining Company, whose management has gone over an extensive area of ground, the balance of the men working in this district are served by the water from the Mount Cameron race, with satisfactory results.

Groves Bros., at Amber Hill, are working a deep face profitably.

Lottah.—Lottah Tin Mines, No Liability.—The Manager (Mr. H. C. Lowry) reports:—From January 1st to May 29th work was carried on, in a small way, continuously, three men were employed, and one horse, on an average, for the above period. We knew the task before us was a hard one, as very little had been done during the the past 40 years. Both tunnels were blocked and all old timber had given way. This was all replaced with new timber, and both levels cleaned out. The higher level is in 600 feet, the lower one about 900 feet. The work done was very dangerous at times, owing to the big falls of earth. Mr. Curtain, inspector of mines, inspected the mine on the 25th March, 1924, and made an entry in the book, kept by mine manager, to the effect that the mine was, at the time of his visit, reasonably safe.

Both lodes, which are nearly parallel, can be seen. The tin stone is from 1 to 4 feet wide, and, in several places, exceptionally rich. In the face the lodes are strong and values are very good. It has been reported that tributers got about 12 tons of tin from 40 tons of ore at the mouth of No. 2 adit. We have traced the lodes on the surface for over a mile, and prove they connect up with the old Moon properties, and the large formations there. I consider the property is a valuable one, as it is already opened-up ready for stoping. If the lower level were continued on until underneath the Moon property there would be about 1000 feet of backs. A rise put up would drain the ground and enable companies to work the large formation about there, and a big field would eventually be the outcome of it.

Eastern Divison.—George's Bay.—George's Bay Tin Mining Company, No Liability.—The work done on the mine for the first three months under review was practically devoted to repair work to dams and races, rendered necessary owing to very excessive weather conditions. Severe storms experienced in the early part of 1924 resulted in very serious damage to the above. On completion of the work referred to sluicing operations were recommenced, and continued until early in December, resulting in the winning of 253 bags of tin ore, realising £2157 8s. 7d. net

When the last clean-up for 1924 was completed the directors decided upon a reorganisation of the methods of working, and have since installed a larger blower, and the races have been widened, thus providing for an increased pressure. The last-mentioned work has now been completed, and, with the larger machine, should have the effect of materially increasing the future output.

Avoca.—Ben Lomond.—Storey's Creek.—This is one of the soundest tin lodes in the State, if not in the Commonwealth. It is operated on a flat (30) angle or dip for 160 feet, and invariably presents a first-class face of ore, consisting of tin and wolfram. The latter predominates, and, should its market price come again, it would add materially to the worth and value of the property. Seventy to 80 men are constantly employed.

Leona Tin Mining Company (formerly South Esk), situated about 4 miles on the main road from Avoca, along the banks of the river, has been reported on most favourably by the management. A large and electrically-driven centrifugal pump has been installed, and, while for the time the mine is idle, a belief is entertained that the future will prove more successful.

Foster's Freehold.—Adjoins the Brookstead property where a couple of men, on shallow ground, make wages.

Blair's Show, close by, has also received attention, but objection to the discolouring of the water in the St. Paul's River, by stockowners in the district, is likely to restrict anything being done with it by way of flotation.

North-Western Division.—Mt. Bischoff Tin Mine.—The Superintendent (Mr. J. H. Levings) reports:—For the period under review a vigorous developmental policy has characterised operations at this mine. The results have been satisfactory, and for the current year a substantial increase in the tin output may be anticipated. During the 12 months 74,790 tons of ore were crushed. Of this total 13,640 tons came from the underground workings. The tin oxide output was 335 net dry tons; average assay, 65·9 per cent.; and net value, £50,897. Continued improvements have been made with the treatment of tin-bearing pyrite and, very shortly, the quantity put through will be increased to approximately 200 tons per week. The methods in use permit of pyrite with one-half of one per cent. tin being profitably handled. The recovery is very good. Average number of men employed, 205.

Mount Bischoff Extended Tin Mine.—The work carried out during the term has been limited. A contract has been entered into with the Mt. Bischoff Tin Mining Company whereby a short length, some 300 feet, of the old Wheal Tin Mine is to be mined, in which it is reported that there are some good values. Also, the big company are to supply all electrical power needed. The conversion of the plant from steam to electricity is in hand now, and it is hoped that the plant will be ready to start active operations underground, &c., by the end of February.

Wombat Tin Mine.—Hydraulic sluicing operations are being continued at this mine. Three men are employed and the syndicate are doing very well, and from reports the ground ahead of them is still richer than that being worked.

Renison Bell Mine.—Mr. D. A. Wilkinson (Manager) reports:—Mining: The ore supplies for crushing were obtained chiefly from surface workings adjacent to and south of the mill site, and consisted of oxidised or free milling ore. No new developments have occurred at the mine during the period under review. The mine, for the period, has been worked by a party of tributers, and, owing to the limited quantity of free-milling ore accessible to the existing means of transport to the stamp battery, operations have been conducted on a limited scale.

Milling: At the stamp battery five-head of stampers have worked intermittently. The total quantity of crude ore mined and treated was 1386·5 tons, which yielded 16·37 tons of tin oxide, containing 10·59 tons of metallic tin which realised the sum of £2355. The total number of men employed was five.

Williamsford Tin Mine.—Two ends have been kept working constantly developing the various lodes. At present a site is being cleared for battery and incline haulage and tramline to connect with the X-river tramline which connects with the Emu Bay Company's railway. It is stated that they intend to erect a five-head battery, &c. There is some nice tin showing.

North Heemskirk Tin Field.—Ground sluicing was continued by an average number of nine men on the North Heemskirk tin field, and resulted in an approximate gross production of 11·4 tons of tin, valued at £2806.

South Heemskirk.—Nothing of material importance ensued in connection with operations at South Heemskirk, and only ·55 ton of tin, valued at £146, was produced. Latterly, prospects of an active resumption of operations at the Federation Tin Mine were a little brighter, the owners being hopeful of raising the required capital in Great Britain.

Razorback Tin Mine.—At the Razorback Tin Mine, at Dundas, operations were actively pursued with an average of five men. Oxides to the approximate gross value of £1507 were recovered from the treatment of produce from open-cutting in the weathered zone and from hand-sorting material broken from the cropping of the arsenical pyrite zone.

COAL.

The total quantity of coal raised amounted to 75,988 tons, valued at £66,555.

The raisings at the different collieries were:—

Colliery.	Tons Raised.
Mt. Nicholas	29,077
Cornwall	40,707
Cardiff-Jubilee	3,745
York Plains	934
Illamatha	675
Fingal	63
Seymour	100
Preolenna	500
Allison	179
Others	8
Total	75,988

The Mount Nicholas Coal Company Proprietary Limited.—The Manager (Mr. J. L. Pemberton) reports:—I beg to report that mining operations at the above colliery have been carried on uninterruptedly during the year 1924, except for a period of seven weeks, at the beginning of the year, during which time the employees were on strike. During the first six months of the year both No. 1 and No. 3 tunnels were working in the six-feet seam, but in June the No. 1 tunnel, which was working longwall, had to be closed on account of the difficulty in keeping the working faces open and the consequent high cost of production. All of the coal is now being produced from No. 3 tunnel, which is in a distance of 21 chains from the entrance. The first and second right headings, which bear at right angles from the main heading, are in 10 chains, and the first and second left headings, which also bear at right angles from the main heading are in nine chains. Numerous small faults have been met with in the workings in the No. 3 tunnel; these have proved very troublesome. The ventilating fan has been connected up with this new tunnel; formerly this fan was used to ventilate the old No. 1 tunnel workings. During the latter part of the year a drift was started from the four-feet to the six-feet seam, at a grade of 1 in 12, to work about 100 acres of coal, adjoining the Cornwall Coal Company's boundary. The average number of men and boys employed, above and below ground, during the year was 92.

Seymour Coal Mine.—The Manager (Mr. J. T. Rigby) reports:—Jetty and coal hopper and coal skips completed; coal raised, about 200 tons, approximate value, about £350; 17-ton steam boiler installed; all mountings, and pipe fittings, and connections to steam pumps completed; poppet-legs and head-gear erected; other preliminary work completed ready for pumping operations. Average number of men employed, four. A considerable amount of other preliminary work has been done, such as timber-getting, hauling, carting, &c.

Fingal.—Small quantities for local domestic purposes have been obtained from this source, but the work was intermittent and of little consequence.

Avoca.—Mount Christie.—Messrs. Rubenach, father and son, have here opened a seam about half-a-mile beyond that of Goodall and McCormack's workings, 6 feet of which they are working in a narrow heading that, combined with the distance to the railway, over rough roads for carting, prevents any great progress being made with the venture.

Jubilee Colliery.—Mr. J. H. Gard (Manager) reports:—Very little coal was mined during the first six months. The aerial ropeway, 2¼ miles in length, was completed on 30th June, 1924, and started running on 1st July, 1924: 500 feet of developmental work was carried out in the various headings; the coal seam being operated upon maintains its usual height of 6 feet 6 inches; the daily output has now reached 40 tons per day, and is being gradually increased.

York Plains.—Gregg's Colliery.—Intermittent work continues on this property. The coal is smokeless anthracite, used for hop kilns and malstering purposes, and, consequently, the demand is not continuous. When at work four men are found employment.

Dawson Siding Coal Mine late Allison's.—The Manager (Mr. J. Andrew Wauchope) reports:—In submitting a resumé of the work accomplished at the Dawson Siding Coal Mine, it will only be necessary for me to refer to the actual developments which have taken place since entering into possession of the property. Work was commenced on the main drain on January 23rd of the past year. The dimensions of this drain are as follow:—Length, 330 feet; width, 4 feet; depth, 4 to 8 feet (average, 6 feet). This work drains the mine workings into Caroline Creek, a tributary of the River Mersey.

Open-cut: An open-cut has been made connecting the main entrance to the mine with the surface:—Length, 153 feet; depth, 8 feet at tunnel entrance.

Main Tunnel Entrance: Length, 660 feet; width, 6 feet; floor to roof, 6 feet. This tunnel connects with a shaft sunk at a distance of 606 feet from the tunnel entrance. Depth of shaft, 27 feet. It also intersects an intermediate shaft with a depth of 40 feet. Both shafts are well timbered, and can be used as hauling shafts when necessary. The object, however, of running the tunnel is to avoid the immediate expense of installing both a hoisting and pumping plant. At present we have tunnel facilities to deal with an output of 100 tons of coal per day. At present the coal is trucked from the main heading direct to the railway for distribution.

Shafts: In addition to the two shafts intersected by the main tunnel, two shafts have been sunk on the south-western section of the coal measures. No. 1 is located 400 feet S.W. from the main tunnel, and No. 2, 500 feet in the same direction. Coal was intersected at a depth of 15 feet. They are both connected by dip tunnels with the surface.

Cross-headings: Cross-headings are now being driven from a point 33 feet on the main tunnel extension, from the 27 feet shaft, from which "cords" will be run. In this section of the coal-measures 2000 tons of good over grade coal have been "blocked" out ready for immediate and profitable extraction; the value of this coal exceeds the purchase price of the mine, and the development work accomplished up-to-date

Preolenna Coal Mine.—Early in the year a little work was carried out, and a few hundred tons of small coal sent away.

The old Great Fitzroy Coal Mine has been started again, with Mr. H. Barr as manager, and is now called the Neunna Coal Mine. They are driving a tunnel, on the seam, 100 feet, and if it turns out successfully more men will be put on to open-up the mine.

Illamatha Coal Mine (Spreyton).—Mr. Bounds, owner and manager, with a few men, is still winning coal, and supplies all orders coming to hand. The seam being mined averages about 16 inches.

Catamaran Colliery Proprietary Limited.—Mr. E. C. Tregear reports:—During the year no coal has been mined, and the mine has been under option to a new company, known as the Catamaran Boring Co. Pty. Ltd. This company was formed for the purpose of placing down several bores on the company's leases, to prove the continuity of the seams to the dip, and, in the event of the operations proving satisfactory, they will form a new company with ample capital to open out the colliery in a comprehensive way.

Drilling: The Boring Company, as you are aware, have been using the Government "Victoria" Drill, and, while good progress was made with this drill, we cannot say that same is suitable for boring for coal, as it is not reliable in obtaining cores of the measures. Seven drill bores have been placed down which show a continuity of the seams over approximately 300 acres of the company's sections, at present under lease. Practically the whole of this area is, comparatively, level land, while the country immediately north of same rises to an elevation of approximately 500 feet. It is expected that the seams, as shown to be contained in the level land, have been thrown up into this hill, and further boring will be necessary to prove the continuity thereof in that direction. These boring operations are to be carried out as soon as a suitable diamond drill is available

Prospecting: Extensive prospecting operations have been carried out on the company's leases, and also the L.S. sections adjoining. An outcrop of coal has been located in the rising country to the north of the shaft, which has been traced for about 20 chains. The quality of this seam, as shown by analysis, is very satisfactory, and seems to be very similar to that contained in the shaft seam and may be, perhaps, identical with it. It is proposed to continue these prospecting operations with a view to tracing the outcrop as far as possible.

Future Operations: The company now propose to arrange the flotation of a new company to take over the mine, and open a colliery in a moderate way, and to work the proved coal in the low lying portions of the field, and to have, in conjunction with such operations, a boring policy, to carry out further boring with a view to proving the larger bodies of coal which are expected to exist in other parts of the company's sections.

SHALE.

The total quantity of shale won was 1101 tons, valued at £1094.

The producers were:—

	Tons.
Southern Cross Motor Fuels Co.	796
Tasmanian Cement Co.	305
	1,101

Southern Cross Motor Fuels Limited.—The Manager (Mr. A. W. McPherson) reports:—Operations were confined wholly to the erection of plant considered suitable for the refinement of, and also for converting, crude shale oil into motor spirit. Experiments with this plant continued for seven months without meeting with the success it was anticipated, and, in August, 1924, the works were closed down, the value of the output for the term being nil. Number of men employed, 12. Twenty-six tons of shale were dispatched overseas for test purposes, valued at £26.

