

AR 1910

TASMANIA



REPORT

OF THE

SECRETARY FOR MINES

FOR

YEAR ENDING DECEMBER 31

1910

Including Reports of the Inspectors of Mines, Government
Geologist, Mount Cameron Water-Race
Board, &c.



Tasmania:

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REPORT OF THE SECRETARY FOR MINES.

Mines Department,
Hobart, 10th July, 1911.

SIR,

I HAVE the honour to submit my report upon the Mines Department and the Mining Industry for the year ending 31st December, 1910.

GENERAL REMARKS.

The aggregate value of the minerals raised during the year was £1,432,193, being a decrease of £142,802 on the value of the output of the preceding year.

The value of the gold won was £32,831 less than the previous year. While the output of silver-lead ores was decreased by 51,226·91 tons, the value was £51,304 less.

The average price of tin for the year was £155 12s. 2d., as compared with £134 17s. 8d. for the previous year. It started at £148 17s. 6d., and reached its highest, £175 2s. 6d., in December.

The average price of fine silver for the year was 2s. 2·610d. per oz., as against 2s. 1·617d. last year. The highest monthly average was in November, when it reached 2s. 0·032d.

The average price of copper was £57 3s. 2·387d. per ton, as against £58 17s. 1·83d. last year.

At the request of the Agent-General in London, I forwarded to his office specimens of china clay from the beach at St. Helens. Some years ago the Hon. E. C. R. Littleton sent some of this clay to England, and excellent results were obtained from it. I had in my office a collection of clays from different parts of the State, which I forwarded at the same time, in the hope that attention might be directed to our clay deposits, if the results obtained proved satisfactory. In addition to the above, I also forwarded some specimens of Fuller's earth from Kingston; samples of Tasmanite shale and oil from the Latrobe Shale and Oil Company's works at Latrobe; large specimens of tin stone from Stanley River, Heemskirk, and North-East Dundas; and a number of large photographs of the tin mines in the Renison Bell district.

"THE GOLD ACT, 1909."

A number of gold buyers' licences have been applied for and granted since the coming into operation of the Act on the 1st April, 1910, and proceedings were instituted and convictions obtained against two persons who were found to be purchasing gold without authority.

ASSISTANCE TO PROSPECTORS.

A sum of £200 was placed upon the estimates for the year 1910-11 for the purpose of assisting prospectors to further develop their discoveries, the money to be expended upon the £ for £ principle, not exceeding £50 in any case. There was only one applicant for assistance under the vote prior to the end of the year, and a sum of £40 was granted to enable him to open up a gold discovery in the upper reaches of the Davey River. After an absence of three months the applicant and his mate returned to Hobart, having been unable to reach their destination owing to the wet season, and the consequent flooding of the rivers.

APPENDICES.

Appended will be found the following reports and papers:—

The Annual Report of the Mt. Cameron Water-race Board.

Report of the Government Geologist.

Report of the Assistant Government Geologist.

Report of the Chief Inspector of Mines.

Reports of the Inspectors of Mines.

GOLD-MINING.

The total quantity of fine gold won during the year was 37,048·053 oz., valued at £157,370; as against 44,777·366 oz., valued at £190,201; being a decrease in value of £32,831 on the previous year.

Beaconsfield.—The yield from this district was 22,765·3 oz. of gold. The Tasmania Gold Mine, Limited, was the chief producer. The company's battery crushed 65,282 tons of quartz. The total gold produced was 21,771 fine ounces, which, together with some wood ashes from old flooring, gave a total value of £92,541 sterling. Included in the above were 5946 oz. obtained from 14,055 tons of concentrates, &c., treated in the roasting and grinding plant, and 977 oz. obtained from 29,200 tons of battery sands treated in the cyanide plant. During the year the average number of men employed was 533.

Development work during the year has been the extension of the 1250-foot level west, and the opening-up of the 1370-foot level. The lode at the latter level was cut in June, and has been driven east a distance of 270 feet. The assay value was slightly better than in the level above.

Hart's shaft was sunk to the 1370-foot level, and the pumping-plant will be shortly extended to that depth. In Grubb's shaft the pumping-plant was extended to the

1370-foot level, and the shaft to the 1500-foot level, where permanent pitwork will be installed during the coming year.

The low grade of ore opened up by the 1250-foot level necessitated the reconstruction of the company.

The total quantity of gold won by the company is 765,874 oz., from 879,210 tons of quartz. The total amount paid in dividends up to 1905 was £772,671 15s., since which date no dividends have been paid.

At the North Tasmania Mine further prospecting operations were carried out, but did not result in the discovery of any new shoot of payable stone. During the coming year arrangements will be made for working the small shoot of payable stone that was opened up in the past. It is hoped at a later date to continue further prospecting work at a greater depth than that already carried out.

The Tasmania Tailings Syndicate obtained 984·8 oz. of gold, employing 13 men.

The Duchess of York Gold Mining Company, Mt. Salisbury, sunk its shaft 105 feet, and drove 80 feet. Two men employed.

Lefroy.—The total quantity of gold won from this field was as follows:—

	oz.
New Pinafore Gold Mine	130
Creek Cyanide... ..	523·5
Gift Gold Mine	12
Others	40
	<hr/>
Total	705·5
	<hr/>

Lisle and Golconda.—The total quantity of gold won was 211½ oz., an average of 25 men being employed.

The Golden Pyramid Company at Golconda commenced to sink a new shaft, 6 feet by 3 feet 6 inches, about 600 feet further south of last year's workings.

The shaft was sunk to a depth of 59 feet. At this depth a drive was put in for a distance of 150 feet. Four men were employed.

The New Panama Company drove a low-level adit a distance of 750 feet to intersect the different lodes at the greatest depth attainable. The drive intersected No. 3 lode, which was driven on the east for a distance of 150 feet from this level, when a winze was sunk 50 feet to connect with No. 2 level for air. No. 1, or the contact lode at the junction of the granite and sandstone, was also driven on for a distance of 140 feet west from the deepest level, making a total of 1097 feet. Five men were employed.

At the New Wyengatta Mine a complete winding-plant was erected, consisting of a double 8-inch winch and 15-foot by 5 feet multitubular boiler. The shaft was sunk to 140 feet, and opened out at 120 feet. The lode was driven on east for a distance of 50 feet, and west 50 feet. No stone was crushed. Six men employed.

ALLUVIAL AND GOLD-DREDGING COMPANIES.

Gold was obtained by the following companies in streaming their tin drifts:—

	oz.
Dorset Bucket-dredging Company	19·85
South Mt. Cameron Tin Mining Company	25
Briseis Tin and General Mining Company	66·40
New Brothers' Home Tin Mining Company	6·82
	<hr/>
Total... ..	118·07
	<hr/>

Mathinna.—The total quantity of gold won was as follows:—

	oz.
New Golden Gate Company... ..	1205
Golden Horseshoe Company	144
Others	84·50
	<hr/>
Total	1433·50
	<hr/>

The New Golden Gate Gold Mining Company, employing an average of 40 men, crushed 2564 tons of quartz, and treated 2900 tons of sand, and obtained 1205 oz. of gold. The total quantity of quartz now obtained from this mine is 278,648 tons, which has yielded 232,988 oz. of gold, an average of 16 dwt. 17·34 gr. per ton, and which has realised £885,622 14s. 9d.

The total amount paid in dividends is £355,200, or £11 2s. per share; and the total amount paid in dividend tax, £16,638 10s. Since paying the last dividend on January 31st, 1905, £70,460 0s. 7d. has been expended on mine development. Of this the sum of £3200 has been contributed by shareholders in the form of calls, and the balance has been provided by gold won from the mine.

The Golden Horseshoe Company has been engaged principally in surface prospecting and open-cut work along the capping of the lode. A five-head battery has been erected, and 1604 tons of quartz have been crushed, yielding 144 oz. of gold. Eighteen men employed.

The Miner's Dream Gold Mine sunk a prospecting shaft to a depth of 24 feet on a small reef trending east and west, and drove 8 feet on same from the bottom of the shaft. A horse-haulage was erected on the main underlay shaft, and from this shaft, at a depth of 125 feet from the surface, a prospecting drive was extended to a distance of 48 feet in a south-westerly direction. About a chain south-west of the underlay shaft a new reef was dis-

covered, which was sunk on to a depth of 10 feet. The average number of men employed was three.

West Coast.—The quantity of gold won from alluvial workings was 126 oz. 19 dwt.

At the Davie Prospecting Association's mine work of a prospecting nature was continued throughout the year.

On an abandoned portion of the old King River Company's property Messrs. Elliott and Davie have resumed prospecting operations. Many of the old alluvial workings have intermittently received attention from fossickers, but their returns have been small. The most important was a small piece of ground on an escarpment of Mt. Lyell, near Linda, from which 100 oz. of gold were obtained.

SILVER-LEAD MINING.

The Zeehan and Dundas fields have been passing through a time of great depression, and many of the small mines have been closed down during the year owing to the cessation of smelting operations at the Tasmanian Smelting Company's works; and the output of ore has in consequence been considerably reduced.

The difficulties existing between the smelters and the producers have now been settled, and it is anticipated that, with the State assistance in the shape of reduced railway freights and rebates to the companies concerned on ore carried over the Government railways, the fields will soon regain their normal condition, and the mineral output will increase.

The quantity of silver-lead ore produced was 51,226·91 tons, valued at £247,576, being a decrease in quantity of 29,151·44 tons, and a decrease in value of £51,304.

The principal producers were:—

Zeehan Mines.

	Tons.	Value. £
Mt. Zeehan (Tas.)	1647	6840
Zeehan-Montana	2909.56	51,292
Zeehan-Western	690.63	9122
Silver Queen Extended	42	559
Oonah	16,051.20	56,177
Zeehan Queen	17	294
Florence	453.42	5576
New Mt. Zeehan	40.85	169
Boz Mine	660	670
Sunrise	35.7	378
Nubeena ... ..	...	...
South Nubeena	5.50	60
Maxim	19.54	132
T.L.E.	11.47	77
South Comstock	90	365
Austral Valley	976	409
Balstrup's	23	212
Venezia Tribute	4.55	45

Dundas Mines.

Comet	414	643
Hercules	7231.46	16,812
Adelaide	81.65	1236
North Jupiter	351.5	878
West Comet ... ..	...	...
Mariposa	534	827
Anderson's Tribute ... ..	...	..

Mt. Farrell Mines.

Mt. Farrell	6	88
North Mt. Farrell	2321	19,564
Mackintosh	43	622
Murchison River
Others

Rosebery Mines.

Tasmanian Copper	944	7123
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North Pieman.

Chester Mine	8435.28	3946
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<i>Mt. Lyell.</i>	Tons.	Value.
Tasman and Crown Lyell Extended	356	£ 1909

The Hercules Gold and Silver Mining Company, working with an average of 55 men, obtained 7231 tons of zinc-blende ore, valued at £16,812.

Underground.—The main works accomplished in Nos. 3A, 3, 4, 5B, and 5 levels are as follows:—

	ft.
Drives	195
Crosscuts	259
Rises and winzes	122
Total	576

The ore-production has been obtained at Nos. 3 and 4 levels wholly from the "E" ore-body, where a considerable amount of stoping has been done. The following summary details the areas of the various stopes:—

	Length. Feet.	Width Feet.
No. 3 level, "E" lode, main stopes	60	22
No. 4 level, "E" lode, main stopes	212	33
No. 4 level, "E" lode, 1st stope ...	200	32
No. 4 level, "E" lode, 2nd stope...	130	28
No. 4 level, "E" lode, 3rd stope ...	114	22
No. 4 level, "E" lode, 4th stope ...	68	18

representing a total measurement of 18,103 yards.

The development work was not very extensive, but consisted chiefly of the extensions of main crosscuts, drives, and rises in the various ore-bodies to further open up and prove their size and continuity. Rises have been put up to connect the levels and to provide for travelling-ways and ore-passes. The extension of the eastern crosscut in 5B level has been continued a further distance of 128 feet 6 inches, and has cut an ore-body (presumably "E" .

lode, which was at this point of lower value), and the crosscut was discontinued without reaching the hanging-wall of the ore-body.

No. 3A west crosscut was started and carried on for a distance of 109 feet. At 70 feet a low-grade sulphide body was met with, and at 76 feet a 7ft. 6 in. seam, carrying ruby silver and fahl-ore, with high silver and gold values.

The filling of depleted stopes was kept as close to the working faces as practicable, and a large amount of mullock was broken from the open cuts to fill the old stopes.

Surface.—All surface works are in good order. The haulage tramway is in daily operation, and the whole plant working satisfactorily. In May last, a breakage occurred, one of the brake wheels failing and the casting fracturing, rendering it necessary to close down the mine while a new wheel was procured and installed, the stoppage lasting four weeks. The Williamsford mill has been in operation continuously, and is in satisfactory working order. The various mine buildings have been maintained in repair, and the surface tracks and tramways have been kept in order. The timber tramway has been completed for 80 chains from the haulage tramway terminus.

Mt. Lyell District.—The Tasman and Crown Lyell Extended Mines, No Liability, working with 12 men, sunk its shaft to a depth of 134 feet, and connected with No. 3 intermediate level, and several drives and crosscuts have been put in. Eighty tons of ore at grass.

Mt. Read District.—Persistent exploratory work has been carried out at the Mt. Read Company's mine by driving and sinking operations at the 300-foot level. The main level has been extended 65 feet, and a winze has been sunk 40 feet below the floor of the 300-foot level through zinc-lead sulphides of average grade. At the 40-foot winze work was suspended owing to the increase of water at this point. Average number of men employed, 3.

Mt. Farrell District.—During the year the North Mt. Farrell Mining Company mined and treated 15,344 tons of crude ore, resulting in the production of 2321 tons of marketable ore, of a value of £19,564.

About one-third of this output was contributed by the new deep level (No. 5), the balance being furnished by the four adit levels above. The greater proportion of the output from these upper levels has been won in the extraction of the ore remaining in the supporting arches and pillars, and in the working out of the remnants of the ore-bodies and small branch veins in the old stopes and workings. A system of tributing devised to meet the local conditions has been adopted in connection with work of this nature, and has worked very satisfactorily.

The developmental work of most importance has been that undertaken at the bottom (No. 5) level, where the No. 3, or main lode, has been opened up for a length of 400 feet, exposing a continuous ore-body, varying from 3 to 20 feet in width, of good average grade. The exploitation of the two western (No. 1 and No. 2) lodes is in progress, and is being attended with satisfactory results.

Prospects have steadily improved, and the year closed with the mine in a much sounder position, and with a brighter outlook than what has obtained for some time past. One hundred and three men employed.

North-Western District.—The Magnet Silver Mine.—The main shaft was sunk an additional 65 feet, and No. 9 level opened out at a depth of 580 feet from the outcrop of the lode. The average width of the lode-formation so far proved at this level is 50 feet, of which width about 35 per cent. consists of barren material, the remainder being mainly milling ore with a few small bands of firsts. An auxiliary steam-plant has been installed to make the company independent of water-power during the summer months.

Thirty thousand seven hundred and sixty-one tons of lode-matter were mined, having a gross value of £53,728. The average number of men employed was 143.

COPPER-MINING.

The quantity of blister copper and copper ore produced was 8,864·27 tons, valued at £566,972; being a decrease of 1361·53 tons on the previous year.

The Mt. Lyell Mining and Railway Company, Limited.—The ores and metal-bearing fluxes treated by the company were as follows:—

	Dry Weight.			
	tons.	cwts.	qrs.	lbs.
Mt. Lyell Mine ore	247,209	0	3	0
North Lyell Mine ore	139,369	15	2	18
Purchased ore	100	2	3	23
	<hr/>			
	386,678	19	1	13
	<hr/>			

Quantity and value of metal produced:—

Blister copper, 8193 tons, containing—

	£	s.	d.
Copper, 8094 tons, valued at ...	483,806	7	0
Silver, fine, 656,793 oz., valued at	70,016	15	6
Gold, fine, 11,851 oz., valued at	50,366	15	0
	<hr/>		
Total	£604,189	17	6
	<hr/>		

The average number of men employed was 1849. The amount paid in dividends was £180,000.

Owing to the progressive policy pursued by the Mt. Lyell Mining and Railway Company this district has maintained its pre-eminence during the past 12 months, which is highly satisfactory, considering the heavy extractions that are daily made from the mine's resources.

This is regulated by the output of pyritic ore from the Mt. Lyell Mine, which, towards the end of the term was estimated to have developed, and to have in reserve, some 2,700,000 tons, while that at the North Lyell Mine can safely be stated at 1,000,000; so that the future of this huge, but at the same time well regulated, corporation is assured for years to come. The necessary renovations and renewals have been general through all departments. Probably the more important relate to the replacement of the nest of multitubular boilers at the parent mine's compressing plant, by two of Badcock and Wilcox's up-to-date mechanically-stoked high-pressure boilers. The main incline shaft has been holed through with the No. 8, or present lowest works of the same mine, and its compartments are being timbered in order to permit the 5-ton skips to haul from those workings, which will eventually supersede the production from the open-cut benches now supplying the principal quantity of pyrites to the smelters.

At the reduction works the old type of furnace is being replaced by others of increased capacity.

The water service is being augmented by the erection of another dam higher up the stream, which will assure a constant supply during all seasons.

Actuated by the success that has attended the North Lyell Mine, the Mt. Lyell Blocks is sinking a main shaft 6 ft. 6 in. by 12 ft. 6 in. in the clear, to prospect in the immediate vicinity of the numerous ore-bodies which have been located in that mine. Sixty feet has been accomplished, but it is indefinite at what depth the first level will be opened.

At Jukes and Darwin the only progressive work attempted was that done by Messrs. Souter and Cocking on the old Darwin Proprietary sections.

Mt. Balfour.—The progress of the work of development on this field has been slow. The Government has provided a wooden tramway from Balfour to Whale's Head

Boat Harbour, and has constructed a pier at the latter place, which is the natural port of the district. These facilities will materially assist in the development of the mines, and will enable a regular output to be maintained from those properties which have ore for export.

The copper mines on the field are being gradually opened up, but some of them have been heavily handicapped by want of adequate capital. The operations of the Central Mt. Balfour Copper Mines have unfortunately not proved as successful as was anticipated, and their failure has somewhat seriously affected the position of other properties deserving of systematic prospecting in depth. On the other hand, the Murray Bros.' Reward Mine is fulfilling the expectations of its owners in a most satisfactory manner. From this mine the total amount of ore sold up to June, 1910, was 1286 tons, valued at £16,000. The development work at the mine since that date has shown that the ore-body maintains its value for a depth of at least 50 feet below the tunnel workings. It is the intention of the owners to maintain a regular output when the new tramway service is established.

The Mt. Balfour Copper Mine, at the northern end of the field, is being steadily developed. The large lode which lies within this lease is being prospected systematically in depth with promising results.

The first shipment of ore from the Balfour South Mine has been exported, but the work of development has been temporarily abandoned.

The Poseidon Mine, which is situated at the head of the Lagoon River, is being actively prospected at shallow levels with exceedingly promising results, and warrants the expenditure of sufficient capital to give it a fair trial in depth.

The other mineral resources of the field, comprising ores of iron, tin, and tungsten, are not yet receiving much attention.

A geological survey of the whole field has been made by the Assistant Government Geologist, whose preliminary report has been published. The full report, with accompanying maps, is almost ready for the printer's hands.

Heazlewood.—The Mt. Jasper Copper Mines, No Liability.—Development and exploratory work has been carried on. A massive outcrop of copper-bearing lode has been developed by sinking and driving, and 20,000 tons of payable ore has been exposed, the assay values ranging from 2 per cent. to 30 per cent. copper, 1 oz. to 3 oz. of silver, and 2 dwt. to 11 dwt. of gold. A lower tunnel is being driven, and has intersected the lode-formation at 500 feet in.

Two prospecting tunnels have been driven on other portions of the property, and a copper-bearing formation was passed through in one of them. A prospecting shaft has also been sunk through a massive jasper outcrop, showing in places fair values.

In all, 2000 feet of driving, rising, and sinking, has been completed during the year, the number of men employed varying from 10 to 24.

TIN-MINING.

The quantity of tin ore raised was 3701·01 tons, valued at £399,393, an average value of £107 18s. 3d. per ton.

This shows a decrease of 810·19 tons on the previous year.

The statistics for the year are:—

	Ore Won. Tons.	Miners employed.	
		European.	Chinese.
Northern and Southern Division	39·15	41	—
North-Eastern Division ...	1636·85	557	71
Eastern Division	369·60	285	34
North-Western Division ...	1249·29	433	—
Western Division	406·12	177	—
Total	3701·01	1493	105

Northern and Southern Division.—The Shepherd and Murphy Syndicate, at Middlesex, obtained 39.15 tons of tin ore. The progress made during the year was as follows:—No. 3 adit was extended from 935 to 1158 feet. This adit intersects No. 6 lode at 391 feet, No. 5 lode at 936 feet, No. 4 lode at 1050 feet, and it is expected to meet No. 2 lode at about 1200 feet.

Driving was done on the lodes as follows:—No. 6 lode west to 205 feet; No. 6 lode north-west, Branch 171, to 306½ feet (this branch of No. 6 lode has yielded very fair quantities of bismuth); No. 5 lode east to 13 feet west, to 63 feet. A rise put up 118 feet through 112 feet quartzite rock and 6 feet of sandy wash met shaft sunk 96 feet through basalt from surface. No. 4 lode east drive 119 feet, west 111 feet, on payable lode. Rise is being put up at 104 feet east to connect with winze from level above (No. 4 creek drive). Ventilation in this adit provided for by rises and by fan operated by small Pelton wheel.

Stoping operations are in progress on No. 6 lode and north-west branch. No. 4 creek drive (150 feet above No. 3 adit). This adit driven west along No. 4 lode continued to 850 feet, at which point the drive entered wash and basalt. A winze is being sunk to connect with rise from level below, and is now down 68½ feet. Rises have been put up to drives on this lode at No. 1 adit level, and stoping is in progress.

A crosscut north picked up No. 5 lode at 103 feet. Driving has been done to 63 feet east and 201 feet west, the latter face entering basalt. This drive has also been connected with No. 1 adit, and the block between is being stoped.

The main features of development work have been the locating of Nos. 5 and 4 lodes at No. 3 adit level (the latter being now proved for a length of 1065 feet), and of north-west branch of No. 6 lode. Total footage for year, 1331 feet.

Mill.—Various improvements have been made, including a second pair of crushing-rollers, new jigs, additions to old jigs, new trommels, &c. The mill building has been nearly all renewed, and concrete retaining-walls put in at floors.

Two Pelton wheels, 36-inch and 60-inch have been installed, replacing wheels of 15-inch and 18-inch diameter, and are working smoothly. These wheels are giving a saving in water-consumption, in belting, and in convenience for regulation of speed and power.

Owing to dry season, and consequent shortage of water-supply, milling was suspended for some weeks in the early part of year.

Surface Works.—Various improvements have been made in buildings and tram lines.

Magnetic Separation.—This plant has been in continuous operation at Launceston throughout the year, with usual satisfactory results.

Seconds Product.—This ore, which contains a large proportion of pyrite, has hitherto been stacked awaiting process of treatment. A plant is now being erected at Launceston, and experiments will be made during 1911, with a view to converting into a marketable ore.

Production.—31st December, 1909, to 1st July, 1910.

Ore mined and treated, 2701 tons.

Concentrates—

	Tons.
Firsts, containing bismuth, tin, and wolfram	31·05
Slimes, containing bismuth, tin, and wolfram	3·85
Seconds, containing bismuth, tin, and wolfram	14·75
Bismuth, hand-picked	1·55
Wolfram, hand-picked	·25

1st July, 1910, to 31st December, 1910.—

Ore mined and treated, 4045 tons.

Concentrates—	Tons.
Firsts, containing bismuth, tin, and wolfram	40·15
Slimes, containing bismuth, tin, and wolfram	4·5
Seconds containing bismuth, tin, and wolfram	11·2
Bismuth, hand-picked	2·95
Wolfram	·15
Total	109·77

Total quantity of ore mined and treated, 6746 tons.

North-Eastern Division.—Briseis Tin and General Mining Company, Limited.—The output of black tin was 646 tons, won chiefly from hard cemented drift, requiring much blasting and handling, but fortunately of good value. The quantity of tin-bearing ground treated was 425,000 cubic yards, all being on the south side of the Ringarooma River.

On the northern side of the river the removal of the overburden has gone on steadily. The basalt in the centre of the hill has been hard. The hardest part of this central core, which was approached from its eastern side, has been passed, and the cut is now being continued in a north-westerly direction on the eastern bank of the river. The quantity removed was 225,000 cubic yards.

A considerable amount of boring on both sides of the river has been done, and as a result the so-called Krushka's Flat has been opened out. This ground is between the river and the old main workings of the Krushka Bros. to the south. Much doubt as to the value of this ground previously existed. The company expects to get about 1200 tons of tin from this ground. A jet elevator is lifting the ground 85 feet from a point 50 feet below the present river-level.

Arba Tin Mine.—Work during the summer months was considerably hampered owing to shortage of water. Advantage was taken of the dry season to renew several

of the timber flumings on the main water-race; also to clean out and cut the scrub along the race. The company finished sluicing all payable drift south of No. 2 haulage by the 8th October, and then started work at the north-east end of the mine. To treat the drift a tail-race 8 feet wide was constructed along the eastern reef, and all the tailings are being dumped into the worked-out ground south of No. 3 haulage.

The quantity of drift and overburden removed by the several plants was 221,311 cubic yards, at a cost of 7·59d. per yard.

The tin ore produced was $95\frac{1}{2}$ tons, equal to 966 lb. per cubic yard. Fifty-two men employed.

Pioneer Tin Mine.—The company obtained 248·05 tons of tin ore. The operations at the mine during the period under review are fully described in the manager's report.

With the exception of six weeks occupied in moving the plants to new positions, sluicing was carried on without interruption throughout the year. Continuous work, together with a constant and abundant water-supply, permitted a very large quantity of drift to be dealt with at a working cost which compares most favourably with previous years. The average recovery of stream tin per cubic yard very closely approximates that for the preceding 12 months, the comparative figures for the two years being 1·604 lb. for 1911 and 1·637 lb. for 1910.

The testing of the Argonaut leases at St. Helens is in progress, but as yet an insufficient number of bores have been sunk to enable the value of the property to be gauged.

Accounts.—After providing £26,202 3s. for dividends paid, £3000 for the amount by which the fixed advance has been reduced, and £2000 for depreciation of plant and machinery, there remains the sum of £10,647 15s. 1d. at credit of profit and loss.

The average market price at which metal tin was sold was £142 6s. 3d.

Pioneer Extended Mine.—This mine has been worked on tribute. The quantity of tin ore raised was approximately 9 tons. Six men employed.

Garibaldi Tin Mines.—The average value of the drift treated was rather low. 20.45 tons of tin ore were obtained, an average of 21 men being employed.

A good deal of dead work was done during the year in preparation for future work. The site for future operations has been cleared, races have been scrubbed and cleaned out, and pressure column and hydraulic elevators removed to new site.

Aberroe Tin Mining Company.—This company is working the old Aberfoyle and Mussel Roe Mines. Owing to the dry weather during the summer and autumn months no water was available until May. From that time to the end of the year 61,730 cubic yards of ground were treated and 22 tons of tin ore were obtained. Ten men employed. During the last seven months of the year the company worked 10,770 cubic yards of ground on the Mussel Roe claim and obtained $4\frac{1}{4}$ tons of tin ore, four men being employed.

South Mt. Cameron Tin Mining Company.—The quantity of wash treated was 135,140 cubic yards, and the quantity of pug removed was 23,270 cubic yards. The amount of tin ore obtained was 80 tons 5 cwt., and the quantity of gold won was 32 oz. 5 dwts. The number of men employed was 38.

At the beginning of the year the property formerly belonging to the Dorset Bucket-dredging Company was acquired by the company, and a new company, styled "The South Mt. Cameron Tin Dredging Company, No Liability," has been formed, and is under the same directorship and management. Repairs and alterations to the plant are being made, and it is expected to be at work again shortly.

Wyniford Tin Mining Company.—Since starting to treat the wash, about the beginning of June, 89 oz. of

gold have been won. As the lead is advanced upon, the wash appears to improve in value, and some large quartz specimens are found showing gold freely. Five men employed.

Weld Tin Mining Company.—Sluicing operations have been steadily carried on at the two faces, both being worked by hydraulic elevators. The quantity of tin ore raised was 39 tons 6 cwt.; an average of 12 men being employed.

Waverley Tin Mining Company.—The company resumed operations on the 1st May, after the summer drought, with nine men, and cleaned up for $1\frac{1}{4}$ tons of tin ore. The mine was then let on tribute to a party of Chinese, who obtained $5\frac{1}{2}$ tons of tin ore up to the 31st December. The mine is now being worked by Europeans.

Eastern Division.—Fancy Creek Tin Sluicing Syndicate.—The quantity of tin ore raised was 15 tons 7 cwt., an average of 10 men being employed. Owing to the dry summer the mine was not able to resume operations until the first week in May. The ground being treated is stated to be worth only 4d. per cubic yard, and is being worked at a cost of 2d. per cubic yard.

Anchor Tin Mining Company.—The company obtained 142.40 tons of tin ore, employing an average of 117 men.

South Esk Tin Mining Company.—The quantity of gravels worked was 16,880 yards; 20.1 tons of tin ore were obtained, six men being employed.

Western Mining Division.—Renison Bell Prospecting and Mining Company.—The capacity of the concentrating plant has been doubled, and now comprises one 16-inch by 9-inch Hadfield steel-jaw crusher, two five-head 1000-lb. stamper batteries, three forward and down grinding-pans (5 feet diameter), four card and one Wilfley tables, two Weir-Meredith vanners, four Luhrig-Buss slime vanners, with the necessary classifiers, settlers, &c.

The capacity of the mill is fully 500 tons per week of 144 hours.

A hydro-electric power plant has also been installed, consisting of one 140 B.H.P. tangent wheel, one 100 R.W. dynamo, and one 100 B.H.P. motor, which drives and lights the mill.

The water-supply is drawn from the Argent River, in which a dam, having a capacity of 13,400,000 gallons, is being constructed. The race from the dam to the head of the pipe-line is approximately 64 chains in length, and is 4 feet wide by 2 feet deep, the fall being 8 feet to the mile. The pipe-line to the power-station is 20 inches in diameter and 288 feet long, with an efficient head of 126 feet.

An additional self-acting incline tramway 22 chains in length is being constructed to connect the high-grade ore-bodies in the southern portion of the property with the present self-acting inclined tramway which connects with the mill.

The ore crushed was 13,231 tons, being 5322 tons gossan ore and 7909 tons siliceous ore. The tin oxide produced was 167.5 tons, the metallic contents of which was 112.3 tons of tin. The average number of men employed was 59.

South Renison Bell Tin Mining Company.—The area held by the company has been thoroughly prospected and tested. In addition to a large amount of surface trenching 200 feet of tunnelling has been driven. The development has been satisfactory, good bodies of payable ore having been opened up.

Montana Tin Syndicate.—Since the 1st May the syndicate has been engaged in sluicing operations near the southern boundary, where faces were opened up, going west, of an average depth of 16 feet. The tin is carried in large bodies of quartz and slate wash and iron gossan.

As far as proven these appear to be in large floors trending in a north-westerly direction. There are also large

floors of iron pyrites, from 4 inches to 6 feet in thickness, carrying tin.

Seventy-four tons of tin ore were obtained, an average of 29 men being employed. The amount paid in dividends was £600.

The Boulder Tin Mining Company obtained 83 tons of tin ore, an average of 20 men being employed.

North-Western Mining Division.—The Mt. Bischoff Tin Mining Company.—Operations for the year have been on the whole satisfactory. During the first half of the year the production of crush-dirt was suspended for one month on account of the exceptionally dry season, and the consequent failure of the water-supply necessary for power and for the various processes of concentration. With this exception the mining of crush-dirt proceeded regularly and systematically; and the developmental work in the various faces has been kept as far ahead as possible of the actual winning of ore. The quantity of crude ore delivered to the mills for crushing and concentration for the period under review totalled 204,522 tons, which yielded 1080 tons of tin oxide. The average number of men employed was 340. The working costs for the latter half of the year were 3s. 10·017d., as compared with 4s. 2·344d. for the previous half. The increase in the latter amount is accounted for by the stoppage previously referred to.

Underground Work.—Operations in this department have also suffered from the interruption to the milling and concentrating plant, but apart from this they have been satisfactory. Several improvements for the more economical handling of the ore have been installed, with a corresponding reduction in the costs. In the developmental work on the various levels of the Queen lode further portions of this extensive ore-body have been opened up and made ready for cheap mining. Stopping was carried on between all the levels from No. 6 upwards, and some very fair-grade stone mined. A commencement was

made with driving No. 7 level (55 feet below No. 6), and this work, so far as it has progressed, indicates that the level will be more than equal to No. 6, which up to this time has proved to be the most payable portion of the Queen lode. During the year 876 feet of levels were driven on this lode, and 366 feet of rises accomplished.

Prospecting.—The talus deposits on the northern slope of the mount have been further exploited, two faces being opened up adjacent to the northern entrance of the main tunnel, and a large tonnage of average-grade material obtained. When the present extensive construction of additional plant is completed a vigorous and systematic exploration of the northern slope of the hill will be undertaken, and judging from the returns of past operations it may reasonably be expected that further large tin-bearing deposits will be opened up.

Steady progress has been made with the erection of the additional 10-head battery, but the work has been somewhat hindered owing to a difficulty in obtaining the services of skilled workmen.

The erection of the rock-crushing station, storage bin, and aerial ropeway is well under way, and will probably be completed during the early part of next year.

New Reservoir.—During the latter half of the year a commencement was made with the erection of a dam on the Waratah River to impound 200,000,000 gallons of water. This will also be completed early in the coming year, and will prove of great assistance in the event of a long dry summer, such as was experienced in the early months of the present year.

The company paid £39,000 in dividends. The total quantity of tin ore raised by this company is 69,598 tons, and the total amount paid in dividends is £2,235,000.

Mt. Bischoff Extended Tin Mining Company, No Liability.—The quantity of tin ore raised was 150·50 tons, an average of 75 men being employed. The work done during the year was as follows:—

No. 2 Level.—The drive was reopened where fallen in north of Hammond's shaft, and payable stopes opened up to the 30-fathom level.

No. 3 Intermediate Level.—Stopes above this level average 60 inches of average grade.

No. 3 Level.—The hangingwall drive is being extended south on 36-inch payable ore.

No. 5 Intermediate Level.—The south drive has been extended in pyritic ore carrying fair tin values. Stopes above this level average 38-inch lode-formation.

No. 6 Intermediate Level.—Stopes above this level show 36-inch lode, carrying good tin.