Tasmanian Cement Proprietary Limited.—The Manager (Mr. E. G. Stone) reports:—Operations over the last 12 months include a very satisfactory development of our mine. In all three drives, 1782 feet long, have been taken through the seam of shale in the different districts, so that by the end of the year sufficient shale was exposed to enable our company to go through with its operations for supplying shale for the cement works at Railton. Large stock piles, containing over 3000 tons of shale, are now ready at the shale mine, at Dinsdale's, Latrobe. Included in this work is the erection of a large crushing plant for bringing the shale down to a size suitable for use in the retorts. In all, by the end of 1924, 40 men were being employed. Included in the mining scheme were the means of transport for the shale to the railway-siding, namely, three-quarters of a mile of narrow gauge line (this was carried out by the Government). Also a large suspension bridge over the Mersey, and collecting bins for discharging the shale into the railway trucks. The mine is now in a position to supply, at least, 210 tons of oil shale per day, and, as further development goes forward, will be in a position to treble this when necessary.

BISMUTH.

No bismuth was won during the year.

WOLFRAM.

The output of wolfram was as follows:—

	Tons.	Value.
		£
Avoca Mines	54	2,785
S. and M. Mine, Middlesex	—	—
Total	54	2,785

LIMESTONE.

The output was as follows:—

	Tons.
Electrolytic Zinc Co.	4,926
Broken Hill Proprietary	141,214
Total	146,140

IRON ORE.

No iron ore has been produced during the year.

Hoskins' Iron Ore Sections.—The Manager reports that during the year a considerable amount of trenching and tunnelling was undertaken at different parts of the sections. In the eastern and south-eastern portions of the property three tunnels were driven. No. 1 tunnel penetrated a lode 60 feet wide, of mostly high-grade iron ore; No. 2 tunnel passed through a branch lode 30 feet wide, comprised mostly of high-grade ore; and No. 3 tunnel entered a high-grade ore-body at 100 feet and, latterly, was being advanced in ore. These tunnels were of an exploratory nature, and have penetrated the lodes 50 to 100 feet below the outcrops. Average number of men employed, four.

IRON PYRITES.

No iron pyrites was produced during the year.

OSMIRIDIUM.

The output for the year was 364·805 oz., valued at £10,617, and the average number of men engaged was 139.

BARYTES AND SCHEELITE.

No barytes nor scheelite was won during the year.

ZINC.

Electrolytic Zinc Company of Australasia Limited.—The Manager reports operations at Risdon during the year 1924:—The average number of employees at Risdon, during 1924, was 1377. Slab zinc, produced at Risdon, amounted to 46,372 tons, valued at £1,550,022. The amount of cadmium produced was 159 tons, valued at £35,624. The raw material used was obtained, in part, from the west coast of Tasmania, but chiefly from Broken Hill, N.S.W. During 1924 an acid plant and superphosphate plant, designed to utilise by-product gases from the zinc plant, were completed.

Operations at Zeehan.—The average number of employees at Zeehan during the year was 158. At the Zeehan plant both lead concentrate and zinc calcine were produced from Tasmanian ore. Lead concentrate totalling 339 tons was produced, having a content of 132 tons of lead and 11,952 oz. of silver. Zinc calcine amounting to 7915 tons was despatched to Risdon for treatment in the zinc plant. This calcine contained 2447 tons of zinc, valued at £80,656; 5 tons of cadmium, valued at £1175; and also lead and silver amounting to 568 tons and 55,569 oz. respectively. The zinc and cadmium extracted at Risdon, from calcine produced at Zeehan from Tasmanian ore, are included in the returns for the Risdon plant. The lead and silver content of the Tasmanian calcine form portion of a lead-silver residue which is sold to smelters in South Australia.

The following further information has been furnished by the Inspector of Mines for the Zeehan district (Mr. W. H. Williams):—Constructional work for the primary treatment of mixed (zinc-lead-silver) ores was vigorously continued, and a plant of crushing, grinding, flotation, drying, and calcining units was completed and placed in commission during the year. Units completed during the period were a battery of four Herreshoff furnaces, zinc and lead flotation boxes, a set of refloat boxes, and an Edwards drier for dehydration of zinc concentrates prior to calcining. Latterly, attention was directed to enlarging the drier, installing improved handling and conveying gear, and effecting improvements generally about the works. Lead concentrates were bagged and shipped to the mainland, via Burnie, while the zinc calcines were shipped in bulk to the company's works at Risdon, via Strahan. The work of erecting the power line and sub-stations for the transmission of electric power from the Lake Margaret hydro-electric power station was well advanced, and power should be available to the Zinc Company early in the new year.

ZINC-LEAD.

Globe Mine.—Operating on a limited scale, R. Clark and party produced two lots of zinc ore, containing 88·48 oz. silver, 1·77 tons lead, and 16·59 tons zinc. In addition silver-lead ore was won by the same party for a gross production of 128·29 oz. silver and 1·2 tons lead. H. A. Bell and party produced one lot of zinc ore containing 117·329 oz. silver, ·746 ton lead, and 2·523 tons zinc. Walters and party produced two parcels of zinc ore for a gross return of 1126·74 oz. silver, 6·46 tons lead, and 12·14 tons zinc. A parcel of silver-lead ore, produced by the same party, contained 441·13 oz. silver and 1·157 tons lead.

North Stream Mine.—A party of three men acquired an area embracing the old North Stream Mine, and carried out exploratory and ore-producing work in the old workings. The gross production of metallics was 381·6 oz. silver, 5·874 tons lead, and 7·75 tons zinc.

Comstock Workings.—Dunkley and party reopened the underground workings at the Comstock opencut, and carried out a creditable amount of exploratory work, and some stoping, on the zinc-lead ore body. The gross production was 544·25 oz. silver, 5·45 tons lead, and 12 tons zinc.

Electrolytic North (Tasmania) Limited.—The Manager (Mr. F. G. Burns) reports:—Summary of operations to 31st December, 1924. The object of the work carried out by the above company was to endeavour to prove the northern extension of the zinc-lead sulphide ore-bodies into their leases, which are north, and adjoining the Electrolytic Company's property, formerly known as the Hercules Mine. The number of men employed has varied between three and five during the period under review. Exploratory work in Nos. 1 and 2 levels, has proved the existence of zinc-lead sulphides, and No. 3 level is, at present, being cleaned-up, preparatory to cross-cutting from same, to test the veins exposed in Nos. 1 and 2 levels at a greater depth. A total of 114 feet has been driven to the 31st December, 1924.

Mount Read Mine.—The Manager (Mr. J. Searle) reports:—The then manager had three men started, about the middle of March, cross-cutting, and won about 50 tons of 40 per cent. zinc ore, and placed same at grass. The men were put off on 17th April, 1924, after working six weeks. At the present time I have four men employed at the mine building and breaking ore.

RETURN showing the Quantity and Value of Minerals Produced in the State of Tasmania during the Year 1924.

Mineral.	Quantity.	Value.
		£
Bismuth ..... tons	...	...
Cadmium ..... „	5·247	1175
Copper..... „	6698	457,386
Coal ..... „	75,988	66,555
Carbide ..... „	3305	65,660
Cement ..... „	21,026	105,130
Gold .....ozs. f.	4625·6	21,563
Lead..... tons	4559·11	154,881
Limestone..... .... „	146,140	146,140
Osmiridium..... ozs.	364·805	10,617
Ochre ..... tons	20	50
Pyrites ..... „	...	...
Silver .....ozs. f.	642,158	97,837
Shale..... tons	1576	1526
Tin ..... „	1108·45	275,014
Wolfram ..... „	54	2785
Zinc ..... „	2748·75	90,485
Total.....	...	£1,496,804

The Electrolytic Zinc Co. recovered 43,925 tons of Zinc, valued at £1,469,366
and 154·0826 „ Cadmium, „ £34,449
from other than Tasmanian ores, and employed an average of 1374 men.

PLANS.

The number of different plans now stocked by the Department is 109. Of these 28 were revised for reproduction by the Government Printer, and six new compilations were made. Forty geological sketch maps were prepared to accompany the different reports prepared by the Government Geologists. The colour work in connection with 11 other plans was also undertaken. The number of copies of plans reproduced by the Government Printer was 810.

Large Scale Plans.—The preparation of these has been proceeded with as opportunity offered, and four sheets of the Weldborough plan have been completed.

Underground Survey Plans.—Twenty-three plans of additional underground workings were received, checked, and filed in accordance with the provisions of "The Mines and Works Regulation Act, 1915."

GEOLOGICAL SURVEY BRANCH.

The Reports of the Government Geologists are appended.

INSPECTORS OF MINES.

The Reports of the Chief Inspector of Mines and the three inspectors are appended.

LABORATORY.

The Officer-in-charge (Mr. W. D. Reid, Government Chemist and Assayer) was appointed to represent the State at the British Empire Exhibition, Wembley, England. He left Hobart in May, and returned at the end of the year, and a short report prepared by him is appended.

During his absence, Mr. L. H. Bath was appointed Acting Government Chemist and Assayer, and carried on the work of the laboratory in a very satisfactory manner. His report is appended.

REVENUE.

The revenue for the year amounted to £14,678 13s. 11d. The sum of £1988 12s. 4d. deposited as survey fees with applications for leases is not included in the above.

MINING MANAGERS' EXAMINATION.

As there was no candidate for examination no examination was held.

DEPARTMENTAL STAFF.

The changes in the staff were as follow:—

T. C. Button, Assistant Clerk, Launceston office, resigned, 15.4.24.

W. R. Forward, Assistant Clerk, Launceston office, appointed, 1.6.24.

B. C. Greene, Registrar of Mines, Devonport, resigned, 30.4.24.

A. D. Soutar, Registrar of Mines, Devonport, appointed, 15.8.24.

V. L. Biccard, Clerk, Hobart office, on loan from Police Department, from 16.11.24.

W. D. Reid, Government Chemist and Assayer, appointed Government representative Empire Exhibition, from 1.4.24.

L. H. Bath, appointed Acting Government Chemist and Assayer, Launceston, during absence of W. D. Reid.

CONCLUSION.

In conclusion I desire to acknowledge the loyal assistance rendered by the officers of the Department, as also the officers of the Mining Branch of the Lands and Surveys Department.

I have the honour to be,

Sir,

Your obedient Servant,

WM. A. PRETYMAN,
Secretary for Mines.

The Hon. the Minister for Mines.

No. 1.

RETURN showing the Quantity and Value of Asbestos produced from 1899 to 1920-24 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
1920–1924	—	—
	3565·5	7105

No. 2.

RETURN showing the Quantity and Value of Barytes produced during the Years 1916 to 1924 inclusive.

Year.	Quantity.	Value.
	Tons.	£
1916	83	359
1917	52	234
1918	217	977
1919	399	1160
1920	1048	4163
1921–1924	—	—
	1799	6893

No. 3.

RETURN showing the Quantity and Value of Bismuth produced from 1904 to 1924 inclusive.

Year.	Quantity.	Value.
	Tons.	£
1904	·3	15
1905	3·5	800
1906	·3	24
1907	·175	27
1908	3·75	462
1909	2·9	980
1910	10·70	4249
1911	14·395	5758
1912	7·59	2646
1913	5·08	1627
1914	5·619	1666
1915	5·5	1203
1916	3·51	1059
1917	4·212	895
1918	4·608	1038
1919	1·77	573
1920	·10	9
1921	·05	21
1922	—	—
1923	—	—
1924	—	—
	74·059	23,052

No. 4.

RETURN showing the Quantity and Value of Cadmium produced during the Year 1924.

Year.	Quantity.	Value.
	Tons.	£
1924	5·247	1175

No. 5.

RETURN showing the Quantity and Value of Carbide produced during the Years 1922 to 1924 inclusive.

Year.	Quantity.	Value.
	Tons.	£
1922	4512	135,509
1923	3236	64,720
1924	3305	65,660
	11,053	265,889

No. 6.

RETURN showing the Quantity and Value of Cement produced during the Year 1924.

Year.	Quantity.	Value.
	Tons.	£
1924	21,026	105,130

No. 7.

RETURN showing the Quantity and Value of Coal raised from 1880 to 1924 inclusive.

Year.	Quantity.	Value.
	Tons.	£
1880 to 1903 inclusive	767,261	659,010
1904	61,109	51,942
1905	51,993	44,194
1906	52,895·75	44,962
1907	58,891	50,057
1908	61,067·75	51,907
1909	66,161·75	56,237
1910	82,445	48,609*
1911	57,067	26,214*
1912	53,560	24,568*
1913	55,043	25,367*
1914	60,794	27,853*
1915	64,536·25	30,418*
1916	55,575	27,736*
1917	63,412	38,673*
1918	60,163	37,676*
1919	66,253	47,004*
1920	75,429	64,005*
1921	66,476	63,446*
1922	69,238	61,016*
1923	80,718	70,797*
1924	75,988	66,555*
	2,106,085	1,618,246

* Value at pit's mouth.

No. 8.

RETURN showing the Quantity and Value of Blister Copper produced from 1896 *to* 1924 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1896 to 1903 inclusive	52,154	4,186,805
1904	8371	*582,540
1905	8610	*704,287
1906	8708	*862,444
1907	8247	*832,691
1908	8833	*603,063
1909	8638	*586,419
1910	8193	*553,822
1911	6022	*385,797
1912	5136	*430,965
1913	4569	*364,732
1914	7509	*477,361
1915	7901	*709,167
1916	6305	*884,689
1917	5845	*841,583
1918	5559	*772,162
1919	5071	*557,710
1920	4837	*576,046
1921	6221	*493,271
1922	—	*410,046
1923	—	*452,879
1924	—	*479,825
	—	16,748,304

* Value of Gold contents deducted.

No. 9.

RETURN showing the Quantity and Value of Copper in Blister Copper and Copper Ore during the Years 1919, 1920, 1921, 1922, 1923, *and* 1924.