The winze to connect with No. 6 level is down 62 feet in payable ore.

No. 6 Level.—The north drive has been advanced to 437 feet. Lode in the face is 15 inches wide, carrying a little tin, but very pyritic. A new main pass has been carried up from No. 5 to No. 2 level.

The mill has had the concentrating plant altered and added to. A second grinding-pan and two new slimes vanners have been put in. A new Merton calcining furnace has been erected in place of the old one. A new water-race has been cut, 132 chains in length, for giving additional water for the treatment plant.

Wombat Tin Mine.—Three men have been employed. Most of the work was of a prospecting nature, some of which revealed good tin. A good deal of driving was done on the eastern side of the hill, where the wash was exposed, showing about 1 oz. to the dish. A drive was put in for about 100 feet through pug, the tin-bearing wash dipping away pretty fast, so the work was transferred to the western side, where a body of wash was exposed, showing traces of tin. A face was opened up with the hydraulic nozzle, and a level taken out for some distance. but owing to the heavy overburden, which consists of decomposed basalt and boulders, the work was stopped, as it was too expensive, and the level was too high to prove anything owing to the tin-bearing wash

dipping into the hill at the same angle as that on the eastern side.

Several other places were prospected. The same wash was picked up right through the section, some of which gave 4 oz. to the dish. The width of gutter at the surface is some 1400 feet; and the company is now preparing to put in a lower-level tunnel.

COAL-MINING.

The total quantity of coal raised amounted to 82,445 tons, valued at £48,609; being an increase of 16,283·25 tons on the previous year.

The raisings at the different collieries were:—

Colliery.	Tons raised.	Men employed.
Cornwall	33,446	77
Mt. Nicholas... ..	36,645	84
Tasmanian Wallsend	7677	58
Spreyton	1591	9
Mt. Cygnet	610	2
York Plains	721	2
Ida Bay	130	4
Jardiff	684	3
Enterprise	330	3
Illamatha	129	1
Colebrook	182	5
Total	82,445	248

Cornwall Coal Company, No Liability.—Work at the mine has been carried on with satisfactory progress, and the output raised was 33,446 tons, the most of which has been consumed locally. The main operations were carried on in what is known as the upper and the lower seams, the former being worked on the long-wall system, and the latter by bord and pillar. The long-wall face is considerably advanced into the range on the western sections of the company's lease, while the "lower seam" mine, which is

situated on the eastern sections, is practically a new mine, the workings of which have been extended comparatively to the main heading, which is in a distance of 920 feet from the entrance. The size of this seam averages about 6 feet working space, and the coal being of fairly good quality ensures the life of the mine to be very satisfactory. These mines have a good supply of fresh air, the "upper seam" mine being ventilated by means of an electric fan. The electric haulage plant and locomotive proves to be a great improvement upon the ordinary steam haulage. The average number of men employed on the mine was 77.

Mt. Nicholas Colliery.—The output of coal from this mine was 36,645 tons. Eighty-four men and boys were employed above and below ground.

Ida Bay Colliery.—The seam was driven on for about 150 feet, and 130 tons of coal were obtained, four men being employed. On the adjoining section a shaft was sunk 30 feet on to a 4 ft. 6 in. seam of coal about 100 feet above the seam now being worked. A 20-horsepower Blake pump has been installed to cope with the water.

Mt. Cygnet Colliery.—This mine was closed down in December. Six hundred and ten tons of coal were obtained, two men being employed.

Colebrook Colliery.—A drive was put in 170 feet from No. 2 level to strike No. 3 level. Four hundred and eighty-two tons of coal were obtained, five men being employed.

IRON ORE.

Since the closing down of the Tasmanian Iron Mine at Penguin in 1908, no iron ore has been raised in the State for export.

There are large deposits of iron ore in Tasmania, and it is to be regretted that they are not being worked.

At a recent interview with Mr. Henry Temple, of Sydney, who has made a study of the iron industry in different parts of the world, that gentleman said, "The iron ore used at Lithgow, New South Wales, shows 48 of phosphatic iron. The best known ore in Europe is that of

Elba, in the Mediterranean, and shows about 58 of non-phosphatic ore. The Iron Knob, in South Australia, and the Blythe River and Penguin ores, in Tasmania, show 68 of ultimate metallic iron.

“ There is 10 metallic minimums difference between the Elba and the Tasmanian ores, or 20 per cent ultimate metallic iron.

“ The difference between phosphatic and non-phosphatic ores is that the phosphatic ore must be treated by the open-hearth process with a basic lining, taking 14 hours conversion; while the non-phosphatic ores of South Australia, Tasmania, and Elba are treated by the more economic Bessemer acid process, taking 20 minutes. The higher the grade of ore, the less proportion of fuel and flux is required.

“ The Elba ores are worth about 28s. per ton at any port outside the Mediterranean, while the South Australian and Tasmanian ores, with 20 per cent. more ultimate metallic iron, can be landed at Newcastle or Wollongong for 9s. 6d. per ton. Thus the South Australian and Tasmanian ores save nearly 20s. on the question of handling. The freight in transmission to the colonies is also saved, and 20 per cent. of ultimate metallic iron is procured, leaving a sufficient margin to pay at least double the rates of wages paid in England.”

WOLFRAM.

The output of wolfram ore was as follows:—

	Tons.	Value. £
Shepherd and Murphy Mine, at Middlesex	20.65	2341
Avoca Mines	46.35	4900
Lady Barron Mine ... ..	.35	39
Total	67.35	7280

BISMUTH.

The Shepherd and Murphy Mine, at Middlesex, obtained 10.70 tons of bismuth, valued at £4249, from its tin ore.

TASMANITE SHALE.

During the year a new industry—the extraction of shale oil—has been started at Latrobe. The Tasmanian Shale and Oil Company has erected retorts on its property at Latrobe for the distillation of shale mined from its seams and the manufacture of fuel and other oils. The spent shale commands a sale for manurial purposes.

The Latrobe Shale and Oil Company, which is an adjoining venture, between Latrobe and Railton, has satisfactorily proved its leases with the diamond-drills. Another deposit of good shale is on the Nook Road; and a further occurrence has been taken up between the Minnow and Mersey rivers, near Dynan's bridge.

A geological survey of these areas has been carried out, and a bulletin descriptive of same is in course of preparation by the Government Geologist.

PYRITES MINING.

Iron pyrites for the manufacture of sulphuric acid and in connection with artificial manures continues to be produced on the West Coast. The Mt. Lyell Company exploits its deposit of this mineral at the Chester Mine for this purpose, and the Bruce tribute at Zeehan continues its shipments. A new producer is the old Susanite Mine, near the Comstock tramway.

The following return shows the quantity and value of mineral products for the State of Tasmania during the year ending 31st December, 1910:—

Mineral.	Quantity.	Value. £
Gold* (oz.)	37,048·053	157,370
Silver-lead ore (tons)	51,226·91	247,576
Blister copper† (tons)	8193	553,822
Copper and copper ore (tons)	671·27	13,150
Tin ore (tons)	3701·01	399,393
Osmiridium (oz.)... ..	120	530

* Fine gold, including gold contained in blister-copper and silver-lead bullion.

Value of gold deducted.

Mineral.	Quantity.	Value. £
Coal (tons)	82,455	48,609
Wolfram (tons)	67.35	7280
Bismuth (tons)	10.70	4249
Shale (tons)	364	214
	<hr/>	<hr/>
Total		£1,432,193
	<hr/>	<hr/>

GEOLOGICAL SURVEY.

The Government Geologist (W. H. Twelvetrees) and the Assistant Government Geologist (L. K. Ward, B.A., B.E.) have been fully engaged. Their reports on the fields examined, and the bulletins prepared during the year, are appended.

When the Government Geologist completes his report on the shale deposits in the Mersey district he will proceed to the mineral fields of Mts. Claude and Middlesex, while the Assistant Government Geologist will be instructed to make an examination of the tin deposits of the Stanley River field.

The services of the geologists are in great demand, and it is not possible to satisfy the demands made upon this branch of the department. Considering, however, the limited staff available, and the amount of work accomplished, the results must be regarded as very satisfactory.

INSPECTORS OF MINES.

The three inspectors have satisfactorily discharged their duties in the districts allotted to them. Their reports are appended.

MINING MANAGERS' EXAMINATION.

No candidates presented themselves for examination during the year.

DIAMOND-DRILLS.

The drills were not employed during the year.

MT. CAMERON WATER-RACE BOARD.

The report of the Board is appended.

DEPARTMENTAL STAFF.

The following changes in the staff of the Department have been made during the year:—

J. P. Piggott, transferred to Public Works Department, 1st February, 1910.

J. Wardrop, appointed Clerk, and Secretary to the Mining Board, *vice* J. P. Piggott, transferred, 16th May, 1910.

F. S. Grove, on loan, Mt. Cameron Water-race, from 14th February, 1910.

W. D. Reid, appointed temporary hand, 14th February, 1910.

L. R. Sams, resigned, from 11th October, 1910.

REVENUE.

The revenue for the year amounted to £22,221 18s., being a decrease of £582 3s. 5d. on the previous year. This amount does not include a sum of £5223 deposited as survey fees on application for leases.

CONCLUSION.

In conclusion, I desire to thank the officers of the Department, and also the officers of the Mines Drafting Branch of the Surveyor-General's Department, for the loyal and efficient manner in which they have performed the duties allotted to them.

I have, &c.,

W. H. WALLACE, Secretary for Mines.

The Hon. the Minister for Mines.

DIAMOND-DRILLS.

Statement of Work done to 31st December, 1910.

Year.	Locality.	Direction of Bore.	No. of Bores.	Total Distance Bored.	Average cost per foot, inclusive of Labour and Fuel.
	No. 1 DRILL.			feet.	£ s. d.
1882-3	Back Creek—For Gold	Vertical	7	1330	0 10 9
1883	Lefroy—For Gold	Ditto	4	1011	0 5 3
1884	Tarleton—For Coal.....	Ditto	1	401	0 5 6
1886	Longford - For Coal	Ditto	2	1585	0 4 0½
1886-7	Harefield Estate—For Coal	Ditto	1	725	0 6 5
1887	Cardiff Claim, Mount Malcolm—For Coal.....	Ditto	1	562	0 17 11¾
1888	Killymoon Estate—For Coal.....	Ditto	1	504	0 4 7¾
1888-9	Seymour - For Coal	Ditto	5	2266	0 7 8½
1889 } 1890 }	Beaconsfield (Phoenix G.M. Co.) - For Gold	Ditto	1	781	2 0 2
1890	Beaconsfield (East Tasmania G.M. Co.)—For Gold	Ditto	1	978	0 14 9½
1891	Spring Bay—For Coal	Ditto	4	937	0 6 10
1891	Ravensdale—For Coal	Ditto	1	114	0 11 1½
1891-2	Back River, Prosser's Plains—For Coal.....	Ditto	2	854	0 6 1¾
1892-3	Lefroy (Deep Lead Syndicate)—For Gold.....	Ditto	4	979	0 15 9
1893	Lefroy (East Pinafore Co.)—For Gold	Ditto	1	317	0 10 3
1895-6	Sandfly—For Coal	Ditto	4	2130	0 11 5
1898 } 1900 }	Blue Tier (Anchor Co.)—For Tin	Ditto	9	876½	0 9 1¾
1901-2	Llandaff—For Coal.....	Ditto	3	1944	0 7 4
1902	Recherche (Cutamarian Co.)—For Coal	Ditto	2	956	0 9 3
1903	Ditto (Moss Glen Co.)—For Coal	Ditto	2	667	0 7 6
1908	Sorell Creek, New Norfolk—For Coal	Ditto	1	218	Not obtainable
	TOTAL.....	...	57	20,135½	

No. 2 DRILL.						
1882	Beaconsfield—For Gold	Horizontal, underground	1	68	No record	
1883	Mangana—For Gold	Ditto	1	546	0	15 1
1884	Guy Fawkes Gully, near Hobart For Coal.....	Vertical	1	612	0	5 6
1885	Malahide Estate, near Fingal—For Gold	Ditto	5	1397	0	5 6
1886	Carr Villa, near Launceston—For Coal	Ditto	1	571	0	5 4
1886-7	Waratah (Mount Bischoff Alluvial T.M. Co.) - For Tin	Ditto	7	1548	0	6 1½
1887	Waratah (Mount Bischoff T.M. Co.)—For Tin	Ditto	7	841	0	11 8
1887	Ditto	Horizontal, underground	1	53	0	7 8
1888	Old Beach—For Coal	Vertical	1	593	Abt. 0	10 9
1888	Campania—For Coal	Ditto	1	600	0	7 7½
1888	Richmond—For Coal	Ditto	1	500	0	5 1½
1889	Back Creek—For Gold	Ditto	4	787	0	8 5½
1891	Macquarie Plains—For Coal.....	Ditto	2	989	0	4 5½
1891	Jerusalem—For Coal	Ditto	1	344	0	4 9½
1892	Langloh Park For Coal	Ditto	4	1249	0	5 3½
1893	Southport—For Coal	Ditto	1	612	0	5 3
1894	Zeehan (Tasmania Crown S.M. Co.)—For Silver ...	Horizontal, underground	2	319	1	0 2½
1902	Eden—For Coal	Vertical	2	566	1	0 7½
1902-3	Farm Cove—For Coal	Ditto	1	571	0	5 6
TOTAL.....			44	12,766		

33

Aggregate number of bores 101
 Total distance bored 32,901½ feet

W. H. WALLACE, Secretary for Mines.

No. 1.

RETURN showing the Quantity and Value of Gold won during the Years 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, and 1910.

Year.	Quantity.	Value.
	ozs.	£
1880.....	52,595	201,297
1881.....	56,693	216,901
1882.....	49,122·3	187,337
1883.....	46,577·5	176,442
1884.....	42,339·95	160,404
1885.....	41,240·95	155,309
1886.....	31,014·5	117,250
1887.....	42,609·15	158,533
1888.....	39,610·95	147,154
1889.....	32,332·65	119,703
1890.....	20,510	75,888
1891.....	38,789	145,459
1892.....	42,378	158,917
1893.....	37,687	141,326
1894.....	57,873	217,024
1895.....	54,964	206,115
1896.....	62,591	237,574
1897.....	77,131	296,660
1898.....	74,233	291,496
1899.....	83,992	327,545
1900.....	81,175	316,220
1901.....	*69,491	295,176
1902.....	*70,996	301,573
1903.....	*59,891	254,403
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
	1,669,586·619	6,620,724

* Fine Gold.

Diagram showing Total Quantity & Value of Gold won in Tasmania during the years 1880-1910

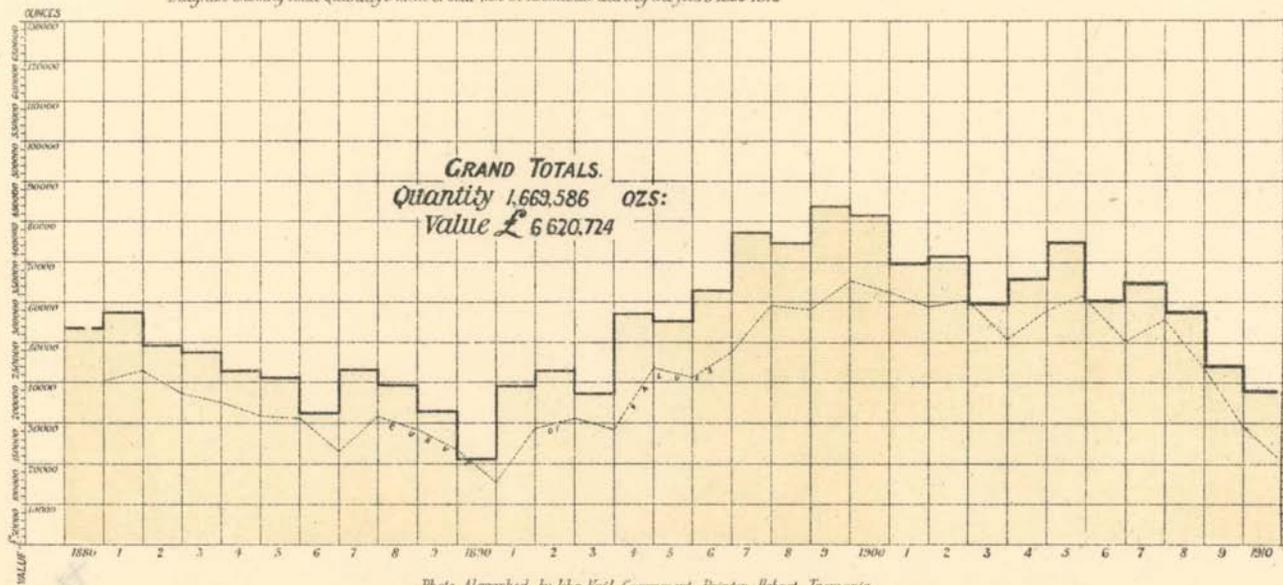


Photo Algraphed by John Vail Government Printer Hobart Tasmania.

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Diagram showing Total Quantity & Value of Coal mined in Tasmania during the years 1880-1910

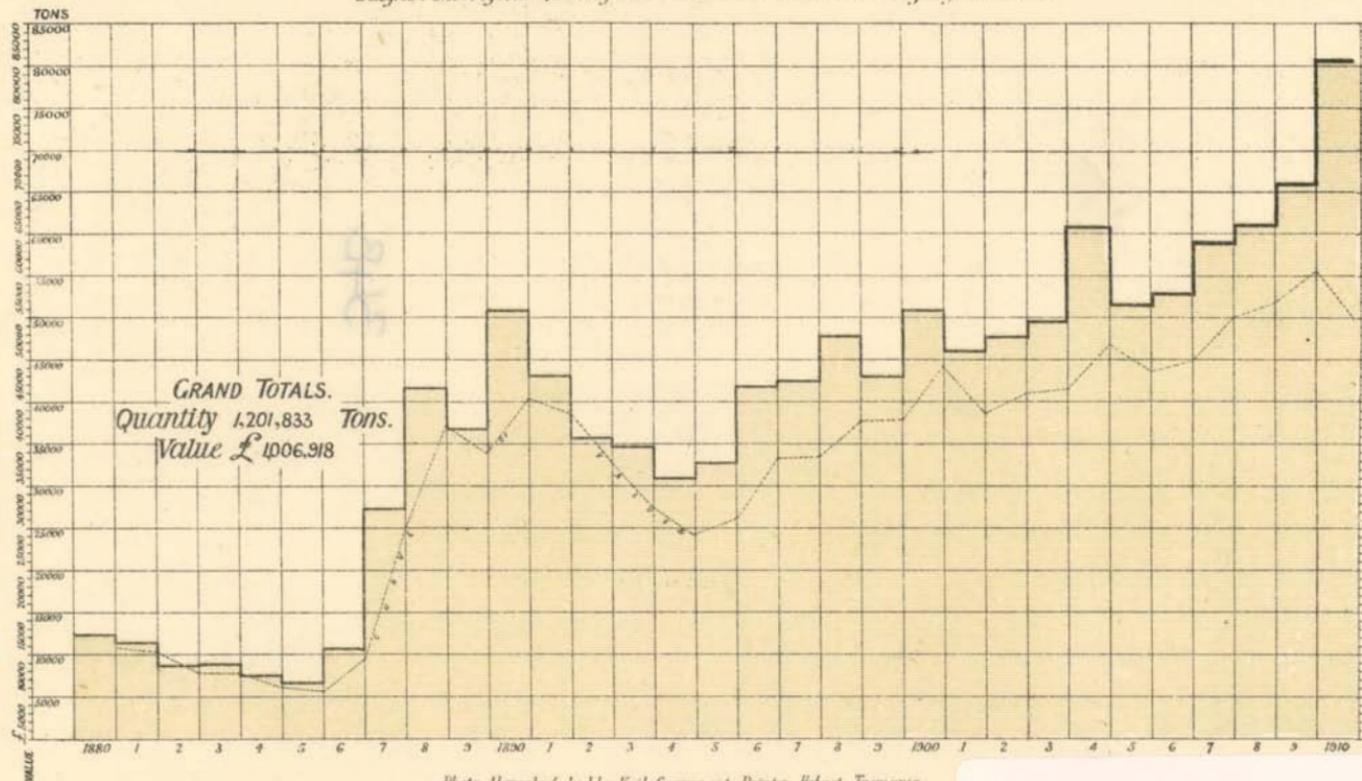


Photo Algraphed by John Veil Government Printer Hobart Tasmania.

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No. 2.

RETURN showing the Quantity and Value of Coal raised during the Years 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, and 1910.

Year.	Quantity.	Value.
	Tons.	£
1880	12,219	10,998
1881	11,163	10,047
1882	8803	7923
1883	8872	7985
1884	7194	6475
1885	6654	5989
1886	10,391	9352
1887	27,633	24,870
1888	41,577	37,420
1889	36,700	33,130
1890	50,519	45,467
1891	43,256	38,930
1892	32,008	32,407
1893	34,693	27,754
1894	30,499	24,399
1895	32,698	26,159
1896	41,904	33,523
1897	42,196	33,757
1898	47,678	38,256
1899	42,609	38,349
1900	50,633	44,227
1901	45,438	38,451
1902	48,863·5	41,533
1903	49,069	41,709
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
	1,201,832·75	1,006,918

No. 3.

RETURN showing the Quantity and Value of Tin exported from Tasmania during the Years 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, and 1904, compiled from Customs Returns only, and Tin Ore produced during the Years 1905, 1906, 1907, 1908, 1909, and 1910.

Year.	Quantity.	Value.
	Tons.	£
1880	3954	341,736
1881	4124	375,775
1882	3670	361,046
1883	4122	376,446
1884	3707	301,423
1885	4242	357,587
1886	3776	363,364
1887	3607·5	409,853
1888	3775·25	426,321
1889	3764	344,941
1890	3209·25	296,368
1891	3235	291,715
1892	3174	290,083
1893	3128·5	260,219
1894	2934	198,298
1895	2726·75	167,461
1896	2700	159,036
1897	2423·5	149,994
1898	1972	142,046
1899	2239·25	278,323
1900	2029	269,833
1901	1789·5	212,542
1902	1958·25	237,828
1903	2376·15	300,098
1904	2171·5	255,228
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
	102,248·41	9,828,319

* Tin Ore produced : Customs having ceased to issue Returns.

Diagram showing Total Quantity & Value of Tin exported from Tasmania during the years 1880-1904 and Tin ore produced during the years 1905-1910

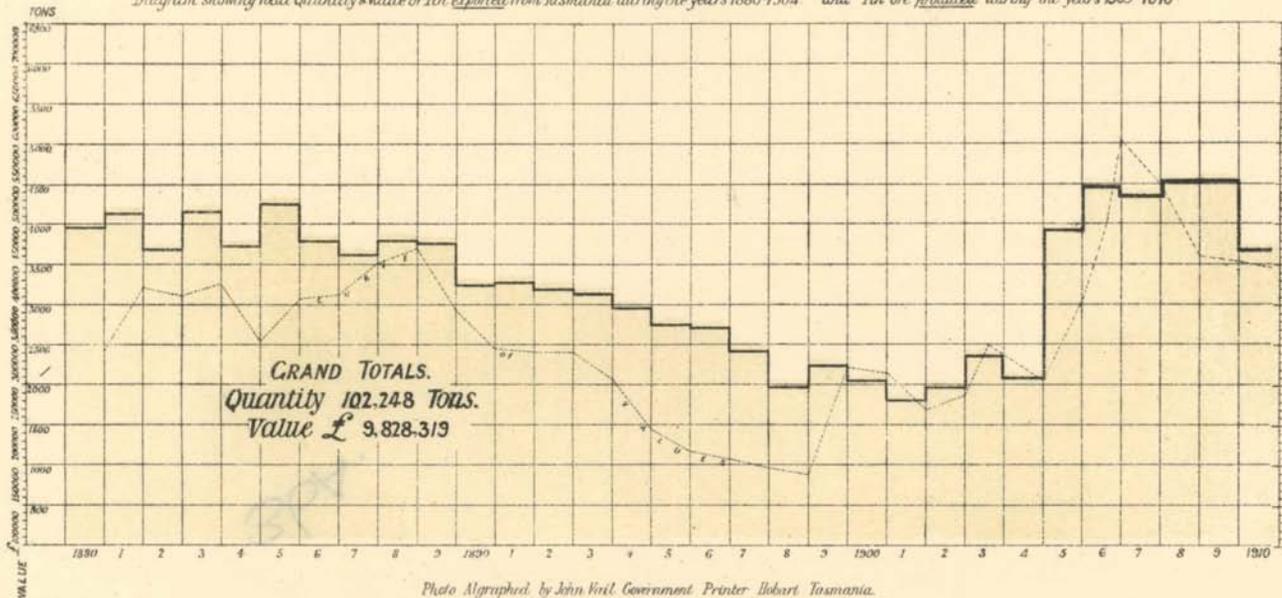


Photo Algraphed by John Veil Government Printer Hobart Tasmania.

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No. 4.

RETURN showing the Quantity and Value of Silver-Lead Ore produced during the Years 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, and 1910.

Year.	Quantity.	Value.
	Tons.	£
1888	417	5838
1889	415	7044
1890	2053	26,487
1891	4810	52,284
1892	9326	45,502
1893	14,302	198,610
1894	21,064	293,043
1895	17,980	175,957
1896	21,167	229,660
1897	18,364	200,167
1898	15,320	188,892
1899	31,519·5	250,331
1900	26,564	279,372
1901	28,774	207,228
1902	46,480	218,864
1903	42,422	192,492
1904	51,138	203,702
1905	75,270·5	246,888
1906	87,117·5	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
	798,988·41	4,925,827

Year	Quantity	Value
1888	417	5838
1889	415	7044
1890	2053	26,487
1891	4810	52,284
1892	9326	45,502
1893	14,302	198,610
1894	21,064	293,043
1895	17,980	175,957
1896	21,167	229,660
1897	18,364	200,167
1898	15,320	188,892
1899	31,519·5	250,331
1900	26,564	279,372
1901	28,774	207,228
1902	46,480	218,864
1903	42,422	192,492
1904	51,138	203,702
1905	75,270·5	246,888
1906	87,117·5	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
Total	798,988·41	4,925,827

No. 5.

RETURN showing the Quantity and Value of Blister Copper produced during the Years 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, and 1910.

Year.	Quantity.	Value.
	Tons.	£
1896	41.5	1245
1897	4700	322,500
1898	4955.5	400,668
1899	8598	735,305
1900	9449	907,288
1901	9981	879,625
1902	7745	*462,151
1903	6684	*478,023
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
	111,754	8,912,071

* Value of Gold contained deducted.

No. 6.

RETURN showing Quantity and Value of Copper Matte exported during the Years 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, and 1910.

Year.	Quantity.	Value.
	Tons.	£
1902	2500	50,112
1903	3727	83,624
1904	—	—
1905	—	—
1906	—	—
1907	—	—
1908	—	—
1909	—	—
1910	—	—
	6227	133,736

No. 7.

RETURN showing the Quantity and Value of Copper Ore produced during the Years 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, and 1910.

Year.	Quantity.	Value.
	Tons.	£
1896	34	1020
1897	75	2250
1898	394	8128
1899	1695	26,833
1900	4221·5	63,589
1901	11,221	130,412
1902	5994	65,270
1903	102	790
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
	31,458·07	503,683

No. 8.

RETURN showing the Quantity and Value of Iron Ore produced during the Years 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, and 1910.

Year.	Quantity.	Value.
	Tons.	£
1897	894	812
1898	1598	1598
1899	3577	3474
1900	5375	5995
1901	612	417
1902	2386	1075
1903	5980	2905
1904	6840	2975
1905	6300	2600
1906	2600	1100
1907	3000	1150
1908	3600	1600
1909	—	—
1910	—	—
	42,762	25,701

No. 9.

RETURN showing the Quantity and Value of Asbestos produced during the Years 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, and 1910.

Year.	Quantity.	Value.
	Tons.	£
1899	200	363
1900	128	113
1901	46·5	45
1902	—	—
1903	—	—
1904	—	—
1905	—	—
1906	—	—
1907	—	—
1908	—	—
1909	—	—
1910	—	—
	374·5	521

No. 10

RETURN showing the Quantity and Value of Wolfram produced during the Years 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, and 1910.

Year.	Quantity.	Value.
	Tons.	£
1899	3·5	99
1900	53·75	2058
1901	—	—
1902	—	—
1903	—	—
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
	265·70	21,663

No. 11.

RETURN showing the Quantity and Value of Bismuth produced during the Years 1904, 1905, 1906, 1907, 1908, 1909, and 1910.

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
	21·625	6557

No. 12.

RETURN showing the Quantity and Value of Osmiridium produced during the Year 1910.

Year.	Quantity	Value.
	Ozs.	£
1910	120	530

No. 13.

RETURN showing the Quantity and Value of Shale produced during the Year 1910.

Year.	Quantity.	Value.
	Tons.	£
1910	364	214

No. 14.

RETURN showing the Quantity of Silver-Lead and Copper Ore smelted for period 25th June to 31st December, 1896, and 1st January, 1897, to 31st December, 1910.

Year.	Ore Smelted.	Products.			Yield.			
		Silver-Lead Bull'n.	Blister Copper.	Matte.	Copper.	Silver.	Gold.	Lead.
		Tons.	Tons.	Tons.	Tons.	Ozs.	Ozs.	Tons.
1896	26,028 $\frac{1}{10}$	—	—	2417 $\frac{6}{10}$	1235 $\frac{1}{10}$	75,951	4707	—
1897	90,773 $\frac{1}{2}$	—	3476 $\frac{1}{10}$	257 $\frac{1}{10}$	3583 $\frac{4}{10}$	334,349	16,485	—
1898	170,933	—	4992	—	4783	606,123	24,418	—
1899	275,239	2295	8463	89 $\frac{8}{10}$	8362	1,089,657	27,615	—
1900	363,113	4817	9449	—	9341	1,215,036	26,255	—
1901	355,528	1839	9982	50	9880	800,317	21,717	—
1902	411,736	6825	7727	2882	8841	1,674,816	24,719	6654
1903	399,032	7560	6683	3413	8094	1,855,158	25,238	7529
1904	433,366	—	8371	—	8265	1,896,134	26,809	7754
1905	466,578	9422	8611	—	8506	2,075,431	26,469	9086
1906	479,775	9380	8708	—	8613	2,150,405	24,986	9300
1907	472,658	10,590	8248	—	8145	2,147,120	24,531	10,060
1908	440,145	7181	8834	—	8723	1,654,350	22,008	6850
1909	429,549	6960	8640	—	8534	1,534,780	18,812	6696
1910	386,679	—	8192	—	8093	656,793	11,851	—

No. 15.

RETURN showing the Average Number of Persons engaged in Mining during the Years 1880 to 1910 inclusive.

Year.	Number.	Year.	Number.
1880.....	1653	1896.....	4350
1881.....	3156	1897.....	4510
1882.....	4098	1898.....	6052
1883.....	3818	1899.....	6622
1884.....	2972	1900.....	7023
1885.....	2783	1901.....	6923
1886.....	2681	1902.....	5934
1887.....	3361	1903.....	6017
1888.....	2989	1904.....	6194
1889.....	3141	1905.....	6581
1890.....	2868	1906.....	7005
1891.....	3219	1907.....	7516
1892.....	3295	1908.....	6466
1893.....	3403	1909.....	6054
1894.....	3433	1910.....	5770
1895.....	4062		

No. 16.

RETURN showing the total Area of Land and Number of Sluice-heads of Water applied for during the Year ending 31st December, 1910.

Mineral.	No. of Applications.	No. of Sluiceheads.	Area. Acres.
Barite	4	...	35
Coal	18	...	4666
Copper	65	...	2811
Freestone	1	...	10
Gold	79	...	996
Guano	1	...	2
Iron	9	...	580
Kaolin	1	..	80
Limestone	4	...	319
Machinery Sites	15	...	58
Mining Easements	17	...	60
Minerals	143	...	7411
Ochre	1	...	80
Shale	69	...	15,877
Silver	18	...	853
Tin	292	...	9622
Wolfram	12	...	418
Zinc	1	...	80
Dredging Claims	26	...	544
Water-rights	102	610	808
TOTAL.....	878	610	45,310

No. 17.

RETURN showing the total Number and Area of Leases issued during the Year ending 31st December, 1910.

Mineral.	No. of Applications.	No. of Sluiceheads.	Area.
			Acres.
Asbestos	1	...	20
Barite	1	...	80
Coal.....	6	...	985
Copper	169	...	8569
Gold	38	...	448
Iron	6	...	230
Limestone	1	...	10
Machinery Sites	1	...	7
Minerals	111	...	5740
Pyrites	3	...	200
Shale	5	...	1107
Silver	25	...	1383
Tin	136	...	5204
Wolfram	5	...	129
Dredging Claims	2	...	12
Water-rights	31	65	6
Mining Easements	7	...	43
	548	65	24,173

No. 18.

RETURN showing the Number and Area of Leases held under "The Mining Act," in force on 31st December, 1903, 1904, 1905, 1906, 1907, 1908, 1909, and 1910.

Nature of Lease.	In force on 31st December, 1903.		In force on 31st December, 1904.		In force on 31st December, 1905.		In force on 31st December, 1906.		In force on 31st Dec., 1907.		In force on 31st Dec., 1908.		In force on 31st Dec., 1909.		In force on 31st Dec., 1910.	
	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.
For Minerals, Silver, Tin, &c.	826	Acres. 33,325	868	Acres. 33,824	944	Acres. 34,325	1307	Acres. 43,036	1844	Acres. 65,047	1269	Acres. 44,099	1143	Acres. 41,637	1141	Acres. 44,001
For Coal, Slate, Shale, &c.	54	9119	47	7546	45	7185	35	6025	45	7962	45	8745	51	10,590	50	10,608
For Gold	243	2505	222	2268	195	2087	167	1836	222	2671	111	1344	87	1265	76	1159
Dredging Claims	15	124	29	469	51	1196	91	2027	79	1494	64	916	47	712	35	441
Mining Easements	34	225	39	234	45	282	47	298	75	436	88	453	92	464	84	484
Machinery Sites	—	—	—	—	—	—	—	—	—	—	33	133	32	129	33	121
Water-rights Mineral and Gold	281	1460 sluice-heads	346	1495 sluice-heads	251	1477 sluice-heads	391	1606 sluice-heads	490	1978 sluice-heads	511	1003 & 2000 sluice-heads	550	1022 & 2210 sluice-heads	511	1014 & 1751 sluice-heads

No. 19.

RETURN showing the Total Number of Leases in force on
31st December, 1910.