Year.	In Blister Copper.		In Copper Ore.		Total.	
	Q'ty.	Value.	Q'ty.	Value.	Q'ty.	Value.
	Tons.	£	Tons.	£	Tons.	£
1919	5014	503,977	13	984	5027	504,961
1920	4791	528,177	·75	60	4791·75	528,237
1921	6171	462,876	9·843	287	6180·843	463.163
1922	5616	391,535	—	—	5616	391,535
1923	6063	435.282	1·7	131	6064·7	435,413
1924	6698	457,386	—	—	6698	457,386

No. 10.

RETURN showing Quantity and Value of Copper Matte exported during the Years 1902, 1903, *and* 1904 *to* 1924 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1902	2500	50,112
1903	3727	83,624
1904–1924	—	—
	6227	133,736

No. 11.

RETURN showing the Quantity and Value of Copper Ore produced from 1896 *to* 1924 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1896 to 1903 inclusive	23,736·5	298,292
1904	104	1640
1905	1150·75	52,939
1906	2234·5	72,480
1907	788·25	36,975
1908	1185	6588
1909	1587·8	21,619
1910	671·27	13,150
1911	2286	22,852
1912	1391·6	9479
1913	1966·8	10,932
1914	3287·75	18,680
1915	66	1367
1916	96·84	3765
1917	771·40	6171
1918	444·170	3944
1919	123	984
1920	1·50	60
1921	—	287
1922	—	—
1923	1·70	131
1924	—	—
	41,894·83	579,335

No. 12.

RETURN showing the Quantity and Value of Gold won from 1880 *to* 1924 *inclusive.*

Year.	Quantity.	Value.
	Ozs.	£
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
	1,888,681·448	7,564,681

No. 13.

RETURN showing the Quantity and Value of Iron Ore produced from 1897 *to* 1924 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1897 to 1903 inclusive	20,442	16,276
1904	6840	2975
1905	6300	2600
1906	2600	1100
1907	3000	1150
1908	3600	1600
1909–1924	—	—
	42,762	25,701

No. 14.

RETURN showing the Quantity and Value of Iron Pyrites produced during the Years 1915 *to* 1924 *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	—	—
	68,293·273	93,916

No. 15.

RETURN showing the Quantity and Value of Lead included in Silver Lead during the Years 1919 *to* 1924 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1919	2357·142	64,403
1920	3855·639	142,268
1921	1434·794	32,241
1922	4925·880	118,257
1923	4784·057	127,542
1924	4559·110	154,881

No. 16.

RETURN showing the Quantity and Value of Limestone produced during the Years 1923 *and* 1924.

Year.	Quantity.	Value.
	Tons.	£
1923	100,113	122,428
1924	146,140	146,140
	246,253	268,568

No. 17.

RETURN showing the Quantity and Value of Ochre produced during the Years 1918 *to* 1924 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1918	100	200
1919	—	—
1920	—	—
1921	14	56
1922	—	—
1923	—	—
1924	20	50
	134	306

No. 18.

RETURN showing the Quantity and Value of Osmiridium produced during the Years 1910 *to* 1924 *inclusive.*

Year.	Quantity.	Value.
	Ozs.	£
1910	120	530
1911	271·88	1888
1912	778·77	5742
1913	1261·65	12,016
1914	1018·83	10,076
1915	247·048	1581
1916	222·150	1899
1917	332·079	4898
1918	1606·743	44,833
1919	1669·715	39,614
1920	2009·196	77,114
1921	1750·655	42,935
1922	1173·924	35,512
1923	673·423	19,642
1924	364·805	10,617
	13,500·868	308,897

No. 19.

RETURN showing the Quantity and Value of Scheelite produced during the Years 1917 *to* 1924 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1917	69	12,130
1918	216	39,252
1919	198·98	43,181
1920	105·09	17,905
1921–1924	—	—
	589·07	112,468

No. 20.

RETURN showing the Quantity and Value of Shale produced during the Years 1910 *to* 1924 *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
	6680	7253

No. 21.

RETURN showing the Quantity and Value of Silver-Lead Ore produced from 1888 *to* 1924 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1888 to 1903 inclusive	300,977·5	2,571,771
1904	51,138	203,702
1905	75,270·5	246,888
1906	87,117·75	462,443
1907	89,762·5	572,560
1908	63,116·9	322,007
1909	80,378·35	298,880
1910	51,226·91	247,576
1911	61,501·195	253,361
1912	90,123·868	309,098
1913	83,289·268	319,997
1914	11,565·54	96,225
1915	10,382·95	91,689
1916	11,229·410	153,796
1917	9575·780	152,122
1918	7241·400	127,176
1919	*—	136,234
1920	—	261,166
1921	—	59,422
1922	—	223,183
1923	—	201,284
1924	—	220,279
	—	7,540,859

* "Quantity" discontinued, as it has been found previous figures are misleading, concentrates, hand-picked ore, and crude ore having all been added and included under the one head.

No. 22.

RETURN showing the Quantity and Value of Silver contained in Silver-Lead and Blister Copper during the Years 1919, 1920, 1921, 1922, 1923, *and* 1924.

Year.	In Silver Lead.		In Blister Copper.		Total.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Ozs.	£	Ozs.	£	Ozs.	£
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	75,898	147,376	22,439	642,158	97,837

No. 23.

RETURN showing the Quantity and Value of Tin exported from Tasmania from 1880 *to* 1904 *(compiled from Customs Returns only), Tin Ore produced during the Years* 1905 *to* 1918 *inclusive, and Metallic Tin produced during the Years* 1919 *to* 1924 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1880 to 1904 inclusive	76,708·4	7,167,564
1905	3891·5	362,670
1906	4472·75	557,266
1907	4342·75	501,681
1908	4520·8	421,580
1909	4511·2	418,165
1910	3701·01	399,393
1911	3953·05	513,500
1912	3713·825	543,103
1913	4010·41	531,983
1914	2572·713	259,300
1915	2599·234	292,306
1916	2854·636	350,852
1917	2637·337	427,917
1918	2256·203	488,798
1919	1580·22*	395,794
1920	1310·411*	369,362
1921	790·395*	130,257
1922	679·440*	112,407
1923	1160·390*	236,955
1924	1108·450*	275,014
	133,475·124	14,755,867

* Metallic Tin.

No. 24.

RETURN showing the Quantity and Value of Wolfram produced from 1899 *to* 1924 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1899 to 1903 inclusive	57·25	2157
1904	15·5	1147
1905	32·25	2371
1906	19·75	1465
1907	40·75	4411
1908	4·5	338
1909	28·35	2494
1910	67·35	7280
1911	69·96	7769
1912	66·49	6601
1913	68·07	7040
1914	46·873	4327
1915	94·685	11,115
1916	106·265	16,910
1917	172·190	28,714
1918	155·362	27,239
1919	120·907	26,613
1920	70·89	13,626
1921	10·34	676
1922	19·26	1024
1923	96·86	6150
1924	54	2785
	1417·852	182,252

No. 25.

RETURN showing the Quantity and Value of Zinc produced during the Years 1917 *to* 1924 *inclusive.*

Year.	Quantity.	Value.
	Tons.	£
1917	48	1968
1918	3822	152,880
1919	285	13,110
1920	9·3	334
1921–1923	—	—
1924	2748·75	90,485
	6913·05	258,777

No. 26.

RETURN showing Value of Minerals and Metal raised in Tasmania from 1880 *to* 1924 *inclusive.*

Mineral or Metal.	Value.
	£
Asbestos	7105
Barytes	6893
Bismuth	23,052
Cadmium	1175
Carbide	265,889
Cement	105,130
Coal	1,618,246
*Copper (Blister)	16,748,304
Copper Matte	133,736
Copper Ore	579,335
Gold	7,564,681
Iron Ore	25,701
Iron Pyrites	93,916
Limestone	268,568
Ochre	306
Osmiridium	308,897
Scheelite	112,468
Shale	7253
*Silver-lead	7,540,859
Tin	14,755,867
Wolfram	182,252
Zinc	258,777
Unenumerated prior to 1894	31,988
Total	£50,640,398

* Metallic contents and values are shown in Tables Nos. 9, 15, and 22.

No. 27.

RETURN showing the Amounts paid in Dividends by Mining Companies during the Year ending 31st December, 1924.

Mines.	Dividends.
	£ s. d.
Copper	37,866 0 0
Gold	...
Tin	20,155 4 0
Silver	12,000 0 0
Coal	6460 0 0
Total	£76,481 4 0

No. 28.

RETURN showing the Average Number of Persons engaged in Mining during the Years 1880 to 1924 inclusive.

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

No. 29.

RETURN showing the Mining Companies registered during the Year ending 31st December, 1924.

Number of Companies.	Capital.
1	£1500

In addition to the above, eleven Agents for Foreign Companies and two Syndicates under Part Va. of the Act were registered.

No. 30.

RETURN showing the Average Number of Miners employed during the Year ending 31st December, 1924.

Division.	Number.
Northern and Southern	2246
North-Eastern	398
Eastern	516
North-Western	559
Western	1545
	5264

No. 31.

RETURN showing the Total Amount of Rents, Fees, &c., received by the Mines Department during the Year ending 31st December, 1924.

Head of Revenue.	Amount.
	£ s. d.
Rent of Auriferous and Mineral Land	13,158 4 9
Fees, ditto ditto	950 6 9
Survey Fees	1988 12 4
Fees under "Explosives and Inflammable Liquid Act"	570 2 5
Total	£16,667 6 3

No. 32.

RETURN showing the Total Area of Land and Number of Sluiceheads of Water applied for during the Year ending 31st December, 1924.

Mineral.	Number.	Sluiceheads.	Area.
			Acres.
Arsenic	...	...	...
Asbestos	1	...	20
Barytes	...	...	...
Bismuth	...	...	...
Chrysotile	...	...	...
Clay	1	...	4
Coal	8	...	2033
Copper	1	...	9
Gold	50	...	1094
Gems	1	...	80
Iron	17	...	232
Kaolin	...	...	...
Limestone	3	...	560
Minerals	70	...	760
Monazite and Tin	19	...	999
Oil	...	...	...
Osmiridium	1	...	40
Porphyry Granite	...	...	...
Phosphate Rock	...	...	...
Pyrites	...	...	...
Silver-lead Ore	9	...	148
Shale	2	...	745
Serpentine	...	...	...
Slate	5	...	271
Tin	124	...	2988
Wolfram	...	...	...
Timber Reserves	...	...	...
Machinery Sites	6	...	28
Mining Easements	9	...	44
Dredging Claims	5	...	109
Water Rights and Dam Sites	41	123	124
Licences to search for Coal or Oil	9	...	21,120
	382	123	31,408

No. 33.

RETURN showing Total Number and Area of Leases and Licences issued during the Year ending 31st December, 1924.

Mineral.	Leases.	Sluiceheads.	Area.
			Acres.
Asbestos	1	...	1
Copper	1	...	62
Gold	44	...	1127
Iron	8	...	639
Kaolin	...	...	...
Limestone	3	...	400
Minerals	17	...	2328
Nickel-Copper	3	...	170
Oil	1	...	62
Serpentine	9	...	485
Slate	1	...	37
Silver Lead	4	...	110
Tin	37	...	1068
Talc	...	...	...
Dredging Claims	1	...	4
Mining Easements	6	...	24
Machinery Sites	...	...	...
Water Rights	31	187	63
Licences to search for Coal or Oil	13	...	28,620
	180	187	35,200

No. 34.

RETURN showing the Total Number of Leases and Licences in force on 31st December, 1924.

Mineral.	No. of Leases.	No. of Sluiceheads.	Area.
			Acres.
Asbestos	1	...	1
Bismuth	...	...	...
Barytes	2	...	160
Coal	27	...	8901
Copper	8	...	407
Clay	3	...	13
Chrysotile	...	...	...
Dredging Claims	20	...	289
Gold	91	...	1829
Iron	13	...	1353
Limestone	8	...	980
Mining Easements	77	..	592
Machinery Sites	26	...	115
Minerals	87	...	6405
Manganese	...	..	...
Nickel	1	...	80
Osmiridium	5	...	93
Ochre	1	...	20
Plumbago	...	...	...
Pyrites	...	...	...
Serpentine	9	...	485
Slate	...	...	...
Scheelite	...	...	...
Shale	7	...	3154
Silver-lead	17	...	995
Tin	289	...	9019
Water rights and Dam Sites	338	1520	1990
Wolfram	8	...	106
Zinc	1	...	37
Licences to search for Coal or Oil	21	...	38,528
	1060	1520	75,552

No. 35.

RETURN showing the Annual Value of Mineral Products for the State of Tasmania from 1880 to 1924 inclusive.

Year	Value.	Year.	Value.
	£		£
1880	554,031	1903	1,354,044
1881	602,723	1904	1,379,204
1882	556,306	1905	1,729,129
1883	560,873	1906	2,257,147
1884	468,302	1907	2,277,159
1885	518,885	1908	1,650,027
1886	489,966	1909	1,574,995
1887	593,256	1910	1,432,193
1888	616,733	1911	1,349,497
1889	504,718	1912	1,493,502
1890	444,210	1913	1,415,700
1891	528,388	1914	1,007,038
1892	526,909	1915	1,225,575
1893	627,909	1916	1,521,050
1894	732,764	1917	1,584,290
1895	575,692	1918	1,750,574
1896	662,058	1919	1,301,090
1897	1,006,140	1920	1,421,104
1898	1,071,084	1921	822,851
1899	1,660,622	1922	1,013,415
1900	1,888,695	1923	1,219,456
1901	1,763,896	1924	1,496,804
1902	1,378,406	Unenumerated prior to 1894	31,088
			£50,640,398

No. 36.

RETURN showing the Number and Area of Leases held under "The Mining Act," in force on 31st December, 1916 to 1924 inclusive.

Nature of Lease.	In force on 31st Dec., 1916.		In force on 31st Dec., 1917.		In force on 31st Dec., 1918.		In force on 31st Dec., 1919.		In force on 31st Dec., 1920.		In force on 31st Dec., 1921.		In force on 31st December, 1922.		In force on 31st December, 1923.		In force on 31st Dec. 1924.	
	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.
		Acres.		Acres.		Acres.		Acres.		Acres.		Acres.		Acres.		Acres.		Acres.
For Minerals, Silver, Tin, &c.	872	34,458	876	36,203	796	32,011	823	31,006	795	30,043	901	31,719	716	26,459	614	21,880	460	23,308
For Coal, Slate, Shale, &c.	52	13,742	50	13,138	44	10,729	45	11,562	50	11,667	66	15,430	73	16,809	66	16,053	27	8901
For Gold	85	1692	91	1761	43	657	32	537	65	1403	92	1894	127	2424	108	1687	91	1829
Dredging Claims	30	437	30	401	23	323	31	482	30	410	29	413	36	399	33	369	20	289
Mining Easements	106	641	105	628	111	594	113	608	104	616	97	621	87	607	81	606	77	592
Machinery Sites	37	190	38	175	37	165	38	180	33	147	34	152	31	123	30	124	26	115
Licences to search for Coal or Oil	—	—	—	—	—	—	—	—	—	—	51	117,031	73	137,692	36	34,761	21	38,528
Water-rights Mineral and Gold	572	2302 & 2061 sluice-heads	557	2085 & 2035 sluice-h ads	494	2121 & 1865 sluice-heads	551	2116 & 1975 sluice-heads	559	2094 & 1982 sluice-heads	543	2247 & 2060 sluice-heads	493	3002 & 1814 sluice-heads	435	2147 & 1612 sluice-heads	338	1990 & 1520 sluice-heads

No. 37.

COMPARATIVE Statement of Revenue from Mines, being Rents, Fees, Storage of Explosives, &c. (exclusive of Survey Fees), paid to the Treasury for the Years ending 30th June, from 1882 to 1903, and for Six months ending 31st December, 1903, and for the Years ending 31st December, 1904 to 1924, inclusive.

Year.	Amount.			Year.	Amount.		
	£	s.	d.		£	s.	d.
1882	23,077	1	9	1903, 1 July to 31 Dec.	14,758	17	1
1883	15,439	14	5	1904, Jan. to Dec.	16,631	8	2
1884	6981	11	10	1905	20,208	17	0
1885	11,070	5	7	1906	24,136	12	5
1886	12,523	10	4	1907	24,794	7	7
1887	14,611	11	5	1908	20,311	3	0
1888	23,502	8	4	1909	22,804	1	5
1889	17,254	9	0	1910	22,221	18	0
1890	26,955	4	9	1911	20,556	15	10
1891	37,829	16	5	1912	17,639	19	11
1892	17,568	18	4	1913	19,410	17	8
1893	16,971	9	2	1914	14,087	0	6
1894	16,732	7	7	1915	17,679	3	6
1895	15,323	1	9	1916	14,678	19	10
1896	20,901	13	2	1917	14,669	7	2
1897	25,631	0	3	1918	17,833	14	9
1898	33,061	13	9	1919	15,388	7	7
1899	24,696	10	5	1920	16,767	11	6
1900	28,380	11	10	1921	11,248	14	11
1901	21,569	5	2	1922	14,184	7	3
1902	19,471	0	1	1923	13,224	11	9
1903	17,776	14	3	1924	14,678	13	11

The above Statement does not include Stamp Duties upon Transfer of Leases and Registration of Companies, nor the Tax payable upon Dividends, from which sources large sums are derived.

No. 38.

RETURN Showing the Average Annual Prices for Minerals during recent years.

	Average for 1914.			Average for 1915.			Average for 1916.			Average for 1917.			Average for 1918.			Average for 1919.			Average for 1920.			Average for 1921.			Average for 1922.			Average for 1923.			Average for 1924.		
	£	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	59	11	3	72	12	9	116	1	3	125	2	5	115	11	6	90	19	4	97	12	5	69	8	8	62	3	6	66	7	4	63	4	3
Lead—Soft Foreign : per ton	18	13	9	22	17	8	30	19	6	30	0	0	30	2	8	28	3	11	38	4	7	22	14	6	23	14	10	25	19	4	33	13	11
Spelter : per ton	23	6	8	66	13	8	68	8	11	52	3	6	52	3	11	42	5	3	45	4	6	26	4	1	29	14	2	32	18	4	33	12	0
Tin—Standard, Spot : per ton	151	2	9	164	4	0	182	3	5	237	13	1	329	11	2	257	9	8	296	1	7	165	8	2	159	10	9	191	7	5	248	17	4
Silver—Standard, Spot : per oz	s.	d.		s.	d.		s.	d.		s.	d.		s.	d.		s.	d.		s.	d.		s.	d.		s.	d.		s.	d.		s.	d.	
	2	1·32		1	11·69		2	7·32		3	4·88		3	11·57		4	9·06		5	1·56	3	0·875		2	10·41		2	8·37		2	9·97		

REPORT OF THE MOUNT CAMERON WATER-RACE BOARD FOR THE YEAR ENDED 31ST DECEMBER, 1924.

SIR,

We have the honour to submit our report for the year ended 31st December, 1924.

Manager.—Mr. David Shields, who was appointed manager in August, 1923, has continued in office, and has performed his duties during the 12 months under review in a very satisfactory manner.

Race.—The continuous satisfactory rainfall has enabled the manager to furnish a full supply of water to users, and as it was not deemed advisable to shut it off for any length of time while such supply was available, the putting in of new by-wash outlet gates and the new intake gate at Cascades (referred to as desirable in our last report) was postponed, but it is essential that this work be put in hand during the current term.

The scrubbing and cleaning of the race between Keegan's and Moore's was likewise postponed for the same reason, but this will be carried out before the winter sets in. The top end of the race above Keegan's is in good order, as is also the new race from No. 3 syphon (Ringarooma River) to the Mt. Cameron Creek terminus.

Flumings and Syphons.—These are in fairly good condition, but No. 2 will require to be retarred during the year. The 40 feet of fuming put in by the manager at Cybele Creek when the heavy floods in May, 1923, caused a serious washaway, is in good condition, and reflects credit on the manager for the satisfactory manner in which the work was performed.

General.—The manager's cottage requires to be painted on the outside, and some four rooms inside will also require to be repainted, and two fireplaces attended to. To place the fences in proper order about 75 posts and 25 rails are required, and the manager will be instructed to have these matters attended to, as also repairs to store, by replacing old palings at end with undressed weatherboards.

Rainfall.—The registered rainfall for the year was as follows:—Main intake, 38 inches 18 points; Little Mussel Roe intake, 38 inches 79 points.

Revenue.—The revenue for the year amounted to £1227 10s. 6d., being an increase of £402 1s. 7d. on the previous year.

Expenditure.—The expenditure amounted to £836 11s. 2d., being a decrease on the previous year.

Statistics.—The statistics for the year are as follow:—

Average number of claims supplied per week, 14.
Greatest number supplied in any one week, 18.
Total number of heads supplied—Under fixed or cash scale, 385½; under royalty or credit scale, 1525½; total, 1911.

Receipts.—Total receipts for the year—

	£	s.	d.
Water sold under fixed scale	280	9	5
Water sold under royalty scale	911	1	1
Sale of paint	0	13	6
Sale of cottage	35	0	0
Refund	0	6	6
	£1,227	10	6

Expenditure—	£	s.	d.
Salaries and wages	714	17	0
Travelling expenses	20	1	6
Repairs to race	16	17	0
Purchase of buggy	39	6	8
Repairs to board's property	4	1	5
Insurance	7	5	7
Stationery, stores, and freight	34	2	0
	£836	11	2

Paid to the Public Debts Sinking Fund for the year ended 30th June, 1924 (including moiety of rents of mineral lands served by the race)	£1	17	6

We have the honour to be,

Sir,

Your obedient servants,

WM. A. PRETYMAN, Chairman.
JAMES OGILVIE,
CECIL G. RYAN,
JOHN SIMPSON,
EDWARD L. HALL, } Members.

The Hon. the Minister for Mines.

REPORTS OF THE GOVERNMENT GEOLOGISTS FOR THE YEAR 1924.

Hobart, 20th May, 1925.

SIR,

I HAVE the honour to submit my report for the year ended 31st December, 1924.

Field Investigations.

The most important investigation was the Geological Survey of the Dundas mineral district, carried out in accordance with the programme of the Geological Survey. This survey included the tin, silver-lead, silver-lead-zinc, and copper nickel ore-deposits of the district. A company is at present in process of formation to develop and treat the ore from one of the mines inspected, viz., the Great South Comet silver-zinc-lead mine.

The end of the year was devoted to the survey of the Lisle Gold Field, as part of the systematic investigation of the goldfields of the North-Eastern Districts. This survey has since been completed, and the plan and report thereof are in course of preparation.

Numerous other special examinations were also carried out. Of these, the most important were the surveys of the iron ore-deposits of the Meredith and Paradise Rivers district, and of the Hampshire district. Preliminary steps are now being taken to form a company to treat the ore from the latter deposit.

The following list shows all the field examinations carried out:—

(1) Geological Survey of Hampshire District.
(2) Geological Survey of Dundas Mineral District.
(3) Geological Survey of Meredith and Paradise River District.
(4) Geological Examination of Bell's Reward Mine (Lease 9182-M).
(5) Geological Examination of the Coal Measures of Maria Island.
(6) Geological Examination of the Coal Measures of Schouten Island.
(7) Geological Examination of Kube's Prospect, Cygnet.
(8) Geological Examination of Reservoir at High-street, Launceston.
(9) Geological Survey of the Lisle Goldfield.

In connection with the above and other examinations, the following reports have been prepared:—

(1) Report on Oil Shale and Coal Resources of Tasmania (for the World Power Conference).
(2) Preliminary Report on Deposits of Iron Ore at Hampshire Hills.
(3) Preliminary Report on the Pine Hill Area.
(4) Preliminary Report on the Razorback Tin Mine.
(5) Preliminary Report on Occurrence of Iron Ore at the Meredith and Paradise Rivers, &c.
(6) Transport Arrangements, East Coast Development Company (Dalmayne).
(7) Preliminary Report on Section 9182-M (L. J. Smith), Whyte River.
(8) Report on the Coal Measures of Maria Island.

(9 & 10) Preliminary and Further Reports on Cement Manufactured by the Portland Cement Company Limited, in conjunction with Mr. P. B. Nye.
(11) Reports on Limestone Deposits in North-Western Districts.
(12) Report on the Reservoir at High-street, Launceston.

Preparation and Publication of Bulletins, &c.

During the year the following publications were completed by the Printer:—

Geological Survey Bulletin No. 34: The Mount Bischoff Tin-field.

The Report on the Oil Shale Deposits of the Railton-Latrobe and adjacent districts was prepared for issue as Geological Survey Mineral Resources No. 8, Volume 1. (This has since been completed by the Printer, and is now available for issue—May, 1925.)

The report on the Dundas Mineral District has been prepared for issue as Geological Survey Bulletin No. 36, and is now available.

Other Duties Performed.

In addition to the above field work and reports, a considerable amount of time was devoted to the following, amongst other, matters:—

State Development Advisory Board.—Numerous reports, &c., had to be prepared, and attendance made at meetings of the Board, and the mining sub-committee thereof.

Shale Oil Conferences.—Arising out of the business of the above Board several conferences were attended at Latrobe and Hobart in connection with amalgamation proposals and similar business dealing with the exploitation of the oil shale deposits of the Railton-Latrobe district.

Australian Shale Oil Corporation Bill.—In addition to the above a considerable amount of time was devoted, both in the field and in the office to matters in connection with this Bill. Several trips were conducted over the field with representatives of the company. Boring sites were recommended, technical matters discussed, and a conference attended in Melbourne.

Boring operations have since been commenced, and are yielding excellent results as regards thickness and extent of shale.

Mining Conference.—The Mining Conference held in Launceston in June was attended.

Tests of Maria Island Cement.—In conjunction with Mr. P. B. Nye, a series of tests were carried out on the cement produced by the National Portland Cement Company, and reports thereon prepared.

Other Routine Duties.

During the year the amount of inward and outward correspondence was very large. In addition, an extraordinary number of visitors called for interviews. Enquiries were made on all varieties of mineral deposits in Tasmania, and the attendant problem of mining and treatment thereof, and the establishment of associated industries. The large amount of time and attention devoted to these enquiries constitutes a serious demand on one's time during office hours.

Yours, &c.,

A. McINTOSH REID, Government Geologist.

W. A. PRETYMAN, Esquire, Secretary for Mines.

Hobart, 14th May, 1925.

SIR,

I HAVE the honour to submit my report for the year ended 31st December, 1924.

Field Investigations.

The most important investigation was the geological survey of the deep-lead system of the Ringarooma Valley, North-Eastern Tasmania. This involved the examination of the district between Ringarooma and Pioneer, totalling in all 100 square miles. The course of the Ringarooma lead and all its tributary leads were determined with a fair degree of accuracy. Locations for lines of bore-holes can be readily and efficiently determined as a result of this information. This investigation was carried out as a part of the programme for 1924. Three weeks at the end of the year were devoted to fulfilling another part of the programme, viz., the geological survey of the Campbell Town-Conara-St. Marys district, for the State Development Advisory Board. This was completed early in the present year, and a report and plan thereof is now being prepared.

A commencement was also made with the investigation of the tin lodes of the Branxholm district. This will be included in the programme for 1925, and completed.

In addition, a considerable number of special examinations were carried out. The most important of these was the examination of the cement materials at Flowery Gully and Beaconsfield. High-grade limestone had been known to be present in this district for a considerable number of years, and at Flowery Gully the conditions have been regarded as especially favourable for cement manufacture. The difficulty was to locate deposits of clay material suitable as regards quantity, quality, working conditions, &c., to mix with the limestone. This investigation revealed the presence of such a deposit adjacent to the limestone, and occurring under equally favourable conditions. A company is in process of formation to utilise these deposits for cement manufacture, and it is stated that construction of plant will commence shortly.