Mineral.	Number.	Sluiceways.	Area.
			Acres.
Antimony	3	...	240
Asbestos	2	...	30
Barite	2	...	160
Coal	27	...	6586
Copper	197	...	9462
Gold	76	...	1159
Iron	16	...	738
Limestone	4	...	313
Lithographic Stone.....	1	...	97
Minerals	158	...	12,360
Manganese	2	...	63
Nickel	2	...	100
Phosphate Rock	5	...	78
Silver	97	...	5602
Slate	4	...	966
Shale.....	14	...	2646
Scheelite	1	...	80
Tin.....	651	...	14,966
Wolfram	4	...	162
Zinc-Lead	1	...	40
Machinery Sites	33	...	121
Mining Easements	84	...	484
Dredging Claims	35	...	441
Water Rights	511	1751	1094
	1930	1751	57,988

No. 20.

RETURN showing the Average Number of Miners employed during the Year ending 31st December, 1910.

	Europeans.	Chinese.
Northern and Southern Division	736	...
North-Eastern Division.....	557	71
Eastern Division.....	535	34
North-Western Division	683	...
Western Division	3154	...
	5665	105

No. 21.

RETURN showing the Amounts paid in Dividends by Mining Companies during the Year ending 31st December, 1910.

Mines.	Dividends.		
	£	s.	d.
Copper	180,000	0	0
Gold .....	...	
Tin	96,117	0	0
Silver .....	...	
Coal.....	1359	0	0
TOTAL	£277,476	0	0

No. 22.

RETURN showing the total Amount of Rents, Fees &c., received by the Mines Department during the Year ending 31st December, 1910.

Head of Revenue.	Amount.		
	£	s.	d.
Rent of Auriferous and Mineral Land.....	20,428	7	0
Fees, ditto ditto	1793	11	0
Survey Fees	5223	0	0
TOTAL.....	£27,444	18	0

No. 23.

RETURN showing the Mining Companies registered during the Year ending 31st December, 1910.

Number of Companies.	Capital.
15	£71,430

In addition to the above, 27 Agents for Foreign Companies and 4 Syndicates, under 60 Vict. No. 51, were registered.

No. 24.

RETURN showing Quantity and Value of Minerals and Metals raised in Tasmania from 1880 to 1910 inclusive.

Mineral or Metal.	Quantity.	Value.
		£
Gold	1,669,586·619 ozs.	6,620,724
Silver-lead ore	798,9·8·41 tons.	4,925,827
Blister Copper	111,754 "	8,912,071
Copper Matte	6227 "	133,736
Copper and Copper Ore	31,458·07 "	503,683
Tin	102,248·41 "	9,828,319
Iron Ore	42,762 "	25,701
Coal	1,201,832·75 "	1,006,918
Wolfram	265·7 "	21,663
Bismuth	21·625 "	6557
Asbestos	374·5 "	521
Shale	364 "	214
Osmiridium	120 ozs.	530
Unenumerated prior to 1894...	...	31,988
Total .....	...	£32,018,452

Diagram showing the Annual Value of Minerals & Metals raised in Tasmania from 1880-1910

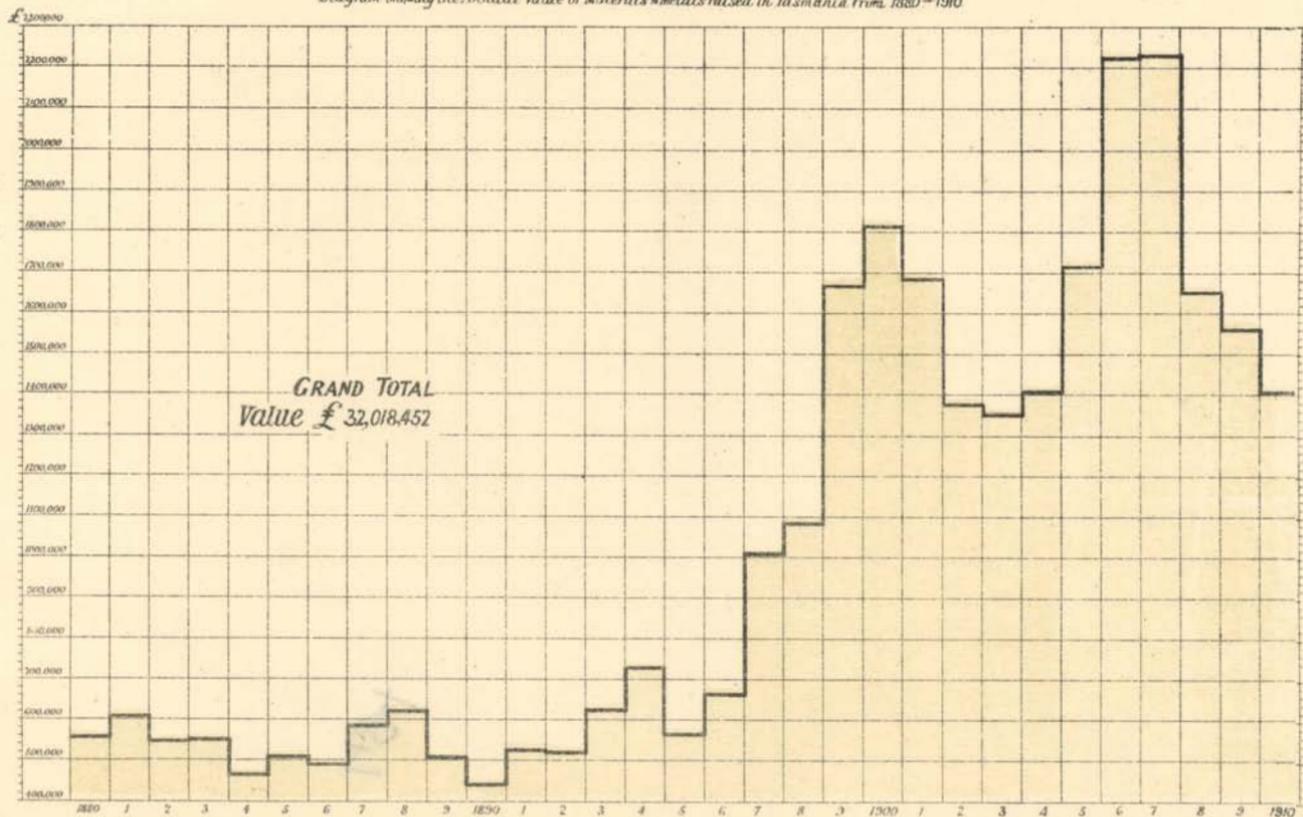


Photo Algraphed by John Vail Government Printer Hobart Tasmania.

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No. 25.

COMPARATIVE Statement of Revenue from Mines, being Rents, Fees, &c. (exclusive of Survey Fees), paid to the Treasury for the Years ending 30th June, from 1881 to 1903, and for Six months ending 31st December, 1903, and for the Years ending 31st December, 1904, 1905, 1906, 1907, 1908, 1909, and 1910.

Year.	Amonut.			Year.	Amount.		
	£	s.	d.		£	s.	d.
1881.....	20,936	5	5	1897.....	25,631	0	3
1882.....	23,077	1	9	1898.....	33,661	13	9
1883.....	15,439	14	5	1899.....	24,696	10	5
1884.....	6981	11	10	1900.....	28,380	11	10
1885.....	11,070	5	7	1901.....	21,569	5	2
1886.....	12,523	10	4	1902.....	19,471	0	1
1887.....	14,611	11	5	1903.....	17,776	14	3
1888.....	23,502	8	4	1903, 1 July to 31 Dec.	14,758	17	1
1889.....	17,254	9	0	1904, Jan. to Dec.	16,631	8	2
1890.....	26,955	4	9	1905.....	20,203	17	0
1891.....	37,829	16	5	1906.....	24,136	12	5
1892.....	17,568	18	4	1907.....	24,794	7	7
1893.....	16,971	9	2	1908.....	20,311	3	0
1894.....	16,732	7	7	1909.....	22,804	1	5
1895.....	15,323	1	9	1910.....	22,221	18	0
1896.....	20,901	13	2				

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.

REPORT OF THE MOUNT CAMERON WATER-
RACE BOARD FOR THE YEAR ENDING
31st DECEMBER, 1910.

10th March, 1911.

SIR,

WE have the honour to submit the report of the Board for the year ending 31st December, 1910.

Repairs.—The only repairs done have been those made by the manager and channel-keepers, and paid for out of the revenue received from the sale of water.

Flumings.—On the 14th February, 1910, Mr. F. S. Grove was instructed by the Board to proceed to Gladstone and lay out deviations for the purpose of replacing all the remaining flumings by rock-cuttings and embankments, and to furnish plans and estimates of the works, with a view to the works being done by contract. There were 13 flumings in all. On the 10th May the plans and estimates for work, totalling £1570 ls., exclusive of supervision, were received, and considered at a meeting held in Launceston, and it was decided to do the work by day labour, under the supervision of Mr. Grove, who was appointed Resident Engineer.

Work was commenced on the 30th May, and was finished on the 26th November, at a total cost of £1310 13s. 11d., inclusive of cost of plant, but exclusive of supervision. This was about £50 or £60 less than was estimated, and the saving was due to the fact that the season was an unusually good one for water, allowing the work to be carried on without having to keep the race going, and in some cases to meeting less difficulties than were anticipated.

It was estimated that the work would cost about £1300, exclusive of plant, the remaining £270 being allowed as cost of plant and contractor's profits.

Syphons.—Numbers 4 and 5 are giving satisfaction; and the renewal works for Numbers 3 and 6 were started. At Number 3 the pipe-track was cleared, trench excavated, for the pipe-column; pressure and discharge boxes erected, and intake and outlet races cut.

The total expenditure, inclusive of supervision on the flumings and syphons, during the year was £2097 12s. 2d.

The revenue amounted to £1132 15s. 9d., being an increase of £722 19s. 1d., as compared with the previous year.

Statistics for the year are as follow:—

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

Total number of heads supplied—

Under fixed or cash scale	2103½
Under royalty or credit scale	624

Total 2727½

Tin ore raised for the year:—

Royalty scale, 10 tons 13 cwt. 2 qr. 13 lb.
 Fixed scale, 64 tons 3 cwt. 0 qr. 2 lb.
 Total, 74 tons 16 cwt. 2 qr. 15 lb.

Average number of men employed per week, 27.

Total receipts for the year:—Water sold, fixed scale, £857
 1s. 10d.; water sold, royalty scale, £275 13s. 11d. Total, £1132
 15s. 9d.

Expenditure.—Cost of maintenance and management:—

	£	s.	d.	£	s.	d.
Salary and wages	497	12	0			
Travelling expenses	12	4	2			
Repairs to syphon-pipes	9	19	0			
Repairs to flumings... ..	2	8	0			
Race-cleaning	78	8	6			
Repairs to cottages	24	13	5			
Repairs to telephone-line	2	6	0			
Stationery and printing	3	13	9			
Stores and tools	4	18	0			
Insurance	3	6	0			
				639	8	10
Renewals and repairs (9 Edw. VII. No. 51)				2097	12	2
				<u>£2737</u>	<u>1</u>	<u>0</u>

Moiety of rents of mineral land served by
 the race paid to Public Debts Sinking
 Fund for the year ending 30th June,
 1910 £28 0 0

W. H. WALLACE, Chairman.
 W. H. TWELVETREES,
 E. L. HALL,
 JOHN SIMPSON,
 SAMUEL HAWKES,
 CHAS. BARNES,

Members of
 the Board.

The Hon. the Minister for Mines.

MINE MANAGERS' CERTIFICATES.

The following Lists of Certificates granted since the inception of the Board of Examiners for Mining Managers' Certificate: are published in accordance with a resolution passed at the Interstate Conference of Boards of Examiners held in Melbourne in March 1906:—

SERVICE Certificates of Competency granted by the Board of Examiners.

No. of Certificate.	Name.	Date of Certificate.
1. 92	Davies, Joseph	28 Sep. 1892
2. 92	Buffon, Geo. Donald	28 Sep. 1892
3. 92	Sinclair, George Peace	28 Sep. 1892
4. 92	Heighway, John Felton	28 Sep. 1892
5. 92	Irvine, Peter	28 Sep. 1892
6. 93	Daniel, John	29 Mar. 1893
7. 93	Marshall, John Henry	29 Mar. 1893
8. 93	Aaron, Gabriel	29 Mar. 1893
9. 93	Webb, George	29 Mar. 1893
10. 94	Payne, John Greaves	3 Apr. 1894
11. 94	Wesley, William Henry	3 Apr. 1894
12. 94	Andrews, Thomas	3 Apr. 1894
13. 95	Richards, Moses John	17 Apr. 1895
14. 95	Richards, Stephen Eddy	5 Nov. 1896
15. 98	Stubs, Joseph Thomas	20 Jan. 1898
16. 98	McCrackan, John	20 Jan. 1898
17. 98	Heery, Luke	5 Mar. 1898
18. 98	Curtain, Cornelius Henry	13 Apr. 1898
19. 98	Clerk, Frederick Malcolm	14 Apr. 1898
20. 99	Craze, John	25 Jan. 1899
21. 99	Tilley, George Reynolds	17 Apr. 1899
22. 99	Hooper, Thomas Martin	17 Apr. 1899
23. 99	Vincent, Thomas	17 Apr. 1899
24. 1900	Brown, William	9 Jan. 1900
25. 1900	Rosewarne, David Davey	4 Oct. 1900
26. 1901	Buddon, William	1 Mar. 1901
27. 1901	Yeates, Alexander	29 Apr. 1901
28. 1902	Ireland, Mark	22 Apr. 1902
29. 1902	Woolcock, John	23 Sep. 1902
30. 1903	Powell, Robert William	5 May, 1903
31. 1904	Muir, John James	27 July, 1904
32. 1904	Moyle, John	5 Dec. 1904
33. 1904	Ridley, John	12 Dec. 1904
34. 1906	Brough, Daniel	23 Apr. 1906
25. 1906	Birrell, Samuel	23 Apr. 1906
36. 1906	Barker, George	24 July, 1906
37. 1907	Wisch, John G. A.	6 Nov. 1907
38. 1910	Gullock, William	4 Mar. 1910
39. 1910	Kelly, Aloysius	24 May, 1910

*CERTIFICATES of Competency granted by the Board of
Examiners.*

No. of Certificate.	Name.	Date of Certificate.	Class of Certificate.
1. 92	Dunstan, Alfred John	28 Sep. 1892	First class
2. 92	Ekborg, Benjamin Pher- son	28 Sep. 1892	Second class
3. 92	Hill, Charles	28 Sep. 1892	Second class
4. 92	Booth, John Robert	28 Sep. 1892	Second class
5. 92	Stapleton, Michael	28 Sep. 1892	Second class
6. 92	Lewis, Philip	28 Sep. 1892	Second class
7. 92	Hanlon, Christopher	28 Sep. 1892	Second class
8. 92	Williams, Luke	28 Sep. 1892	Second class
9. 92	Macandrew, Harold	28 Sep. 1892	First class
10. 92	Harris, William	28 Sep. 1892	First class
11. 93	Stapleton, Michael	29 Mar. 1893	First class
12. 93	Hanlon, Christopher	29 Mar. 1893	First class
13. 93	Potter, Joseph Matthew	29 Mar. 1893	First class
14. 93	Hilder, Alfred	29 Mar. 1893	Second class
15. 93	Matthews, Peter	29 Mar. 1893	Second class
16. 93	Richards, Stephen	6 Sep. 1893	First class
17. 94	Brain, Austin Lionel Bennet	3 Apr. 1894	First class
18. 94	Thorpe, Walter	3 Apr. 1894	Second class
19. 95	Williams, Luke	17 Apr. 1895	First class
20. 96	Levings, Joseph Henry	6 May, 1896	First class
21. 99	Goodall, Thomas Charles	14 Apr. 1899	Second class
22. 1900	Schloesser, Robert	19 May, 1900	First class
23. 1900	Nicholls, Charles Berres- ford	19 May, 1900	First class
24. 1900	Sale, William Robert	19 May, 1900	Second class
25. 1900	Williams, Richard	19 May, 1900	Second class
26. 1900	McPeake, John	1 Aug. 1900	First class
27. 1901	Sawyer, Basil	20 Feb. 1901	First class
28. 1902	Provis, John	22 Apr. 1902	First class
29. 1902	Bird, Robert Chisholm	22 Apr. 1902	Second class
30. 1902	Briggs, William Albert John	22 Apr. 1902	Second class
31. 1902	Bartlett, William Henry	22 Apr. 1902	Second class
32. 1902	Phoenix, William	22 Apr. 1902	Second class
33. 1902	Wright, Herbert E.	22 Apr. 1902	Second class
34. 1902	Craze, John	30 Apr. 1902	Second class
35. 1903	Waller, Richard Fitz- arthur	5 May, 1903	First class
36. 1903	Brickhill, Hector Gordon	5 May, 1903	First class
37. 1903	Barker, Reginald Fredk.	5 May, 1903	First class
38. 1903	Vincent, Thomas Henry	5 May, 1903	First class
39. 1903	Crittendon, James Henry	5 May, 1903	First class
40. 1903	Weston, Eustace Moriarty	12 Aug. 1903	First class
41. 1903	Clark, Lindesay Colin	31 Aug. 1903	First class
42. 1904	Martin, Edward Patrick	17 Feb. 1904	First class

CERTIFICATES of Competency—continued.

No. of Certificate.	Name.	Date of Certificate.	Class of Certificate.
43. 1904	Herman, Hyman	29 Apr. 1904	First class
44. 1904	Murray, Russell Mervyn	29 Apr. 1904	First class
45. 1904	More, George Allan	14 Oct. 1904	First class
46. 1905	Beamish, William Abraham	3 Jan. 1905	First class
47. 1905	Andrews, Thomas J.	1 May, 1905	Second class
48. 1905	Hitchcock, William E.	1 May, 1905	First class
49. 1905	Smith, George Oliver	18 July, 1905	First class
50. 1906	Rockett, Hildreth Peyton	23 Apr. 1906	Second class
51. 1906	Hales, Richard Chilman	23 Apr. 1906	Second class
52. 1906	Debenham Arthur John	28 June, 1906	First class
53. 1906	Coote, Charles Edward	18 Oct. 1906	First class
54. 1907	Marks, Oscar Sidney	8 Mar. 1907	First class
55. 1907	Phelar, Bernard Fredk.	23 Apr. 1907	Second class
56. 1907	Moline, Arthur Howard Pritchard	23 Apr. 1907	First class
57. 1907	Macartney, Ross Kenneth	23 Apr. 1907	First class
58. 1907	Williams, Thomas James	8 May, 1907	First class
59. 1908	Hooke, Arthur Warner	18 Mar. 1908	First class
60. 1908	Adams, Oliver Linley	25 Apr. 1908	First class
61. 1908	Seal, Leonard Presley	19 Nov. 1908	First class
62. 1909	Watt, William Shand	20 Apr. 1909	First class
63. 1909	M'Intyre, William Keverall	20 Apr. 1909	First class
64. 1909	Bruschle, Conrad C.	8 May, 1909	Second class
65. 1909	Reid, William Daniel	30 June, 1909	First class
66. 1909	Brook, Reginald H. T.	5 Aug., 1909	First class
67. 1910	Martin, A. E.	17 Feb. 1910	Second class
68. 1910	McKenny, S. D.	24 Mar. 1910	Second class
69. 1910	Smith, Chas. Lousdale	30 June, 1910	First class
70. 1910	Allen, Douglas Vernon	9 Sept. 1910	First class
71. 1910	Alabaster, Rupert Cecil	28 Sept. 1910	First class
72. 1910	Bedford, Max E.	24 Nov. 1910	First class

COLLIERY Certificates of Competency granted by Board of Examiners.

No. of Certificate.	Name.	Date of Certificate.	Class of Certificate.
1. 1902	Brain, Austin Lionel Ben-net	28 Sep. 1902	First class
2. 1907	Wallace, Archibald Campbell	23 Apr. 1907	Second class
3. 1907	Williams, Thomas James	8 May, 1907	First class
4. 1910	Ledger, William	6 Sept. 1910	First class

GEOLOGICAL SURVEY OF TASMANIA.

Geological Survey Office,
Launceston, 11th May, 1911.

SIR,

I HAVE the honour to present my report for the year ending 31st December, 1910.

During the year I have made the following field journeys:—

1. To the Scamander Mining District.
2. To the Latrobe Shale District.

Mr. L. K. Ward, B.A., B.E., Assistant Government Geologist, has, during the year, made an examination of the Balfour Mining Field.

Mr. Ward's annual report is appended hereto.

The following bulletins have been prepared during the year:—

Bulletin No. 8.—The Ore-bodies of the Zeehan Field, by W. H. Twelvetrees and L. Keith Ward.

Bulletin No. 9.—The Scamander Mineral District, by W. H. Twelvetrees.

Report No. 1.—Preliminary Geological Report on the Mt. Balfour Mining Field, by L. Keith Ward.

Zeehan Field.

The results of the examination of the ore-bodies of the Zeehan field made in 1909 were published this year in Bulletin No. 8 mentioned above. The conclusion arrived at was that the field was by no means exhausted, but that the ores are deep-seated, and that the lower limit of ore-deposition has been nowhere reached by any of the mining work carried out on the field. This bulletin deals fully with the geology of the field, its vein-types, the structure of the lodes, the genesis of the ores, their economic importance, remarks on the mining properties, prospecting methods, and the probable extension of the field. The policy which causes work to be abandoned when a productive shoot has been followed to a termination is condemned, and specific instances are given where deeper work can be recommended. The scope of further horizontal prospecting is pointed out, in which work the immense network of lodes which covers the Zeehan field is eminently promising. The large companies are urged to carry into execution plans for the thorough development of their properties. Some of the latter are very extensive, and at present are not contributing their legitimate quota to the general output. The outer fringe of Zeehan is considered as part of the same area of mineral deposition as Zeehan itself. The low country between Mt. Zeehan and the sea and the southern part of the Zeehan district, as well as the country east of Zeehan, are foreshadowed in this bulletin as future contributors to production. As regards the eastern fringe, our forecast has been justified by the recent discoveries.

The Scamander Field.

This was visited in May and June, and the results of the examination have been set out in Bulletin No. 9, which is in the press. At the Scamander there are three belts of mineral deposition:—A silver belt in the granite porphyry of the Coast Range; a copper belt in the parallel range to the west, called the Scamander Tier; and the tin and tungsten belt further west continuing through sandstone and slate to the granite of Hogan's Track. Considerable attention was attracted in 1909 to the Great Pyramid Tin Mine, a few miles up the Scamander river; but after glowing forecasts of its future had been made, it was suddenly closed down, the results of prospecting proving unsatisfactory. It seems desirable that the prospecting should be carried to a final conclusion by work suggested in this bulletin, as the results obtained so far are inconclusive.

The workings of the old Eastern Proprietary Mine were overhauled this year by the Orieco Company, which has since disposed of its interest to other proprietors. A certain quantity of oxidised ore from above water-level has been got out, and the new company is sinking a shaft with a view of attacking the lode below the old workings and exploring it below ground water-level. This is a sound programme, and there is a good chance of success. If success follows, other lodes in the neighbourhood will be prospected.

The old silver mines are quite abandoned. Some rich secondary ore was formerly met with, but none of the veins have been followed down below water-level. They will not pay to work if no increase in their width occurs. Although some rich sporadic bunches have been cut, the future of these small veins is problematical.

The wolframite veins between the Great Pyramid property and Hogan's Track contain irregular bunches of that mineral, and have been recently prospected owing to the favourable market prices ruling for wolfram ores; but the irregularity of the occurrences makes mining very uncertain. The geological conditions in this belt are favourable for deposition of both tin and tungsten ores, and further prospecting may be more successful.

All these ore occurrences in the Scamander district are related to the adjacent granite bodies, which in their turn form part of the great granitic mass which is developed in the north-eastern part of the island.

Mersey Shale District.

I paid a visit to Latrobe in November, and commenced an examination of the area in which now about 20,000 acres of Crown land have been taken up for shale mining. The area to be inspected proved to be so wide that only a portion of it could be covered in one journey. The Sassafras and Rubicon blocks, the riverside parts of the Railton sections, Winspear's land, and the new discoveries in the Minnow district remain to be visited, and then a bulletin will be issued on the whole field.

Developmental work was being carried on at the Mersey Bend by the Tasmanian Shale and Oil Company, No Liability,

operating on a seam of tasmanite shale about 7 feet in thickness. A site for retorts was being prepared, and tram-road connections being constructed between the mine and the extraction plant.

Laboratory quantities of the various products which the company intends to put on the market have been extracted from bulk parcels of shale, and working tests of the oils have been made at different times locally. The fuel oil has been tried successfully in firing boilers, and the petrol in driving stationary engines. Heavy spirit has also been tested as a turps substitute, and there will be a market for the spent shale as an ingredient of artificial manures. The property is an extensive one, and when the seam is proved throughout it will be found that the quantity of shale available will be something very considerable.

The shales (which I have called resinoid, as the substance in them resembling resin does not yield to the usual solvents of resin) consist of beds of sandy or clayey rock thickly crowded with small brown discs of a seed-like appearance. These are supposed to be the spores or spore-cases (tasmanite) of some lowly plant, probably aquatic, as the beds contain marine fossils. Submitted to destructive distillation the substance of the seams yield from 40 to 60 gallons of crude oil per ton. Sulphur contents vary from 1.5 to 3.0 per ton of shale. Some of the sulphur is extraneous, existing in the form of pyrite; but part is an integral component of the resinoid substance. It is claimed that the sulphur content can be reduced to a figure allowable in fuel oil. According to the use to which the oil is put, a great deal depends upon the elimination of any objectionable excess, but those in charge of the enterprise are confident in this respect.

The geological position of the seam is in the upper marine series of the Permo-Carboniferous system, probably a little higher than the Mersey coal measures, which separate the upper from the lower marines.

The location of the works with a river frontage is a favourable element in the enterprise.

The Latrobe Shale and Oil Company has been proving its property on the Mersey, near Railton, by diamond-drill boring, with marked success. The seam averages nearly 4 feet, and passes through the sections from north to south. The bulk tests which have been made of shale from this seam are entirely satisfactory as to quality, and its position is favourable for exploitation.

The extension of tasmanite shale further east and south-east of the lastmentioned property is inferred from the apparent continuance of the covering strata over part of Winspear's freehold, across Deep Creek, and as far as the Rubicon. This part of the district has not been examined yet. A Launceston prospecting syndicate is boring the ground near the Deloraine-road; and the Hobart Shale and Oil Company intends boring on its property at Deep Creek. Further north James' freehold, 500 acres, has fine outcrops of tasmanite shale near the Mersey Bend, and the seam has been found over a mile north of the Bend on the Tasmanian Shale and Oil Company's lease.

Tasmanite occurs on farm lands in the lower Nook Valley in the basin of the Don. It is of good quality here, and the

exposures are very encouraging. These occurrences are controlled by the Devonport Shale and Oil Company and the Lewis syndicate.

A large area of shale-bearing land has been applied for lately at the Minnow. I purpose inspecting this on my next visit.

Geological Survey Accommodation.

I have pleasure in reporting that two additional rooms have been promised to be placed at our disposal by the Hon. the Minister. When possession of these is given, great relief will be experienced, as the present overcrowding causes inconvenience and waste of time. The Launceston Municipal Council has generously voted several additional cases for the survey collections in the Victoria Museum. During the year numerous exhibits have been arranged and labelled. Exhibits are acknowledged as received from the Tasmanian Shale and Oil Company, the Hercules Gold and Silver Mining Company, the Tasmanian Copper Company, the Shepherd and Murphy Mining Company, Messrs. Cochrane Bros., J. Allison, Dr. Stephens, the Mining Museum, New South Wales. A collection of tin ores has been prepared for Dr. Paul of the Socorro School of Mines, New Mexico.

Office.

The correspondence during the year consisted of 2190 letters, reports, &c., in and out. The library continues to grow, and exchange publications are regularly received from other countries and States. I have to acknowledge receipt of the "Launceston Examiner," "Daily Telegraph," "Daily Post," "Zeehan and Dundas Herald," "Australian Mining Standard," "Mining and Engineering Review," "Queensland Mining Journal," "Engineering and Mining Journal," and "Agricultural Gazette."

In February Mr. F. S. Grove returned to Gladstone to carry out new construction work on the Government water-race at Mt. Cameron, and Mr. W. D. Reid has taken his place while he is absent. An additional draftsman could very well be employed continually if the appropriation would allow.

Field Work.

The programme settled at the beginning of the year was varied by giving precedence to the Latrobe shale field as a matter of urgency. This necessitated again postponing the visit to the Round Hill and Middlesex district, which will have to take place with a journey to Black Bluff after the survey of the shale area has been completed, and as soon as the season permits. The Black Bluff district is being actively prospected by several gold leaseholders, and adjoining as it does the Middlesex area, can be advantageously taken in connection with the latter.

The next work allotted to the Assistant Government Geologist is the survey of the Stanley River field, which is a part of the programme arranged last year, and is being looked forward to by those interested in operations there.

I have, &c.,

W. H. TWELVETREES, Government Geologist.
The Secretary for Mines, Hobart.

REPORT OF THE ASSISTANT GOVERNMENT
GEOLOGIST.Geological Survey Office,
Launceston, 11th May, 1911.

SIR,

I HAVE the honour to present the following report on the work upon which I have been engaged during the year ending 31st December, 1910.

From the beginning of the year to April 27 I was engaged upon the preparation of the report on the ore-bodies of the Zeehan field, and the accompanying maps and drawings. This report has since been published as Bulletin No. 8 of the Geological Survey of Tasmania.

Immediately upon the completion of this work I left Launceston in order to undertake the geological survey of that portion of the western coast of Tasmania which lies between the Arthur and Pieman Rivers, and comprises the mining field of Mt. Balfour—an area of approximately 400 square miles.

Since my visit to this portion of the island necessitated my passage through several districts which have never been examined by a member of the Survey, brief stoppages were made at several points in order to acquire information for the projected geological sketch-map of Tasmania.

The investigation of the Mt. Balfour mining field and a rapid geological reconnaissance of its surroundings occupied me for four months—from April 28 until August 26.

Upon my return I prepared a preliminary geological report on the Mt. Balfour field, to be issued as the first of a series of publications to be known as "Reports of the Geological Survey of Tasmania." And when this report was finished I proceeded with the preparation of the maps and plans and the full description of the geology of the region to appear in bulletin form when completed.

I was called before the Select Committees appointed by Parliament to give evidence with regard to the Balfour-Stanley Railway, and the future of the smelting industry in Zeehan.

A concise summary of the principal results of the examinations upon which I have been engaged during the year is attached.

Conclusions drawn from the Geological Examination of Zeehan and the Neighbouring Mining Fields.

The results of the geological examination of Zeehan and its neighbourhood have been fully discussed in so far as the geology of this particular area is concerned. However, when these observations are compared with those made in the adjacent fields, certain general conclusions may be inferred with respect to the genesis of the ore-deposits over a much wider region. Such conclusions, provided that they are sound

from all points of view, are of value proportionate to the area to which they are applicable. While it is true that the conclusions to which I have been led have been arrived at by reasoning that is largely of a purely scientific character, their economic importance cannot be denied.

It has been pointed out that the ore-bodies of Heemskirk, Comstock, and Zeehan are, together with dykes of pegmatite or aplite and quartz-tourmaline rock, various products of the consolidation of an acidic igneous magma. If this be granted, a similar origin cannot reasonably be denied to entirely similar ore-bodies in adjacent districts. So it is possible to trace the course of the intrusion of the parent acidic magma by the outcrops of granite or granite porphyry, the acidic dyke rocks, and the genetically related ore-bodies.

When this method is followed it is found that there is no evidence of the existence of a continuous "batholite" of granite beneath the whole of the mineral division of the West Coast. This conclusion is supported by theoretical reasoning upon the probable contours of the known granite *massifs* in depth, the argument being based upon the evidence of the abrupt termination of the period of formation of the primary lodes.

It appears certain that the acidic magma which made its irruption in Devonian time did so along certain well-defined zones or lines of crustal weakness. These lines of weakness had also been in existence at a much earlier geological period, when the keratophyres, diabase porphyrites, and spilite were erupted.

Thus it may be shown that there exists a well defined zone of intrusion, which extends from the Heemskirk Range to Mt. Claude, and perhaps even as far as Beaconsfield. In this zone are included the mineral fields of Comstock, Zeehan, Five-mile, North Dundas, Colebrook, Rosebery, Mt. Farrell, and Mt. Claude.

When these fields are thus grouped along a single zone it is apparent that there are other notable fields not taken into consideration. By entirely similar reasoning it is inferred that two other zones of mineralisation at least occur in the western portion of Tasmania. Upon one of these the mining fields of Stanley River, Heazlewood, Mt. Magnet, Mt. Bischoff, Hampshire Hills, and the Dial Range are situated. This zone is approximately parallel to the first. The third zone is that containing the mining fields of Mt. Darwin, Mt. Huxley, Mt. Lyell, Mt. Read, and Mt. Chester, and crosses the first zone in the neighbourhood of Mt. Black.

The economic significance of this interpretation of the geological relations of the mining fields mentioned is at once apparent. In the future prospecting of the region special attention should be given to the unexplored portions of the zones indicated. The country in the neighbourhood of exposures of the Devonian acidic intrusive rocks is especially favourable, but ore-deposits are not restricted solely to such areas. Districts in which the Pre-Devonian igneous rocks are represented are also likely to reward the diligent prospector. For it appears that the axes of igneous invasion have great geological persistence in western Tasmania, these being probably situated on the boundaries of great crust blocks.

The Examination of the Mt. Balfour Mining Field.

The recent investigations made in the coastal district which lies between the Arthur and the Pieman Rivers have afforded much valuable information of both direct and indirect economic value.

In the vicinity of Balfour itself a number of mining companies and individuals are engaged upon the exploitation of copper-bearing lodes which will, in the aggregate, materially assist the total output of copper from the State. Tin and tungsten lodes also are being prospected in two localities, one near Balfour and the other near the Interview River. These are destined to make substantial additions to the amount of these metals annually produced; but the more southerly locality is at present hampered by the difficulties of access and transport.

A number of lodes of high-grade iron ore occur in this region, and one of them—situated on the Nelson River, 6 miles north-east of Whale's Head Boat Harbour—is of large dimensions.

It is of particular interest to note that in this field the iron ore is very intimately associated with copper ore, and that there appear to be very close analogies between the occurrences at Balfour and those at the Dial Range, the Blythe River, Mt. Farrell, the Red Hills, Mt. Lyell, and Mt. Darwin.

In these lastmentioned localities, however, the older igneous rocks (porphyroids and diabase porphyrites) are abundantly represented, and may be seen to be genetically related to the iron ore-bodies. In Balfour the older igneous rocks are sparsely represented, and can hardly have contributed to the building of the lodes.

We seem therefore constrained to adopt the view that the iron ore is, with the ores of tin, lead, silver, and copper, derived mainly from the Devonian acidic intrusions.