The following list contains a complete statement of the field work performed:—

(1) Examination of Mr. Gresson's gem deposit at west end of Mount Cameron.
(2) Examination of Mr. Gresson's iron deposit at west end of Mount Cameron.
(3) Examination of Beaconsfield and Flowery Gully districts in connection with cement materials.
(4) Investigation of reports of "South Lode" at Tasmania Mine, Beaconsfield.
(4A) Investigation of the mineral resources of the Frankford district.
(5) Geological survey of the Ringarooma Valley.
(6) Examination of Mr. Slide's gold mine at Warrentinna.
(7) Geological survey of tin lodes of Branxholm district.
(8) Geological examination of hydro-electric water scheme of the Arthur River.
(9) Examination of land-slip on Collinsvale-road.
(10) Examination of coal seams at Mt. Elephant.
(11) Geological survey of Conara-St. Mary's district.

In connection with these and other field investigations the following reports were prepared:—

(1) Completion of Report on Lilydale-Lebrina District (which was examined in 1923).
(2) Completion of Report on Jubilee Mine, Mathinna (which was examined in 1923).
(3) Report on the Gem and Iron Deposits of Mr. Gresson at West End of Mt. Cameron.
(4) Report on the South Lode, Tasmania Mine, Beaconsfield.
(5) Report on Cement Materials in the Beaconsfield and Flowery Gully Districts.
(6) Geological Report on the Frankford District.
(7) Report on R. L. Slide's mine at Warrentinna.
(8) Report on Irrigation in the Midlands.
(9) Preliminary Report on the Briseis Central Tin Mine, Derby.
(10) Report on the Sub-basaltic Tin Deposits of the Ringarooma Valley.
(11) Geological Report on the Arthur River Hydro-Electric Water Scheme.
(12) Report on the Landslip on Collinsvale-road.
(13) Preliminary Report on Coal Seams at Mt. Elephant.

Preparation and Publication of Bulletins, &c.

During the year the following publications were issued:—

Geological Survey Bulletin No. 33: The Silver-Lead Deposits of the Waratah District.

Geological Survey Water-supply (Paper No. 3): The Underground Water Resources of the Richmond-Bridgewater-Sandford District.

The Report on the Sub-basaltic Tin Deposits of the Ringarooma Valley was prepared for issue as Bulletin No. 35, and is now available.

Other Duties Performed.

In addition to the above field work and reports, a considerable amount of time was devoted to the following:—

State Development Advisory Board.—Numerous Reports, &c., had to be prepared, and attendance made at meetings of this Board.

Mining Conference: Collection of Clay Samples.—A large number of clay samples were collected and despatched to the Institute of Science and Industry to be tested. While the results proved that none of the clays were suitable for manufacture of white ware, yet it showed that some were suitable for various other purposes.

Tests of Maria Island Cement.—A series of tests was carried out in conjunction with Mr. A. M. Reid on this cement, and reports prepared thereon.

Tasmanian Museum Geological Collections.—A commencement was made with the reorganisation of these collections, and the material is now arranged in a more systematic manner. As time permits, this will be continued, and further additions made to the collections,

Collection of Tasmanian Trias-Jura Fossil Plants.—A collection of all available Tasmanian material was obtained and forwarded to Dr. A. B. Walkom, D.Sc., Secretary of the Linnean Society of New South Wales, for examination. A report was prepared by Dr. Walkom, and published early in the present year.

Tests of Tasmanite Oil Shale.—Tests of tasmanite shale in the Bronder retort in Melbourne were supervised during their execution.

Australian Shale Oil Corporation Bill.—A considerable amount of time was involved in attendance at conferences, preparation of plans, and the giving of technical advice during the drawing up of this agreement by virtue of which this company is now boring their properties preparatory to beginning operations at Latrobe.

Other Routine Duties.

During the year a large volume of inward and outward correspondence had to be attended to, and a large number of interviews given to visitors. In both cases the information sought was in connection with the numerous mineral deposits of the State and their exploitation, about which fullest particulars were required, with the object of starting mining operations and the establishment of industries.

I have, &c.,

P. B. NYE, M.Sc., B.M.E., Government Geologist.

W. A. PRETYMAN, Esq., Secretary for Mines.

REPORT OF THE OFFICIAL REPRESENTATIVE OF THE DEPARTMENT AND STATE AT THE BRITISH EMPIRE EXHIBITION, WEMBLEY.

Mines Department,
Hobart, 24th February, 1925.

SIR,

I BEG to submit my report on the Tasmanian Mineral Exhibit at the British Empire Exhibition, 1924.

The collection of ores, building stones, coal, shale, &c., forwarded to the British Empire Exhibition for display purposes helped materially to make the Commonwealth's exhibit perhaps the best collection of ores, &c., ever shown in any country in the world. The Tasmanian samples were prominently displayed. The Gormanston tin nugget was the principal attraction in this section.

The exhibit of base metal ores, which was excellently shown in trophy form, attracted the attention of hundreds of thousands of people. Samples of similar ores were displayed also in flat-topped glass cases. The localities of the base metal ores were shown by means of spot maps.

The Tasmanian ores of copper, zinc, zinc-lead, lead, and tin in this section were unequalled.

The exhibit of the Electrolytic Zinc Company was well displayed, and proved a splendid advertisement for the State.

In the "other than base metal section" each exhibit was labelled with the State of origin. The exhibits of Tasmanian osmiridium, gold, topaz, oil shale, coal, arsenical pyrites, copper-nickel ore, asbestos-bearing rock, scheelite, wolfram, bismuth, zircon, building stones, polished slabs of granite, disbase, &c., in addition to the exhibit of paint materials and pottery enhanced the value of the whole exhibit.

Many ore-buyers, both British and foreign, made detailed enquiries concerning our marketable ores. The Société des Mines and Fonderies de Zinc de la Vieille Montagne, Chêne, Belgium, furnished an approximate tariff for the purchase of zinc and lead ores.

Agent-General's Office.

I obtained from the Australian Pavilion a representative collection of Tasmanian ores for the Agent-General's Office. The bulk of the old specimens on view in this office were of little or no value, and Colonel Snowden readily agreed to have them thrown out.

Oil Shale.

In view of the importance of the economic development of the oil shale resources in Tasmania, a trial was carried out in a commercial unit of the Crozier retort. The test clearly demonstrated that tasmanite can be economically treated in this type of retort.

Pulverised Coal.

Whilst in England I studied further the question of the suitability of Tasmanian coal for use in the pulverised form.

In September I visited the works of Alfred Herbert Limited, Coventry, and carefully examined their atritor pulverising and firing system.

The atritor plant is a self-contained unit, in which the drying and pulverising go on together, and in which the pulverised coal is not stored, but is produced only and when required. The only auxiliary plant needed is that for rotating its spindle, and the provision of a supply of coal to its hopper.

It has the advantage of compactness and low cost, and at the same time enables fuels of low grade to be burned economically.

Brazilian coal, which is much inferior to any Tasmanian, and is so friable and poor in quality that it cannot be burned with a mechanical stoker, has been successfully burned in the atritor plant.

After witnessing certain tests on low-grade fuel, I am convinced that any of our coal can be used to much advantage in the pulcerised form in this type of plant. The atritor firing system is designed for use in stationary boilers, &c.

Mining Companies.

I was present on several occasions during the session of the Mining Congress.

Institute of Chemists.

At the annual meeting of the Institute of Chemists I spoke on the subject before the meeting, and drew attention to the great opportunities which existed in Tasmania for the establishment of industries. The information given was much appreciated by the large gathering of technical men.

Miscellaneous.

In November I visited one of the largest Portland cement works in England, and obtained a considerable amount of information of value to the State.

On the 20th December I left England for France to examine the Soderberg Electrodes at the Société de l'Electrochimie's works, near St. Jean de Maurienne. The electrodes are continuous in their operation, and are now replacing the compressed type of European and other plants.

Judging by the large number of detailed enquiries concerning the mineral resources of the State, there can be no question of doubt that the exhibits displayed in the Australian Pavilion at the British Empire Exhibition will be the means of opening up new markets, and will prove also of considerable assistance in influencing capitalists to develop our resources.

As the Official Representative of the Government at the British Empire Exhibition, I supplied detailed information concerning the State's resources, and took every opportunity to advance the interests of the State.

Yours obediently,

W. D. READ,
Government Chemist and Assayer, and Commissioner and Official Representative for Tasmania, British Empire Exhibition.

W. A. PRETYMAN, Esq.,
Secretary for Mines, Hobart.

REPORT OF THE ACTING GOVERNMENT CHEMIST AND ASSAYER, LAUNCESTON, FOR THE YEAR 1924.

SIR,

I BEG to submit my annual report for the year ending 31st December, 1924.

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

The total number of assays and analytical tests made for the public and the department amounted to 4854.

Assays have been made for gold, silver, lead, tin, zinc, copper, bismuth, tungstic acid, molybdenum, barium, iron, manganese, sulphur, nickel, cobalt, osmium, indium, platinum, chromium, antimony, arsenic, titanium, phosphorus, magnesium, sodium, potassium, vanadium, mercury, fluorine, aluminium, thorium, zinconium. Complete analyses have been made of rocks, ores, clay, shale, coals, alloys. Distillation tests of shale, &c., have been carried out.

Personal Interviews.

In addition to the large number of inquiries by post over 1400 personal interviews have been attended to. The large amount of technical information supplied has involved considerable work after office hours.

Mineral Exhibit.

The early portion of the year was taken up (together with laboratory work) in finalising the above exhibit. The assistance rendered by mine-owners and others was much appreciated.

Correspondence.

A large amount of correspondence has been dealt with during the year, the number of letters in and out totalling 1480.

Conclusion.

I desire to place on record my appreciation of the services rendered by the Assistant-Chemist (Mr. W. St. C. Manson), and also the voluntary assistance rendered by Miss R. B. Reid.—I have, &c.,

L. H. BATH,
Acting Government Chemist and Assayer.

W. A. PRETYMAN, Esq.,
Secretary for Mines, Hobart.

REPORT OF THE CHIEF INSPECTOR OF MINES.

Chief Inspector of Mines Office,
Hobart, 1st May, 1925.

SIR,

I HAVE the honour to submit my annual report for the year 1924 in connection with the administration of "The Mines and Works Regulation Act, 1915."

Information in connection with accidents on mines and works is tabulated in the attached tables and graph.

The average number of men employed was 5264, being an increase of 479 compared with the year 1923. There were 72 accidents, causing 1 fatality and 73 serious injuries. The one fatal accident occurred on surface at works. A plant was in course of construction, on which a father and son were employed. When passing his father on a pier about 12 feet above the floor the son overbalanced; the father endeavoured to save him by catching his clothes—both fell to floor, the father sustaining injuries which speedily caused his death, while the son, though seriously injured, made a speedy recovery.

The death-rate per thousand persons employed in the industry was 0·189, which figure is the lowest ever recorded in the State. The rate per thousand persons employed, seriously injured, was 13·867. The serious accidents were such as necessitated absence from work for a period of 14 working days. Underground accounted for 21 of these accidents, and surface for 52. Of the 73 serious accidents, 11 caused fractures or permanent injury. The majority were of a minor character, and incidental to the calling.

There were 14 prosecutions for contravention of the Act. Convictions were obtained in 12 cases, one was withdrawn, and one was dismissed. Three cases were for failing to use appliances for the prevention of dust. It is to be regretted that it is still found necessary for such action, the appliances being supplied to safeguard the health of those who fail to use them. Six cases were in connection with persons getting off moving trucks on haulages; two cases were in connection with the employment of uncertificated enginedrivers; two cases for riotous behaviour; and one case for the careless use of explosives. During the year there was an increase in the occurrences of overwinding. All cases were closely investigated, and will continue to receive the closest attention, as such occurrences clearly demonstrate that the appliances are defective, or that they are being manipulated carelessly.

The question of preventing settlements in mines has continued to receive very close attention, and such occurrences continue to steadily decrease.

Change-houses have continued to give satisfaction, and their use is increasing. The introduction of change-houses in coal mines in this State is being looked forward to with great interest. Health and sanitation have received close attention and considerable improvement has been made in several mines; but there still remains room for improvement in many cases. The general use of explosives in the coal mines is a new departure in this State, and necessitates the introduction of larger quantities of air, and its circulation, to counteract the smoke and fumes.

Under the provisions of "The Aid to Mining Act," 17 parties of prospectors were assisted in all portions of the State. Some very satisfactory reports have been received, but the most important was that from a party at New River, where osmiridium, tin, and gold were discovered.

Drilling.—There were two drills operating in the Catamaran area during the year, which were the means of proving a very large area of coal-bearing land.

There has been no alteration in the personnel of the district inspectors.

In conclusion, I desire to thank the inspectors for the capable and energetic manner in which they have carried out their duties during the year.—I have, &c.,

J. O. HUDSON,
Chief Inspector of Mines.

W. A. PRETYMAN, Esq.,
Secretary for Mines, Hobart.

TABLE showing the Number of Persons Killed and Injured in and about the Mines of Tasmania during the Year 1924.

Place or Cause of Accident.	Inspection Districts.													
	Northern and Southern Division.		North-Eastern Division.		Eastern Division.		North-Western Division.		Western Division.				Total.	
									Zeehan and other Districts.		Lyell District.			
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Underground—														
Falls of ground	...	2	...	...	...	...	...	2	...	1	...	...	...	5
Shaft Accidents—														
Falling down passes and shafts	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Miscellaneous (underground).														
Haulage	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Trams, &c.	...	3	...	...	...	...	...	...	...	1	...	4	...	8
Sundry accidents	...	...	...	...	...	...	...	..	...	1	...	3	...	4
Explosives	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	...	3	...	...	...	...	...	...	...	2	...	7	..	12
Total Underground	...	5	...	...	...	...	...	2	...	3	...	7	...	17
On Surface—														
Smelting-works	...	1	...	...	...	...	...	...	...	...	...	3	...	4
Machinery	...	7	...	...	...	...	...	...	...	1	...	...	...	8
Tramways	...	4	...	1	...	...	...	3	...	...	...	1	...	9
Falls of persons	1	7	...	1	...	1	...	...	...	1	...	...	1	9
Explosives	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Miscellaneous	...	15	...	2	...	...	...	2	...	3	...	3	...	25
Total Surface	1	34	...	4	...	1	...	5	...	5	...	7	1	55
Gross Total, 1924	1	39	...	4	...	1	...	7	...	8	...	14	1	73

TABLE showing Rate per Thousand Killed and Injured in different Divisions for the Year 1924.

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	2246	37	1	39	40	17·809	·445	17·364
North-Eastern	619	4	...	4	4	6·462	...	6·462
Eastern	295	1	...	1	1	3·389	...	3·389
North-Western	559	7	...	7	7	12·522	...	12·522
Western	1545	22	...	22	22	14·239	...	14·239
Total	5264	71	1	73	74	14·057	·189	13·867

ANALYSIS for Statistics of Accidents for Western Division.

Division.	Number of Miners Employed.	Number of Accidents.	Number of Persons		Total Number Killed & Injured.	Average per 1000 Killed and Injured.	Average per 1000.	
			Killed.	Injured.			Killed.	Injured.
Mt. Lyell	1021	14	...	14	14	13·712	...	13·712
Zeehan, &c.	524	8	...	8	8	15·267	...	15·267
Total	1545	22	...	22	22	14·239	...	14·239

COMPARATIVE Table of Statistics of Accidents in and about the Mines of Tasmania from 1st July, 1892, to 31st December, 1924.

Period.	Number of Miners Employed.	Number of Accidents.	Number of Persons.		Total Killed and Injured.	Average per 1000 Killed and Injured.	Average per 1000.	
			Killed.	Injured.			Killed.	Injured.
1 July, 1892, to 30 June 1893	3295	28	4	25	29	8·8001	1·214	7·586
„ 1893 „ 1894	3403	25	7	20	27	7·934	2·057	5·877
„ 1894 „ 1895	3789	26	4	24	28	7·390	1·058	6·332
„ 1895 „ 1896	4160	22	7	16	23	5·529	1·682	3·847
„ 1896 „ 1897	4303	36	7	31	38	8·831	1·627	7·204
„ 1897 „ 1898	5530	36	13	33	46	8·318	2·351	5·967
„ 1898 „ 1899	6180	35	9	34	43	6·957	1·456	5·501
„ 1899 „ 1900	6834	19	7	16	23	3·365	1·024	2·341
„ 1900 „ 1901	7017	29	8	23	31	4·417	1·140	3·278
„ 1901 „ 1902	6438	38	7	35	42	6·524	1·088	5·437
„ 1902 „ 1903	6484	44	6	43	49	7·557	0·925	6·632
„ 1903, to 31 Dec., 1903	5604	27	8	20	28	4·977	1·428	3·569
1 Jan. 1904 „ 1904	6192	73	9	65	74	11·951	1·454	10·497
„ 1905 „ 1905	6586	34	7	30	37	5·618	1·063	4·555
„ 1906 „ 1906	7004	65	4	61	65	9·280	0·571	8·709
„ 1907 „ 1907	7516	68	6	64	70	9·314	0·798	8·515
„ 1908 „ 1908	6464	60	6	58	64	9·900	0·928	8·972
„ 1909 „ 1909	6054	54	6	49	55	9·085	0·991	8·093
„ 1910 „ 1910	5770	63	8	57	65	11·265	1·386	9·878
„ 1911 „ 1911	5247	80	4	77	81	15·437	0·762	14·675
„ 1912 „ 1912	5566	60	53*	53	106	19·044	9·522	9·522
„ 1913 „ 1913	6106	64	6	60	66	10·809	0·982	9·826
„ 1914 „ 1914	4741	69	9	62	71	14·977	1·896	13·081
„ 1915 „ 1915	3908	71	6	67	73	18·679	1·535	17·144
„ 1916 „ 1916	3864	53	2	51	53	13·716	0·517	13·198
„ 1917 „ 1917	4050	50	2	48	50	12·345	0·493	11·852
„ 1918 „ 1918	4279	50	5	45	50	11·684	1·168	10·516
„ 1919 „ 1919	4413	58	1	57	58	13·143	0·226	12·917
„ 1920 „ 1920	5364	52	2	50	52	9·694	0·372	9·322
„ 1921 „ 1921	4011	40	3	37	40	9·972	0·748	9·224
„ 1922 „ 1922	3835	31	4	27	31	8·083	1·043	7·040
„ 1923 „ 1923	4785	64	2	63	65	13·584	0·417	13·166
„ 1924 „ 1924	5264	72	1	73	74	14·057	0·189	13·867

* Mt Lyell disaster.

REPORTS OF INSPECTORS OF MINES.

Mr. Inspector CURTAIN (Launceston) reports:—

Accidents.—The list containing the number of casualties necessitating the suspension of work over the stipulated limit that have taken place during the past twelve months has been furnished to the Chief Inspector. All the sufferers have made recoveries, and returned to work, with exception of John Andrewatha, who was injured towards the close of the year, and remains an inmate of the Campbell Town Hospital, whose medical officer reports favourably on the progress he is making.

Health of the Miners.—This continues satisfactory, and will compare favourably with any other calling in the State.

Ventilation.—This, on the whole, has been reasonably satisfactory. In both of the principal collieries the volume of air passing through the workings complies with that stipulated by the regulations. Shot-firing, however, is becoming more prevalent in the winning of coal, and to neutralize this, and keep the air wholesome, increased quantities have been stipulated in the proposed new Act and its regulations that is now under review and combined consideration.

The unwatering of the Golden Gate shaft, and recovery of the collapsed drives and workings, was attended with pungent and disagreeable odours, but, by a plentiful supply and application of strong deoderants this was overcome until connections were made with the overhead workings, and a serviceable current of air passed through their various ramifications.

Dust.—Where rock drills are in use, satisfactory water services have been installed, and colliery managers, where necessary, are reminded to keep their main roads and travelling ways reasonably free from it, more especially as the presence of carburetted hydrogen in small quantities was established in one of the principal pits during the past term.

Changing and Bath-houses.—Those on the metalliferous mines and Mount Bischoff Smelters have invariably been found clean, and appreciated by the workmen. A movement is already in hand whereby their utility may be extended to the collieries, which certainly need their service as much, if not more, than many of our metal mines.

Magazine and Inflammable Liquid Depots.—Those registered in Launceston and the intervening towns throughout the district that extends from Parattah to Gladstone have received periodical visits, and, with little exception, were found satisfactory. For the storage of the latter the Hume Pipe Company are producing reasonably serviceable containers at moderate cost that should meet the requirements of all small consumers.

Explosives.—These are now practically restricted to their sale by the local agents of the Nobels Australian and Glasgow Explosive Manufacturing Company, whose consignments maintain this proprietary's reputation for the various grades in use, including fuse and detonators.

General.—While no new or fresh developments have been reported, mining on the whole has held its own during the past year, and in this division of the State provided employment for over 1000 men, chiefly in connection with our tin resources, to whose output or results the three principal East Coast mines, viz., Briseis, Pioneer, and Storey's Creek, have contributed their usual quotas, with every assurance of a continuance during the ensuing term. Others of lesser note, situated near or around Ringarooma, Branxholm, Derby, Bradshaw's Creek, Winiford River, Garibaldi, South Mount Cameron, Gladstone, Moorina, Weldborough, Lottah, St. Helens, Ben Lomond, Foster's Freehold, Avoca, &c., have each assisted in the direction indicated, and will continue to do so while the metal contains its present value and standard.

In the gold regions renewed activities were bestowed on the Golden Gate, Miner's Dream, Old Boys, Tower Hill, and Ringarooma United properties, particularly the first- and last-mentioned, which both in their prospecting operations encountered remarkably rich "makes" of stone, that in each case still provide inducement for further development.

Diagram showing the ratio of Fatal Accidents in Mines in Tasmania

Rate per 1000 men employed

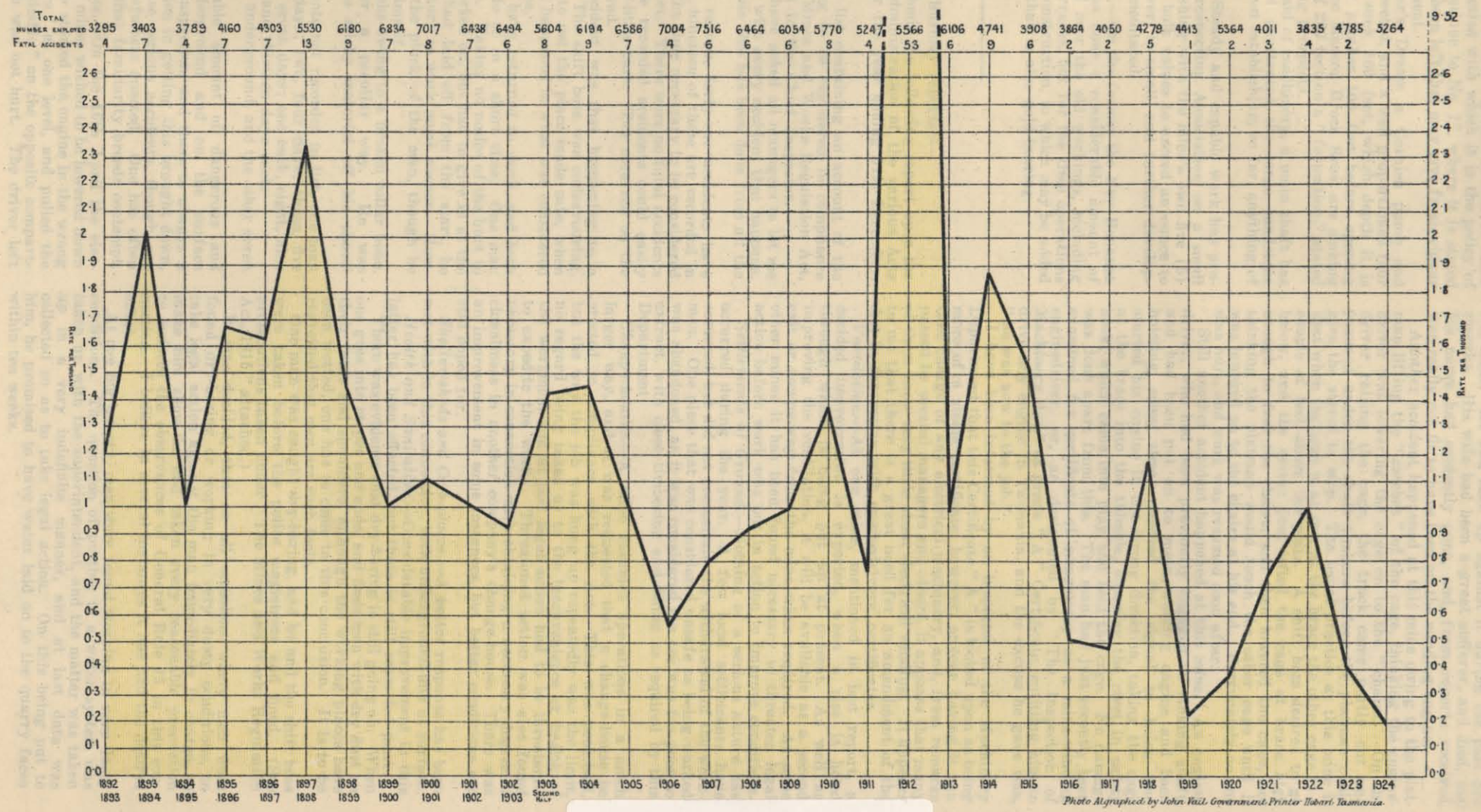

Photo Algraphed by John Vail, Government Printer Hobart Tasmania.

5 cm

At the Golden Gate the main workings are unwatered below the No. 11 level in connection with which it is the policy of the present holders to continue to No. 17, where it is stated a rich vein of pyrites has been left that may give fresh vigour towards further development.

In the adjoining Miner's Dream a Cornish pump and winding-plant has been erected, and a well proportioned four (4) compartment shaft sunk 160 feet, which depth it is proposed to continue for another 100 feet before opening out. On the Old Boys the Messrs. Brock Bros. are sinking a main shaft to a depth of 200 feet on a " formation," stated to be carrying encouraging prospects.

At Tower Hill, by the aid of machinery, a main shaft has been sunk 100 feet, and penetrated the large sandstone quartzitic formation without establishing, so far, anything of importance.

Forrester Settlement.—Steady and capable work has progressed at the Linton Prospecting Association on a small narrow reef, that, by crushing with the mine's own five (5) head battery, has proved bulk values to exceed an ounce to the ton. The reef, however, is small, and further development by way of depth is meditated.

Lisle Golconda, Panama.—On the former the New Bonanza Gold Mining Company has done a considerable amount of hydraulic sluicing on and over the old workings, including Donnelly and Gunner's terraces, but for the time operations are suspended pending reconstruction, to which may be added a local porphyritic show that is also gold-bearing.

Mr. Inspector VAUDEAU (Burnie) reports:—

I have the honour to submit the following report upon the work of inspection and administration of the various Acts delegated to this office for the year ending 31st December, 1924.

Accidents.—A tabulated list containing an account of the various accidents requiring to be registered in compliance with Section 26 of " The Mines and Works Regulation Act, 1915," has been furnished to the Chief Inspector.

As in previous years, I have asked all managers to let me have reports in connection with every accident that happens, and as far as I can ascertain this has been done from all the mines.