I have, &c.,

L. K. WARD, B.A., B.E.,
Assistant Government Geologist.

The Secretary for Mines, Hobart.

REPORT OF THE CHIEF INSPECTOR OF
MINES.

Chief Inspector of Mines Office,
Launceston, 11th May, 1911.

SIR,

I HAVE the honour to submit my report on the inspection of mines for the year ending 31st December, 1910. I forward herewith a diagram and tabular statistics with reference to the accidents which have happened at mines throughout the State during the year in question.

I beg also to attach the reports of the inspectors of mines, viz.:—Mr. J. Griffin, Inspector for the Northern and Southern, Eastern and North-Eastern Divisions; Mr. Jas. Harrison, Inspector for the Western and North-Western Divisions; and Mr. C. H. Curtain, Inspector for the Lyell District.

The total number of men engaged during the year at the mines and smelting works was 5770. The number of fatalities was 8, and of non-fatal but serious injuries 57. The death-rate from accident was 1.386 per thousand, compared with 0.991 per thousand in 1909.

The inspectors in their reports deal with the working conditions prevailing during the year. The several suggestions made by them in connection therewith have been carefully considered.

Improved legislation, more particularly with regard to some of the working rules, is desirable, and I am preparing suggestions for approval in this direction. The rules referring to ladders and ladder-ways need revision, and provision made separately for vertical or steeply-inclined ladders in special cases. It seems desirable that the speed of winding, especially at the large mines, should be more under the control of the inspectors than at present. The present speed at such mines exceeds the regulation limit, which is the same for both cage and bucket winding, an illogical enactment. It would be more sensible to leave the winding speed in each case to be determined by the inspector.

The test at the mine of double the ordinary lode (*i.e.*, twice the weight of rope, cage, and loaded truck) on winding ropes is unnecessarily severe, and instead of guaranteeing security is a source of danger, being likely to injure rope, cage, safety appliances, and shaft; besides which, attaching the stipulated extra load to the cage is often impracticable. Queensland, which has now the latest and most advanced mining regulations, has evidently recognised the impossibility of continuing on the old lines, and has substituted a one and a half times test for double the ordinary working load. Our inspectors cannot carry out the present rule, and advise an alteration.

Some alteration in the regulation governing the bulling of holes is called for, and provision should be made enabling steam as well as fire to be used for heating miners' dressing-rooms.

The inspectors have carefully watched the introduction of methods of allaying dust. After trying sprays, which were not welcomed by the miners, water jets have been introduced by the Mt. Lyell M. and R. Company. Inspector Curtain reports that these are efficient, and meet with increasing recognition on the part of the men. He urges that we should consider the advisability of making both the provision and use of water jets in connection with rock-drills compulsory for mine owners and men. To make this mandatory throughout the State requires some consideration. For the present, working rules 2 and 3 give a general power to the inspector in such matters. Under these rules he is empowered to order jets or sprays whenever he judges them to be necessary. An additional rule might provide that in dry roads or other workings, if the broken material is dry or dusty, the inspector may forbid its removal until it has been effectually damped.

In your last yearly report a valuable paper appeared on the Pneumokoniosis of Quartz Miners, written by Dr. J. S. Purdy, Chief Health Officer for Tasmania. The doctor's investigations at the chief centres of mining in Tasmania lead on the whole to reassuring results. He has made arrangements for obtaining statistics regularly, and we shall in the future be in possession of much more reliable information than hitherto. Miners may contribute largely in preventing disease if they will welcome attempts to minimise rock-drill dust by means of suitable water appliances.

Prosecutions.

Proceedings were instituted during the year in respect of breaches of the Act. The owner of the Colebrook Mine was proceeded against for neglecting to appoint a mining manager; as was also a workman at the Mt. Lyell Mine for infringing the regulation *in re* bulling holes. An action was brought against the Bonanza Proprietary for neglecting to keep up its plan of underground workings. Bad air preventing an immediate survey, the case was adjourned to give the company an opportunity of completing negotiations for additional capital and putting the mine in order.

Some mine owners interpret the provision of Section 174 in respect of abandonment of the mine as meaning the abandonment of the lease, and disclaim liability to complete the underground survey before the lease is surrendered, when it frequently happens that funds are exhausted. I propose that the wording of this clause be altered by making it plainly apply to the discontinuance of underground operations whether the lease is abandoned or not. An addition to this section might be made providing for a quinquennial delivery of a complete single plan when the annual extensions have been furnished separately and their accumulation becomes confusing.

I have, &c.,

W. H. TWELVETREES, Chief Inspector of Mines.

The Secretary for Mines, Hobart.

COMPARATIVE Table of Statistics of Accidents in and about the Mines of Tasmania from 1st July, 1892, to 31st December, 1910.

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

Diagram showing the ratio of Fatal Accidents
in Mines in Tasmania.

Rate per 1000 men employed.

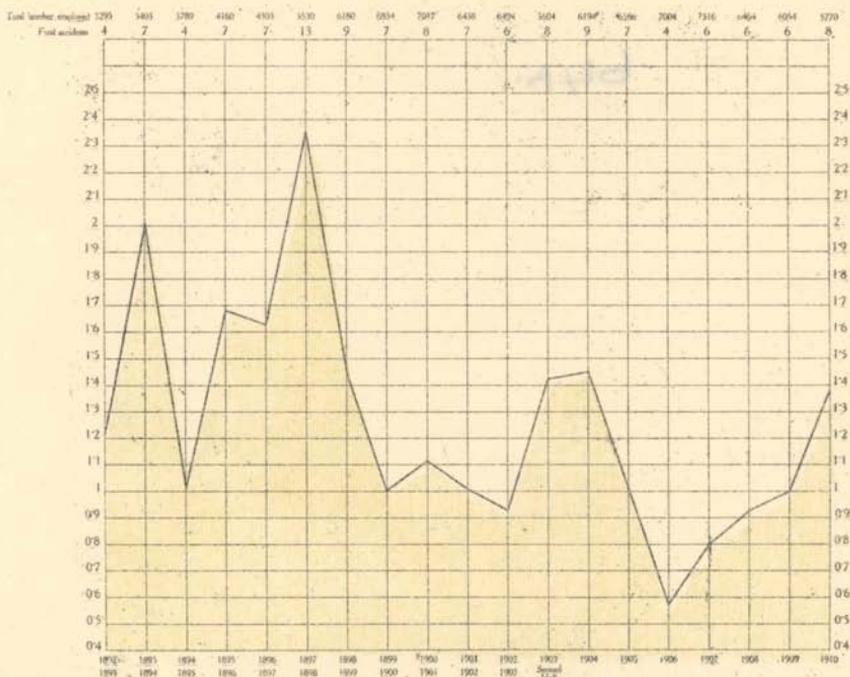


Photo Algraphed by John Vail Government Printer Hobart Tasmania.

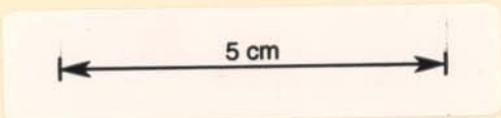


TABLE showing Rate per Thousand Killed and Injured in the different Divisions for the Year 1910.

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	736	21	2	20	22	29·891	2·717	27·173
North-Eastern	628	2	Nil	2	2	3·184	Nil	3·184
Eastern	569	5	Nil	5	5	8·787	Nil	8·787
North-Western	683	7	Nil	7	7	10·248	Nil	10·248
Western	3154	28	6	23	29	9·194	1·902	7·292
	5770	63	8	57	65	11·265	1·386	9·878

ANALYSIS of Statistics for the Western Division.

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.
Mount Lyell	1965	22	6	17	23	11·704	3·053	8·651
Zeehan, &c.	1189	6	Nil	6	6	5·046	Nil	5·046
	3154	28	6	23	29	9·194	1·902	7·292

TABLE showing the Number of Persons Killed and Injured in and about the Mines of Tasmania during the Year 1910.

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	7	...	...	...	...	...	3	...	4	4	5	6	19
<i>Shaft Accidents—</i>														
Things falling down shafts	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Haulage .....	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Falling down passes and shafts .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total .....	...	...	...	...	...	...	...	...	...	...	...	1	...	1

<i>Miscellaneous (underground).</i>														
Haulage—														
Trams, &c.....	...	2	...	...	...	...	...	1	...	...	...	...	...	3
Sundry accidents.....	...	4	...	...	...	...	...	...	1	...	2	...	...	7
Explosives.....	...	...	...	...	...	...	...	2	...	1	1	2	1	5
Total .....	...	6	...	...	...	...	...	3	...	2	1	4	1	16
<i>Total Underground</i> . . .	2	13	...	...	...	...	...	6	...	6	5	10	7	35
ON SURFACE—														
Smelting-works.....	...	...	...	...	...	...	...	...	...	...	2	...	...	2
Machinery.....	...	1	...	...	...	...	...	...	...	...	1	...	...	...
Falls of stone.....	...	...	...	1	...	...	...	1	...	...	1	...	...	...
Tramways.....	...	...	...	...	1	...	...	...	...	...	1	...	...	...
Falls of persons.....	...	...	...	...	...	...	...	...	...	1	1	1	...	...
Explosives.....	...	...	...	...	2	...	...	...	...	...	1	...	...	3
Miscellaneous --	...	6	...	1	...	2	...	...	...	...	...	...	...	9
<i>Total Surface</i> .....	...	7	...	2	...	5	...	1	...	...	1	7	1	22
GROSS TOTAL, 1910.....	2	20	...	2	...	5	...	7	...	6	6	17	8	57
Total during 1909.....	...	19	...	4	...	1	...	...	2	15	4	10	6	49

REPORTS OF INSPECTORS OF MINES.

MR. INSPECTOR GRIFFIN (Launceston) reports:—

I have the honour to submit my report as Inspector for the Northern and Southern, North-Eastern, and Eastern Divisions of the State for the year ending 31st December, 1910.

Accidents.—The total number of casualties for the year were:—Fatal, 2; injured, 27. Total, 29.

In presenting this report I very much regret having to record the deaths of two miners, killed in the same accident at the Tasmania Gold Mine. Their names are Arnold Yeates and William Thomas Walters.

Yeates, an experienced miner, was one of a party of contractors engaged stoping in Block 205 over the 1200-foot level. The ground—No. 2 stope—had been standing idle for some time. The width of the lode at this place is about 16 feet. It is composed of quartz and loose pyrites of a friable nature, not what might be termed loose or dangerous ground requiring any especial precautions in working. Ordinary precautions alone were required, and had these been observed on the part of the men employed this deplorable accident would not have occurred.

Work was resumed at the face referred to by the afternoon shift on Tuesday, 8th March. The mullocking of the block was finished by men employed for that purpose, and sollars were being laid when the contract men went into the face and prepared to erect a set. At midnight these men (contractors) were relieved by the deceased Arnold Yeates and his mate, Wm. Parker, who completed the erection of set by crib time. Charles Bennetts, underground foreman, visited the place at 2 a.m., and noticing that the cap just put up was about 6 inches short, drew the attention of the men, Yeates and Parker, to this. Parker replied: "It is the longest we could get."

By crib time, 4 a.m., the set, according to the statement of Parker, was erected, cap wedged back (a short block being used to make up for deficient length), and backed over. The men then went to crib in the stope beneath where they worked. The unfortunate man Walters was with them. It is not clear why he, not being of the contract party, should have been in the upper stope at all; his work lay in the stope beneath, where he was put to shovel quartz down to the truckers.

After crib time, 4.30 a.m., Parker was the first to return, and commenced pitching off back laths at the hanging-wall side. A few minutes had elapsed when he heard Yeates and Walters (did not see them) come into the stope at the footwall side. Scarcely had they done so when the fall—some 15 to 20 tons—of quartz and pyrites took place. Parker slid down under the protection of the hanging-wall, and escaped serious injury, although it took some time to extricate him. The other poor fellows were completely buried and suffocated in

the mass of stuff. Their bodies showed no signs of serious external injury. The mode of timbering in these stopes is by half-sets, one end of the cap resting on a leg at the hanging-wall side, the other end resting in a hitch cut into the sloping rock of the foot-wall. Tie laths are used, nailed to the legs from one set to the other on the hanging-wall side, and behind these studdles or distance-pieces are placed. The use of the tie-lath is not only to steady the set when first erected, but also to prevent the leg being forced forward or towards the face by top weight; the studdle is useful to keep it from going in the opposite direction.

An examination of the place 28 hours after the accident happened (I had to travel from Mt. Nicholas to get there) showed that two sets of timber had carried away. The cap and leg of the last one erected had fallen towards the face; the other set was lying in the opposite direction. Some broken laths were lying around, but the set timbers, legs and caps, showed no sign of being strained or splintered. A shallow nail-hole near the top of the leg lying towards the face and two bent nails in the second leg indicate that a tie-lath had been used; but such nailing as was apparent would barely suffice to keep the leg in position until the cap was put on, let alone resisting any undue lateral strain.

No studdles had been used between the sets that had fallen. From appearances it would seem that the set nearest the face was the first to give way, and that the back laths in falling lowered the cap of the second set in the opposite direction. If studdles had been used this second set could not have fallen in the direction it was lying in.

After careful investigation I am of opinion that if ordinary precautions had been taken or observed by the men employed this distressing accident could not have happened. They evidently did not realise the risk they were running in working this semi-loose ground in such a careless way. In the first place, the ground had been standing idle for 10 days or so, the timbering was not close up, nor was there any toe left to buttress the face, which was trimmed flush to the vertical. This working the face so far ahead weakened the ground, for it has been shown that when the fall took place the face was fully 2 feet 6 inches from the cap and leg. Then again the back laths were not kept hard up to the stone overhead. This would not have so much mattered if the sets had been properly tied and studded; they were not, and a dreadful accident was the result. The underground foreman, Bennetts, showed a want of caution when he saw that the cap was short. He should have ordered its removal, or failing this, that it was properly secured.

The contract system is responsible for an increase in the number of mining accidents. Men employed on wages are more careful and take less risk than does the contractor.

Of the non-fatal accidents, 27 in number, the following were the more serious:—

Richard Fogarty, a single man, age 23, was working in the Colebrook Colliery, in No. 2 bord. He failed to secure his ground properly. A loose piece of stone fell from the roof, the thin end striking Fogarty, who was in a kneeling position, dislocating his right hip-joint. He had partly him-

self to blame for the accident. There was lax supervision, however, and no daily inspection before the men went to work.

Wm. M. Green, breaking through a last stope at the 1100-foot level in the Tasmania Gold Mine, was caught by a slip of sandstone from the hanging-wall and carried down some few feet in a jumble of dirt and timber. He received a bad bruising and a severe cut over the left eye. The level timber had not been properly picked up before breaking through; hence the slip of the hanging-wall timber and dirt.

Ernest Casey, a trucker in the Tasmania Gold Mine, got the forefinger of his right hand jammed off at the second joint whilst running his truck beneath a cross-stay in the level. The accident was a most painful one, and would not have happened if reasonably sufficient room had been allowed by the repairing gang who put the stay in.

Desmond Griffin, employed as a miner in the main tunnel at the Tasmanian Shale and Oil Company's Mine, received a rather severe bruising of the right hip and loin, also a nasty cut in the perineum, through being struck by a lump of shale falling from the top of the seam. A round of shots had been fired, and on returning the face was examined by Griffin's mate, an experienced miner, who said it was all right. Immediately afterwards a loose piece fell, striking Griffin and knocking him clear of a large mass that followed with crushing force. He was only a beginner at mining work, and depended on his mate, whose carelessness, however, nearly cost him his life.

George Vernal, an elderly man, was trimming down a stope face in the Tasmania Gold Mine preparatory to erecting a set of timber. A small lump of stone fell from the face or backs, striking and fracturing his left thigh-bone; an accident for which no one was to blame.

William Richards was caught by a rush of sludge, earth, and stones in the overburden sluice-race at the Anchor Tin Mine and carried down the race for some distance. He sustained a fracture of the left leg below the knee. Richards might have got clear had he been more on the alert. The place, however, was an awkward and a rather dangerous one for a man to work in, and reasonable precautions had not been taken for the safety of the men employed there.

Thomas Nolan, a platelayer, employed on the Mt. Nicholas Colliery tramway, attempted to snatch some of his tools from off the line as a loaded skip was passing to the screens. He slipped, and his right hand was badly contused and lacerated by the skip wheel passing over it—the little finger had to be amputated. Nolan was off work over six weeks as a result of the injuries received.

The remaining 20 accidents, as will be seen on reference to the statistical list appended to this report, were of a less serious nature—mostly cuts or bruises about the hands and feet, and only to be recorded as serious from the fact that the sufferer was "absent at least 14 whole days from his ordinary work." This proof of the seriousness of an accident has to be accepted as provided by Section 181 of "The Mining Act." Many of the injured persons, however, remain away from work for 14 days or over, not because they are unable to return earlier, but from the fact that they have no wish to do so,

preferring to have a good rest, or perhaps attending to some business, knowing that their places will be kept open for them at the mine.

Accidental Explosions.—John Beckett, employed in open-cut rock face at the Anchor Tin Mine, was picking out from beneath a large block of stone brought down by a previous round of blasting, when an explosion occurred at his pick-point, spitting mud and small stones into his face and inflicting small cuts and scratches. It is surmised that when charging one of the deep bulled holes a plug of gelignite may have got into a crevice away from the main charge, and remained unexploded until Beckett's pick-point came in contact with it.

With reference to the explosion of detonators, by which George Blair was injured, at Storey's Creek, a spark from a wood fire close by must have dropped into the open cap-box, which, he says, he had placed near him, and which contained from 20 to 30 detonators. The cap he was attaching to the fuse did not explode.