During the term under review, forty-one accidents have been reported to this office, nineteen of these are recorded in tabulated list, having lost the time necessary to be considered a serious accident by the Act. There were no fatal accidents for the term. Ten of the recorded accidents could easily have been avoided with a little care. Ten occurred on the surface and nine underground.

A most unfortunate accident was that happening to a shift boss and workman. The shift boss was endeavouring, to the best of his ability, to get the place made safe, when the accident took place. It happened in what was considered the safest stope in the mine.

All but two of the men have returned to work, and both of these are expected to do so in a short time. One man lost 55 days owing to a slip. Taking no notice of the hurt to his knee at the time, he worked on, but had to give in at the finish. Probably, if he had laid off from the start, he would have been able to return to work much sooner. However, one can but admire the pluck of the man, though he may have been foolish to himself.

Another man lost six weeks owing to a broken collar bone, which occurred in rather a peculiar way. He was endeavouring to jerk some sticky material off his shovel when the bone snapped.

Of the twenty-two accidents not recorded in list, one man lost two days; one, three days; two, four days; three, five days; four, six days; four, seven days; one each, eight, nine and ten days; two, twelve and thirteen days each.

Fifteen of these occurred underground, and the other seven on the surface.

I still find a considerable amount of dangerous and affected ground both underground and on the surface workings on my visits of inspection, and there is always a certain amount of satisfaction in getting this brought down, which might otherwise cause serious accidents, though one would like to see more carefulness enacted. One has often to come to the conclusion, that familiarity breeds contempt.

Hoisting Engine Accidents.—On the 16th April the electrical engineer at one of the mines wished to be lowered down the shaft. The enginedriver started the engine in the wrong direction, broke the " chairs " at one level, and pulled the cage with man into the " thimble " on the opposite compartment. Fortunately the man was not hurt. The driver left the mine. He had been up against it during the past few months. His wife had been a great sufferer, and died, and his nerve had evidently gone, and, from reports received, was really not fit to have been on the winding engine.

Another accident happened at this mine owing to the platman lifting the " catches " of the cage, thinking the enginedriver was lowering the cage on to the " chairs." On the driver raising the cage, the truck came partly out and jammed under the shaft timbers before the platman could give the signal to stop. The usual practice at this mine is that when the cage is at rest at the brace the other cage is a couple of feet above the plats. A shift boss desired to go below, and the driver just lifted the cage at brace high enough to free the chairs, and then lowered the cage, not thinking the platman would touch the other cage until it was lowered on to the chairs at his end. Fortunately no one was hurt, and work was resumed soon after.

Still another accident happened at this mine. An enginedriver, who had been previously engaged on sinking shaft, and had been put on to main winding engine and been hoisting some time, received the signal to hoist, and started his engine in the wrong direction, taking the cage at the brace into the thimble, shearing the rivet in safety hook, which came into play and held the cage. No damage was done apart from this. The man had just recently been examined for certificate of competency as a mine-winding enginedriver, or, as designated by " The Inspection of Machinery Act," as grade " A " Certificate, entitling him to drive any engine in Tasmania, and the excuse he gave was, " he was new to the job."

I have been informed by an inspector of the Machinery Department that this Certificate " A " is looked upon as being more of a steam certificate, however, anyone having it can take charge of any electrical machinery, and, from remarks passed by several managers and others, it appears that many of them know very little about electrical winding. It appears to me that there is a great need for an amendment of the Act in connection with enginedrivers' certificates.

Ventilation.—At one mine, mentioned in last report, a decided improvement is expected, when a rise is holed through which is being put up at present. As well as improving the ventilation, it will be available as a second exit or escape-way from the mine when required. At some other mines it has been found necessary to threaten legal action before work was put in action to improve conditions.

Settlements of Ground.—Nothing of a serious nature has occurred during the year. A few local settlements have occurred, but did not necessitate the withdrawal of the workmen. One place that was considered unsafe as being worked was abandoned, as it was considered the ore was too poor to extract, with close timbering and filling as required by this Department

Change-houses.—A mine resumed operations in a much larger way, and it was requested that a change-house be erected in compliance with the Act. This was promised, but the way the job was hung up repeatedly was the limit, no regard being taken as to the inconvenience or health of the workmen, and at last legal action had to be threatened to expedite the work. Threatened action was also found necessary in connection with obtaining a necessary degree of cleanliness in another company's change-house. There was an improvement in some instances, but better conditions are still hoped for.

Shelter-sheds and Crib-places.—A better response has been met with in this connection, both underground and at surface.

Health and Sanitation.—Considerable improvement in this latter has been effected, but there is still room for more.

There was evidence that dry-boring is still going on. When one goes into stopes and ends, and finds men with dry dust on their faces and shoulders, although the working places have been wetted, one has to come to this conclusion. It is to be regretted that men are such fools.

One man was caught dry-boring, and he and the shift boss were taken before the police magistrate and fined. (See prosecutions taken under " The Mines and Works Regulation Act, 1915," attached.)

It was decided, that on all occasions where men were found dry-boring or working in very dusty conditions, to take legal action against the man immediately in charge, to make him show he had taken every reasonable precaution to enforce the observances of General Rule 13 in this connection. I believe in several instances it has had the desired effect.

At one big quarry, men were found working in very dusty conditions. The question of putting in a water system was taken up with the superintendent, and the matter was taken up in a very indefinite manner, and at last data was collected so as to take legal action. On this being put to him, he promised to have water laid on to the quarry faces within ten weeks.

On my last visit there he informed me the municipal council had granted his company the right to tap their main water-line, and that the necessary pipes and appliances had been ordered, and that they would be laid down as soon as they came to hand.

At another works being erected, it appeared that there would be a lot of dust circulated in the various operations to be conducted in the near future, and the various officers in charge were spoken to, and suggestions put forward that the plans be submitted to the chief inspector and myself, and the matter gone into to see if some adjustments could be made, thus saving alterations and any trouble later on. Every approach has been ignored in this connection. The excuse generally given was " Oh! you can not have works of these sort dust proof, and in such and such a place they do not try to allay it." I am afraid when the works are put into operation, unless a good deal of alteration is made as has been suggested at different times, there will be a lot of unpleasantness.

I have been informed of several " old hands " having passed away during the last twelve months, owing to miner's phthisis, in various places. Whether it was really owing to this alone I am not prepared to say, but I know personally of some of them having worked in unhealthy conditions in days gone by. It will be a splendid thing when the Occupational Diseases Bill is passed, and provision made for those concerned. For even if some of the disease is brought about, as it is contended, by the men's own carelessness and foolishness, there is no reason why those depending on them should suffer.

Explosives and Magazines.—Two new magazine licences have been taken out and one cancelled.

Considerable attention has been given to the handling and storing of explosives. A new explosive was introduced in lieu of sodium nitrate gelignite, and at one mine the fumes were reported to be very bad, but on investigation being made it was considered that, owing to the nature of the ground being worked, it being a tough slate with soft clay and gossan seams running through it, and the ventilation poor, the fumes from any explosive would have been bad. It was insisted on that the ventilation be improved, and since this was done by holing to level above, have had no further complaint.

Smalll quantities of sodium nitrate gelignite have had to be destroyed owing to absorption of moisture and the big lot mentioned in my last report was destroyed by the manager of the mine without any pressure from this Department.

Fuse and detonators gave satisfaction, and no complaints have reached this office.

The landing and handling of explosives were supervised as occasion demanded at Burnie and Devonport. Two complaints reached this office in connection with the way explosives were being carried by a privately owned railway company. This was gone into with the management, who promised to do as required, and bring their practice in line with the rules laid down for the carriage of explosives on the Government Railways.

Several persons have applied for permits to sell explosives under " The Explosives Act, 1916," many of whom were ignorant of the Act until I brought same under their notice.

Machinery, Ropes, &c.—As occasion demanded these were inspected, and, apart from a few instances, a ready response was given to my requests.

A long rope on an incline haulage tramline, which had been practically lying idle for a number of years, and had had a number of years use previously, was put into use again. It was too long a job for me to undertake, so I asked that a thorough examination of the rope be made. A record was inserted in the mine record book stating it had been done by the company's engineer. On inquiry being made I found no effort had been made to examine the rope internally. The company got the Government Inspector of Machinery to have a look at it, and he requested that the load in the trucks be reduced, and stated the rope would then be satisfactory, but I understand he did not examine the rope for internal deterioration. I have since found broken wires projecting which were found to be very brittle. This has been recorded in the record book. The rope may be quite alright for the load on it, and as the Inspector of Machinery has passed it, I must accept his judgement, but I will be very pleased when a new rope is put into use. I am informed that a new one is on order, and will be put into commission on arrival at the mine.

During my absence on annual leave I received a written complaint that an enginedriver, not having the necessary certificate, was driving a winding engine on one of the mines. I at once wrote to the Inspector of Machinery for the district in reference to this, and he replied that he had written the management requesting them to put on a man having the necessary certificate. On my next visit to the mine the work had ceased. I recorded, requesting that, when work was resumed at this shaft, Section 31 of the Act be complied with. Some months after, on visiting the mine, I found the work had been resumed, and an enginedriver only having a second-class certificate engaged. I took the matter up with the manager, and he stated positively he had been given permission to use this driver by the Machinery Department. Word was sent to Hobart in this connection. The Chief Inspector of Machinery on being interviewed denied having given any permit, and on my seeing the local inspector he also positively denied having done so. Information has been laid against the company's manager, and the case is set down to be heard on the 13th February next. It is to be regretted that cases of this sort occur.

In several quarters it is considered that the requirements of the Acts—" The Mines and Works Regulation Act," and " The Inspection of Machinery Act "—are unreasonable in connection with enginedrivers, but the question is, should the inspectors take the law into their own hands and do as they think fit, and ignore the letter of the Machinery Act? I am not prepared to do so. My opinion is that the managers and others interested should get together and make recommendations, and request that the Acts be made to suit all present requirements. Personally I think there is plenty of room for adjustments.

Inflammable Liquid Storage.—A considerable amount of attention has been given to this as time would permit, but there remains much to be done. The instructions are " do not on any account neglect your mine inspection work, and only give such time as you can reasonably spare to inflammable liquid storage."

It is surprising to see the complete ignorance that exists in connection with the handling and storage of motor spirit. Some people are crying out for the quantities as allowed under the Act to be increased. If they had a few months along with me on my tours of inspection, they would, if reasonable, soon alter their opinions. There has been several accidents in connection with the handling of motor spirit, owing to ignorance in most cases.

During the term 112 persons have been granted certificates for the registration of premises, and six licences to store in lieu of registration of premises have been granted.

More ventilation was insisted on in a few instances in the larger depots, and was obtained.

Assistance has been asked for from the Police Department, and I am pleased to record that a ready response has been given in several instances, but the very opposite has been obtained in some cases. If inspections had been made when requested, it is believed that persons would have been found breaking the law, but on inspections being made many days afterwards they have been found with just the quantity allowed under the Act.

Legal proceedings were instituted against seven persons for breaches of Section 10 of " The Inflammable Liquid Act, 1920." (See tabulated list herewith.)

General.—The various mines, works, and quarries in my district have been inspected as the importance of the operations called for. On the whole more active operations have been in vogue, and the term has been a very busy one. Apart from a few instances my recommendations have been heartily appreciated, and acted on regarding better working conditions and safety.

The idea of this office is to first of all suggest improvements and encourage the management to take the matter up themselves, and if this is not done, to try in every reasonable way to get what is felt necessary. If not obtained, then legal action is threatened, and taken where necessary.

I would like to here express my appreciation to the various managers, officers, and workmen who have given me their co-operation in my endeavours to get a reasonable degree of safety and better working conditions. I would also like to express my appreciation of the assistance given me in many ways by the Chief Inspector of Mines and Explosives.

List of Prosecutions Taken under " The Mines and Works Regulation Act."

Contravention.	Result.
General Rule 13.—Failure to use an appliance for the prevention of dust during rock-drilling operations.	Miner: Convicted, fined £2, and ordered to pay costs, amounting to £1 3s. 6d. Total, £3 3s. 6d., in default 14 days.
Section 23.—Failure in not enforcing General Rule 13, in connection with the above case.	Shift Boss: Convicted, and ordered to pay costs, 8s. 6d.

List of Prosecutions Taken under "The Inflammable Liquid Act, 1920."

Contravention.	Result.
Section 10.—Keeping other than in licensed store or in registered premises.	Convicted: fined £1 and costs 18s. 6d. Total, £1 18s. 6d.
	Convicted, fined £1 and costs £1 4s. 0d. Total, £2 4s. 0d.
	Convicted, fined £2 and costs 6s. 6d. Total, £2 6s. 6d.
	Convicted, fined £2 and costs £1 3s. 2d. Total, £3 3s. 2d.
	Convicted, fined £2 and costs £1 15s. 6d. Total, £3 15s. 6d.
	Convicted and ordered to pay costs, £2 12s. 6d.
	Convicted, fined £3 and costs 6s. 6d. Total, £3 6s. 6d.

Mr. Inspector WILLIAMS (Queenstown) reports:—

I have the honour to submit the following report upon the work of inspection and administration of the provisions of "The Mines and Works Regulation Act, 1915," "The Explosives Act, 1916," and "The Inflammable Liquid Act, 1920," within the Lyell and Zeehan inspection division for the year ended on the 31st December, 1924.

Reduced ore-producing activity obtained in the Zeehan area and accounted for a material reduction in the output of silver and lead. Excepting copper, high metal values were well sustained, but did not materially stimulate Zeehan mining. The greater part of the zinc production accrued from the disposal of zinc ore stacked at one mine from previous operations. Small operators were not generally impressed with the nett possibilities of zinc tariffs offering, and activities that were hoped for in this respect did not ensue.

The average number of persons engaged in the mining industry was 1296, being a little higher than the number engaged during the previous year.

Customary effort was directed to securing a reasonable observance of the machinery of "The Mines and Works Regulation Act." As hitherto, the principal mines and works commanded the greater number of underground and surface inspections, the work of inspection being extended to those of lesser importance as opportunity permitted.

Accidents.—Twenty accidents, involving non-fatal injuries to a like number of persons, were registered under the provisions of Section 26 of "The Mines and Works Regulation Act," as against one fatal and 22 non-fatal accidents registered during the previous year. Six of the accidents occurred underground, 5 occurred on the surface at mines, and 9 were associated with operations at metallurgical works.

The tenor of the accidents was appreciably less serious than during the previous year, and, excepting the three cases particularised, the injuries were of a minor nature.

In one case a miner sustained a fracture of two left ankle bones while working underground. He was throwing ore into a nearby pass when a boulder at the toe of the rill of broken ore at which he was working rolled over and pinned his leg to the floor of the stope. Those concerned asserted that they had not removed any ore from within four or five feet of the boulder, but their operations had evidently disturbed the material against and on which it was resting.

One person sustained painful burns on the legs and right arm when engaged cleaning out the main flue at a copper-reduction works. While standing inside the flue he played a jet of water on to a heap of hot flue dust, and thereby caused a precipitate run of dust which struck him. Results had established such a practice to be unsafe, and measures were taken with a view to the prevention of future similar accidents.

A platman was unloading bulk logs from a shaft cage when the last log to be removed fell from its position in the cage struck him on the right leg and cracked the shin bone.

The remainder of the accidents, together with the causes and injuries sustained, are summarised in the tabulated list accompanying this report.

Four accidents involving more than 14 days' disablement occurred at a works, but are not included in the tabulated list, as these were machinery accidents, and were accepted and registered by the Machinery Department.

Two additional accidents of a serious nature were recorded, but were omitted from the summarised list as the persons injured were not employees. One concerned a male child aged 3 years and 10 months. Irrespective of a previous chastisement, he persisted in playing around a rake of empty trucks at the foot of a mine haulage, and when the rake commenced to ascend he scrambled precariously on to a platform between two of the trucks. When the trucks had travelled about 6 feet he attempted to get off, but was caught by portion of one truck, dragged for several feet, and then thrown clear. The right leg was seriously mangled.

In the second case a visitor to a mine entered the cage at the shaft with the manager, and as the cage commenced to descend he so altered his position that the right elbow was caused to project through an opening in the side of the cage and be jammed by the shaft timbering. He sustained a fractured arm.

While following his occupation at an opencut workings a machineman collapsed, passed into unconsciousness, and succumbed to cerebral hæmorrhage the following day. Deceased had been suffering from high blood-pressure for a number of years. There was no visible accident, and the incident was not registered as a mining accident under the provisions of Section 26 of the Act.

Settlements of Ground.—There were no extensive settlements of ground in mines, and minor occurrences of the kind were not so prevalent. It has been admitted that, under certain conditions of mining, settlements of ground are likely, but it has been emphasised that more practical regard for lines and zones of weakness would result in a reduction in the number of settlements, avert uncontrolled settlements, and detach from the importance and moral effect of these happenings. At one mine, where settlements have been unnecessarily prevalent, more reasonable regard has been given to structural and other weaknesses, and there has not been the same reticence to modify methods of working to control those weaknesses. A vigorous prosecution of this policy will be beneficial to all concerned. Operations were temporarily interrupted by roof movement in two stoping sections, and roof movement in a third stope was controlled without affecting a continuity of mining operations. At another mine ineffectual methods in driving from a shaft in "silty" country resulted in a subsidence, which extended 32 feet to the level above. No difficulty, however, was experienced in securing the place. At an extensive opencut workings, quantities of ground have continued to fall from the hangingwall area. The weakness has been known, the falls have been expected, and no person has been subject to immediate danger.

Health and Sanitation.—Repression and control of nuisances affecting health and sanitation received full consideration, and although improvement resulted in some directions, there is still much to be accomplished in respect to the production and maintenance of conditions indicative of every care for the health and comfort of employees.

At a copper-reduction works aggravating conditions of dust and fumes were again encountered, and although innovations were made and resulted in improvement in some respects, consistency of improved conditions has yet to be established, and a correction of conditions in other directions, where discomfort has been suffered, is considered necessary to produce general satisfaction.

At a second works objectionable conditions of dust and fumes attended the installation and initial operation of treatment units. The management displayed amenability towards a correction of conditions, and material results are expected in the near future.

Several complaints have been received regarding conditions at the above two works, and these have been entirely justified.

Encouragement for added measures in the suppression of dust at a crusher station was not responded to.

Instances of persons having to inspire underground atmospheres laden with dust and fumes from blasting operations were infrequent, and it may now be recorded that appreciable progress has been made in the control of this nuisance.

Legal proceedings were instituted against two persons for failing to use appliances for the prevention of dust during rock-drilling operations, and isolated instances of insufficient precautions to allay dust were countered with cautionary measures. Special consideration was given to the question of dusty atmospheres in underground workings as opportunity permitted. Naturally damp conditions and humidities, ranging from 97 per cent. to the " dew point," in the principal mines, materially assist in mitigating dust dispersion. These natural conditions, the enforced use of water during rock-drilling, shovelling, and other operations, and the better control of blasting operations are beneficially reflected in a majority of the cases of atmospheric dust being appreciably below the " upper limit of safe working " as determined by South African practice. However, instances of a high degree of atmospheric dust have been encountered, principally in confined and " dead end " places. In each of these cases activity of air circulation was almost imperceptible. As it is now recognised that water is only a useful adjunct to dust prevention, and that air activity is an important desideratum for the removal of very fine dust, operators would do well to give added attention to these confined and " dead end " places. Necessity for improved air activity has been long since emphasised, and although there has been some improvement in ventilating conditions it cannot be chronicled that a full response has been received.

No instance of the thermometrical requirements of the Act being exceeded was recorded, and ventilating systems were not appreciably different from those obtaining during the previous year. Improved ventilating conditions were requested and obtained at two small mines. At another mine a combination of gases and vapours attending baling operations caused excessive discomfort at an underground winding station. The provision of mechanically controlled ventilation was agreed upon, but no fan had been received at the mine at the close of the year. Latterly, however, the condition at the driving station was not serious, as the air vitiation was less virulent.

Bathing and changing accommodation was not slighted. The locker system for hanging and drying clothes is being given preference at the mines and works, and results attending the introduction of this system are being carefully watched. At one mine, where arrangements had given much dissatisfaction, a commencement was made with the alterations previously agreed to, but progress has been slow, and the alterations are a long way from completion. Consequent upon a reduction in the number of employees at one mine a small change house was placed in commission in lieu of the one previously used. The locker system, with electrical drying and heating arrangements, has been introduced at this change house. Exception was taken to several of the appointments, and the management has agreed to make the necessary alterations. At a metallurgical works a new change house, with the locker system and steam heating arrangements, was erected and placed in commission at the close of the year.

Irregularities in " crib " places and latrine accommodation were corrected as occasion demanded. Some improvements were made in arrangements, and further innovations will be effected during the coming year. At the small mines arrangements were not different from previous years.

Proper maintenance of underground roadways at the principal mines had retrogressed to a marked extent, but this matter was again taken in hand, and an early return to congenial trucking and travelling conditions is expected.

No commendable additions were made to the existing facilities for rendering first aid.

Prosecutions.—Legal proceedings were instituted against twelve persons for breaches of " The Mines and Works Regulation Act." Two cases, one of which was reported by a mine official, concerned the allaying of dust from rock-drilling operations. Two persons were proceeded against for riotous behaviour in a mine, and six persons were prosecuted for getting off moving trucks on an inclined haulage plane. A mine official was proceeded against for unlawfully taking charge of a winding engine by which persons were lowered in a shaft, and an action was instituted against the registered manager for employing the official in that capacity.

The contravention and result of the proceedings in each case, are shown in the following tabulation:—

Contravention.	Result.
General Rule 13 of the Schedule.—Failure to use, when necessary, an appliance for the prevention of dust during rock-drilling operations.	Miner: Convicted, fined £3, and ordered to pay costs amounting to 7s. 6d.
	Miner: Convicted, fined £3, and ordered to pay costs amounting to 6s. 6d.
Regulation 17.—Getting off a moving truck on an inclined haulage plane.	Four underground employees: Convicted and fined 5s. without costs.
	Mine official: Convicted, fined 5s. and ordered to pay costs amounting to 7s. 6d.
	Mine official: Convicted, fined £1, and ordered to pay costs amounting to 7s. 6d.
Section 72 of the Act.—Riotous behaviour in a mine.	Trucker: Convicted, fined £1, and ordered to pay costs amounting to 8s. 6d
	Steel-runner: Complaint dismissed without costs.
Section 31 of the Act.—Taking charge of a winding engine by which persons were lowered in a shaft, and not being the holder of the prescribed certificate.	Mine official: Convicted, fined 10s., and ordered to pay costs amounting to 6s. 6d.
Section 31 (2) of the Act.—Employing a person contrary to the provision of Clause 1 of the same section.	Manager: Complaint allowed to lapse owing to a fatal mishap to the manager.

Machinery and General.—Several mishaps occurred in connection with the machinery at mines and works, three of which were of moment.

A rake of trucks, carrying 18 men, was being raised up an inclined haulage plane when the rope fouled on a sleeper in the bridge. As the rope did not free itself, due warning was given, and the men jumped off safely. On arriving at the bridge the trucks were derailed and precipitated over the side of the bridge. It is fortunate that the incident happened in daylight, as otherwise the result would have been disastrous. Added measures were subsequently taken to prevent the rope fouling in a similar manner.

At an underground winding station the enginedriver was compelled to leave the engine momentarily, whereupon the person fulfilling the requirements of Regulation 4 unauthoritatively attempted to continue with the baling operations being undertaken, but raised and jammed the tank at the detaching thimble. The electrical machinery automatically cut out with the overload, and this averted material damage being done.

In the third case, a baling tank unaccountably parted from the rope during baling operations, and was precipitated down the shaft. It was presumed that the split pin had become displaced, and allowed the shackle to loosen and become detached.

Customary attention was given to the efficient maintenance of ropes, cages, and attendant appliances. Isolated instances of laxity in care for appliances were encountered, but, as a general rule, these matters were reasonably well cared for.

Three winding ropes and one windlass rope were condemned and immediately replaced; defective sections were required to be removed from two ropes, and several new ropes were installed to replace those in use before condemnation of the latter by this office became necessary.

Six persons were granted exemption from the provisions of " The Inspection of Machinery Act " and " Mines and Works Regulation Act," in respect to the holding of certificates to entitle them to operate small hoisting apparatus used in lieu of hand-windlasses at winzes. In each case the work was successfully performed.

Medical certificates required by Section 32 of the Act were renewed or endorsed as occasion demanded.

Explosives.—Administration of the provisions of " The Explosives Act " and Division IV. of the Schedule to " The Mines and Works Regulation Act," relating to explosives, received due attention.

The use of one magazine was discontinued, and the licence covering one magazine was not renewed, as the quantity of explosives to be stored was reduced to not exceed 50 lbs. The conditions of storage in licensed magazines were reasonable.

Infrequent instances of carelessness and improper handling of explosives were encountered, and those concerned were reproved for the misdemeanours.

Nitro-compounds of South African and Australian manufacture were used, and no complaint was made to this office regarding the quality thereof. Latterly, Nobel's Ardeer compounds were introduced into part of the inspection division, and the behaviour of this explosive under local conditions of use and storage is being watched. Exclusive of small quantities of the first two mentioned explosives, which had deteriorated through local conditions of storage, and which were ordered to be destroyed, the condition of the compounds was satisfactory.

No difficulties were experienced in connection with the detonators used. Frequent tests and examinations were made of the safety fuse in use, and in no instance was faulty fuse encountered.

There were no explosive accidents during the year.

Landing of imported explosives at the port of Strahan was supervised as occasion demanded.

Inflammable Liquids.—One new depot was erected and registered for the storage of mineral spirit. The conditions of storage in the licensed and registered premises were reasonable, and no difficulties were encountered in obtaining a reasonable compliance with the provisions of "The Inflammable Liquid Act."

REPORT OF THE CHIEF INSPECTOR OF MAGAZINES AND EXPLOSIVES.

Hobart, Tasmania, 4th May, 1925.

SIR,

I HAVE the honour to submit my annual report in connection with the administration of "The Explosives and Inflammable Liquid Acts" for the year 1924.

The imports for the year were:—

	lbs.
Monobel	12,900
Gelignite	243,450
Blasting gelatine	27,050
Ligdyn	26,000
Powder	25,225
Detonators	140,000

The quality of the explosives imported on the whole was satisfactory, but small quantities were destroyed owing to absorption and chemical alteration.

There were no accidents on mines due to explosives, and this can be largely attributed to close inspection, good storage, and careful use.

One accident occurred during the year on a farm, which was due to the careless use of explosives (detonators).

A new explosive has been introduced into mines, and a large amount of attention has been devoted to observing it under working conditions. To date it has been most satisfactory, both with regard to fumes and working conditions.

The importation of inflammable liquid has shown a very large increase, and it is satisfactory to know that there has been a large increase in the number of licences issued under "The Inflammable Liquid Act." It is also pleasing to record that there is a great improvement in the safe storage and handling of the commodity, especially on wharves.

There were eight prosecutions for non-compliance with the provisions of "The Inflammable Liquid Act," and convictions were obtained in seven cases, one being dismissed.

Revenue.—	£	s.	d.
Magazine licences, 72	72	0	0
Licences to store, 80	92	0	0
Permits to sell, 333	83	5	0
Permits to import, 11	22	0	0
Permits to convey, 43	10	15	0
Permits to sell fireworks only, 18	2	5	0
Registered premises, 362	81	10	0
	£363	15	0
Magazine rents	208	5	0
Total revenue	£572	0	0

I have, &c.,

J. O. HUDSON,
Chief Inspector of Explosives.

W. A. PRETYMAN, Esq.,
Secretary for Mines, Hobart.

JOHN VAIL,
GOVERNMENT PRINTER, TASMANIA.