At the S. and M. Mine, Middlesex, it was noticed that a "bottom" had been left where a shot had been fired in one of the stopes. An examination of this showed that it contained no explosive or part of charge. Careful search was then made in the ore and dirt broken down by the blasting, but no explosive, either cap or gelignite, could be found. A sharp look-out was kept by the truckers, as also by the man employed feeding the rock-breaker; but they failed to discover anything dangerous. Notwithstanding all these precautions, and just before the last of the dirt from that particular place was put through, an explosion with a loud report occurred in the rock-breaker, completely smashing that part of the machine called "the pitman." The man, Price Stanley, employed feeding the machine fortunately escaped unhurt, save for a slight abrasion on the shoulder caused by a flying fragment. In most cases where the charge is only partly exploded the balance is found left in a bottom not blown out. Sometimes loose plugs of gelignite are found in the broken dirt after a round of firing. Instances are known where this explosive has been found squeezed to a paste in the stone being fed to a battery. Carelessness on the part of men when charging holes where a large quantity of explosive has to be handled is often the cause of loose explosive getting into the broken dirt. It more frequently happens, however, that accidental explosions, such as the one above referred to, emanate from the balance of a partly detonated charge; and when partial explosion is discovered a most careful and cautious search should be made to make sure that no explosive substance is concealed in the ore or mullock to be handled and sent from the mine.

Ventilation.—Fairly good ventilation is maintained in all the metalliferous mines, and the health of miners, so far as regards being to a great extent free from lung trouble or miner's phthisis, is apparently much better than was the case some few years ago.

Machine drills have been put into use in the Tasmania Gold Mine for the first time during this year. The mine being very wet, however, it is not likely that any serious cases of silicosis from the inhalation of stone dust will appear. Pul-

monary phthisis, so prevalent amongst the miners at Beaconsfield a few years back, has been reduced, especially at the Tasmania Mine, to a small percentage. This is no doubt the result of improved ventilation.

Accidents to Ropes and Cages.—At the New Golden Gate Mine a hauling rope 3 inches in circumference in use for bailing, broke when the tank was within a few feet of the surface. This rope had been in use for four and a half years. Its diameter was reduced three-sixteenths of an inch by squeezing. There were no broken wires visible when I inspected it a fortnight before it broke; it was, however, no longer safe, except for bailing, and as the running of the battery depended on the supply of water obtained from the deep levels of the mine, the use of the rope was allowed to be continued until a new one could be obtained. A sound rope was in use on the cage in the next compartment, and on this side only were men permitted to descend and ascend. No person worked in the mine during the night shifts, and as this was the only time that bailing operations were carried on, there could be no risk to anyone in the event of the tank-rope breaking. The occurrence took place at 4.30 a.m. Some damage was done to the skidways between levels; Nos. 3 and 4 centres were knocked out, but below this no further damage was done down to water-level, 1000 feet from the surface.

Cage Jammed.—At the Tasmania Mine Cooper and party, contractors for sinking Grubb's shaft below the 1370-foot level, had spilt the fuses for four charges, and signalled to be hoisted. The cage, working on long shoes, ascended a few feet, jerked, and then left the skids, sticking fast in the compartment. The men, four in number, climbed out of the cage, and by lying flat on top of the 14-inch frame timbers of the shaft, escaped injury when the charges exploded. A short length of skid at the bottom of the timbers was damaged by the first batch of shots fired, and was overlooked by the men when they descended to fire the second round. A chain ladder which had been taken to the surface for repairs was returned to the shaft-sinkers, but they did not mount it for use. As the terms of their contract with the company required these men to keep in repair, or report at once for the purpose of having repairs effected, in the event of any rope, chain, skidway, cage, signal-line, &c., getting damaged, they were guilty of gross negligence in this instance, and for this their contract was cancelled, and they had to leave the mine.

Equipment.—The equipment of the mines for haulage, especially the large ones, is very good. Ropes are recapped, and tested at regular intervals; chains and shackles annealed, safety cages tested at least once in every two months.

In some few cases windlass ropes have been condemned, and a better arrangement of ladder-ways insisted upon.

Prosecution for Non-compliance with Section 167 of the Act.—The owner of the Colebrook Coal Mine was proceeded against for having failed to nominate and appoint a mine manager for his coal mine, as required by Section 167 of the Act. The mine had been reopened and worked for some considerable time without a manager. An accident happened, and the man, Richard Fogarty, whose name appears on the

casualty list appended hereto, was injured; but the matter was not reported to the inspector. The defendant, who pleaded guilty, was fined £2, with 8s. 6d. costs.

Carelessness or indifference on the part of mine owners with regard to appointing and registering managers for their mines is becoming too frequent. Observance of Section 167 will be insisted on in future.

Complaints.—No complaints in writing by persons employed in mines or works (Section 178) have been made during the year.

Coal Mines.—The condition and working of the collieries has, on the whole, been satisfactory, and in the matter of ventilation there has been nothing to complain of.

At the Mt. Nicholas Colliery good development work has been going on; a continuous long-wall face over 440 yards in length is now opened up. Gate and haulage roads are in satisfactory order; chocks and timber-packs are freely used at roadsides and angles. Ventilation has been improved by a straightening of the return air-course and the introduction of additional regulating doors. Reconstruction and enlargement of the upcast furnace will shortly be made, and the colliery will then be fit for a greater output of coal should the trade demand it.

The Cornwall Company has opened a new 6-foot seam, to be worked on the pillar and bord. A main adit heading has been driven, as also cross or ganing bords, and back headings. These latter are parallel to the main heading. Rectangular coal pillars, 33 yards by 22 yards, are left to support the roof along the main heading. The cut-throughs occurring at every 33 yards are 4 yards in width. The dimensions of the pillars to be left in in the general working will represent 66 per cent. The depth below the surface is not yet 200 feet. Ventilation: A shaft has been sunk to a depth of 80 feet to the seam level, and is connected by a short drive with the main adit heading a little way in from its entrance. A back heading also connects with the shaft, and will form the return air-course.

Work is still going on in the old pit (4-foot seam), where seventeen places are being worked on long-wall. Ventilation is by means of an electric fan. The roads, travelling ways, electric haulage, &c., are maintained in good working order.

Wallsend Colliery.—After many trials and a good attempt to make it pay, this colliery had to be finally abandoned in November last. The cost of working a comparatively thin seam under such conditions as existed was excessive. A bad roof, intersected by numerous faultings, made working on the long-wall principle difficult. Constant attention had to be given to the keeping of roads open, as well as the maintaining of adequate ventilation. A main jump fault was known to exist, and had been located by headings driven, but was not considered to be an insuperable barrier until, when finally approached by the general workings, it was found that this main line of faulting cut off the seam in such a way as to leave no hope of recovering it at anything less than a ruinous cost. The mine is therefore abandoned.

Of the smaller collieries—Mt. Cygnet, Colebrook, York Plains, Enterprise (Jubilee), Cardiff, and Spreyton—there is

not much to be said. They are all working, some intermittently, such as the Cardiff, the Enterprise, and Mt. Cygnet; others more regularly. Mr. Allison gets a fair output from his Spreyton Colliery. At York Plains Mr. Greig is still working, and getting a small output of the semi-anthracite coal which he supplies to brewers and maltsters. The Colebrook Mine was reopened at the beginning of the year, and is now being worked by a tribute party of 12 men.

Catamaran.—During the year Mr. James applied for, and obtained, the forfeiture of the leases held by the Catamaran Coal Mining Syndicate at Recherche Bay, and on which some mining for coal was done a few years ago. The seam, about 5 feet in thickness, is of good-quality coal, probably the best yet worked in the State. Mr. James has already made a beginning. A small steam-winding plant has been installed, poppet-heads erected, and the old pit, a circular one 30 feet in depth, has been squared down, retimbered and centred, making two cage-winding compartments.

A dip heading is being driven on the seam from the bottom of the shaft. This is more for the purpose of testing the seam as it dips to the north-west beneath the flats than otherwise. A deep shaft in a more central position will be required for working. It is understood that a strong company is about to be formed, and that sufficient capital to thoroughly open up and properly equip the mine will be forthwith provided.

The Dawson Brothers, after being idle for a considerable time, have managed to get more capital, and are now at work extending the dip tunnel on their coal seam. Water is troublesome, and a pump had to be installed. Limestone of the very best description has been discovered only a short distance from the coal mine; a lease of this has been secured. Brickmaking and cement works are talked of, and in all probability the coal mine, if worked at all, will be for the purpose of supplying the necessary fuel required in connection with these works.

Strathblane Coal.—This seam, situate at Adams' Peak, Port Esperance, was partly opened up under the supervision of the prospector, Mr. Wm. Anderson. Forfeiture of the leases for non-compliance with the labour clauses is being applied for.

Shale Mining.—The advent of this new industry in connection with shale deposits of the Mersey basin is causing much attention and interest. A great deal of prospecting has been done by companies and syndicates, as well as by private individuals. The Tasmanian Shale and Oil Company is, however, the first to commence mine development work. After much prospecting had been done and the area and dip of the seam located, it was decided to open for general working by means of a tunnel, instead of sinking a shaft, which was at first thought to be indispensable. The site chosen, and on which the retorts and oil-extraction works are now being erected, is on a hillside close to the Mersey River, on its right-hand bank, and about 2 miles south from the town of Latrobe. The tunnel entrance is 50 chains distant. A tramway is constructed to convey the shale from the mouth of the tunnel to the retorts on the western side of the hill. Steam-power will be required to operate an endless cable, by means of which the loaded skips will be hauled to the top of the hill, a distance of 40

chains from the tunnel mouth. A short self-acting incline tram will be used for sending the skips from the top of the haulage line down to the retorts.

The seam where opened on is 7 feet in thickness. Dimensions of tunnel: Ten feet wide by 7 feet in height; course, north-westerly, or across the plane of dip of the seam, which is to the north-east. The shale obtained in driving the tunnel is stacked ready for retorting as soon as the plant is finished, which will be about the end of February. With such a thickness of seam the cost of mining should not be excessive; yet it must be borne in mind that this brown shale, which is of a very tough leathery nature, in no way resembles coal or cannel shale. No headway can be made without the use of explosives, and the ordinary methods of the coalminer, such as holing, wedging down, &c., are of little avail. It should be worked to the rise where practicable to do so. Boring or drilling with the coalminer's ratchet augur is too slow in this tough rock. Coal-cutting machines are what are required, and what I believe will have to be introduced as early as possible if mining the Mersey shale is to be carried out at anything like a reasonable cost. If working on the long-wall principle could be adopted, it would be well; the seam, however is rather too thick; 4 to 5 feet seams are more suitable for long-wall. The advantages of the system are:—The recovery of the whole of the coal or shale in the first operation; a better and simpler means of ventilating; and the advantage of a cheaper hewing rate. The pillar and bord system means leaving in pillars to support the roof during the first operation. These pillars represent from 50 to 80 per cent. of the mineral, according to the depth that the seam is below the surface. Ventilation is more difficult and costly, and although the system insures greater security from a general collapse of the roof, the keeping of roads open, &c., in the first operation, it is by no means so good when the coal pillars come to be taken out at the final operation. There is a plentiful supply of excellent timber for mining purposes on the shale leases, and an unailing supply of beautiful water in the Mersey River.

LIST of Accidents in Inspector Griffin's District for Year 1910.

Fatal, 2 ; non-fatal, 26 ; total, 28.

Date of Accident.	Name of Mine.	Locality.	Cause of Accident.	Name of Sufferer.	Married or Single.	Nature of Injuries.	Particulars.
1910. 17 Jan.	Tasmania Gold Mining Co.	Beaconsfield	Slipped into hot ashes	Barclay, Geo.	Widower	Burns on left leg	Went down tip to regain his hat which had blown off, and stepped into hot ashes.
26 Jan.	Ditto	Ditto	Truck jumping the rails	Hornsey, Victor	Single	Bruised left hand, no bones broken	Trucking at 1100-ft. level, the truck left the rails and jammed his hand against lip of chute
1 Feb.	Ditto	Ditto	Fall through missing his footing	Olden, Thos.	Married	Three scalp wounds, and slight injury to shoulder	Was working in stope over 1200-ft. level; inadvertently stepped back and fell into stope beneath.
21 Feb.	Friseis Tin and General Mining Co.	Derby	Horse slipping on tramway rail	Saggers, Fredk.	Single	Badly bruised instep of — foot	Was driving horse in open cut face; horse slipped on tram-rail and caught Saggers on instep.
1 Mar.	Tasmania Gold Mining Co.	Beaconsfield	Sleeper giving way when stepped on	Herbert, Alfred	Married	Ribs of right side rather badly bruised	Stepped on loose sleeper at 1000-ft. level where stope was breaking through; it gave way, and he fell through, his side striking the tram-rail.
9 Mar.	Ditto	Ditto	Fall of earth in stope	Yeates, Arnold	Ditto	Fatal. Suffocated through being buried in stone and loose pyrites	Was stopping over 1200-ft. level with his mate, Wm. Parker, and a man named Walters. Ground not properly secured, a heavy fall took place; burying Yeates and Walters.
9 Mar.	Ditto	Ditto	Ditto	Walters, Wm. Thos.	Ditto	Fatal. Suffocated through being buried in fall of stone and loose pyrites	Was called to assist Yeates and Parker, as above, to put up cap, and was overwhelmed by the fall of ground that took place.

26 Mar.	Ditto	Ditto	Hand getting between truck and cage-iron	Drew, John	Single	Third finger of right hand jammed	Was caging a truck at brace, got his finger jammed between truck and cage. Was off work 36 whole days.
18 April	Ditto	Ditto	Wheeling a barrow from stokehole	Nicholson, L.	Married	Sprained knee	While wheeling a barrow load from stokehole, sprained his knee. His man did not return to work at the mine till 14 August.
27 April	Colebrook Coal Mine	Colebrook	Fall of roof clod in bord	Fogarty, Rich.	Single	Dislocation of right hip joint and bruise on shoulder	Was working in coal face of No. 2 bord; neglected to secure his ground properly, and was caught by a lump of clod falling from the roof.
3 May	New Golden Gate Gold Mine	Mathinna	Log-rolling	Reece, Owen	Married	Bruised side, no bones broken	Was rolling a log at O'Brien's section, and received a blow in the side from a lever. Did not complain at time, but had to leave off work three days afterwards.
31 May	Tasmania Gold Mining Co.	Beaconsfield	Stamper-shank rolling off board	Warren, Tasman	Ditto	Third finger of right hand jammed, tip smashed	Was at work in battery. A stamper-shank rolled off a board, on which it was temporarily laid, and jammed his hand.
3 June	S. & M. Mine	Moina, via Wilmot	Fall of rock in No. 3 adit level	Mawer, Wm.	Married	Bruised knee	Assisting at timbering of lode drive west of adit; was lifting a cap into position, when a lump of rock fell from the side striking him on knee.
18 June	Tasmania Gold Mining Co.	Beaconsfield	Steel flying from chisel	Wood, Richd.	Ditto	Severe cut on right hand between thumb and forefinger	Engaged blacksmithing. Was cutting a piece of iron, steel flew from chisel, cutting his hand. Was off work 30 days as result of accident.

LIST of Accidents in Inspector Griffin's District for Year 1910—continued.

Fatal, 2 ; non-fatal, 26 ; total, 28.

Date of Accident.	Name of Mine.	Locality.	Cause of Accident.	Name of Sufferer.	Married or Single.	Nature of Injuries.	Particulars.
1910. 27 July	Litto	Ditto	Fall of sandstone from hanging-wall in stope	Green, Wm. M.	Ditto	Bruises about body, and severe cut over left eye	Was breaking through last stope beneath 1100-ft. level. Some sandstone slipped from hanging-wall, carrying away the timbers, and partly burying Green in the debris.
10 Aug.	Wallsend Colliery Co.	Margate, North-West Bay	Fall of stone from coal roof	Smith, Wm.	Single	Struck on foot, great toe supposed to be broken	Whilst working in colliery a piece of stone fell from the roof, and struck his foot. Was in Hobart Hospital for over 3 weeks as a result.
4 Aug.	Blair's Wofram Claim, Storey's Creek	Ben Lomond	Accidental explosion of detonators	Blair, Geo.	Married	A peppering of grit and cuts on face and hands	Working on a one-acre lease ; was firing a cap to fuse when some 20 or 30 detonators in an open box near him exploded.
11 Aug.	Anchor Tin Mine, Ltd.	Lottah	Accidental explosion beneath a block of stone from previous blasting	Beckett, John	Single	Cuts and scratches about face	Was picking dirt from beneath a large block of rock, brought down by a previous blast ; an explosion occurred at the point of his pick, bespattering him with mud and grit, which cut and scratched his face.
1 Sept.	Tasmania Gold Mining Co., Ltd.	Beaconsfield	Small piece of quartz falling from face	McIvor, Francis	Married	Cuts across knuckles of right hand	Whilst working in Block No. 203, a small piece of stone fell away, striking him on right hand. He was off work 15 whole days as a result.

31 Aug.	Briseis Tin and General Mining Co., Ltd.	Derby	Stone rolling back	Jones, James Thos.	Ditto	Small finger of left hand jammed	Employed throwing stones to a higher level at Krushka's Flat face; one rolled back and caught him on the hand.
6 Oct.	Tasmania Gold Mining Co.	Beaconsfield	Bar slipping when carrying a clack-door	Nankirvis, Andrew	Ditto	Two toes of left foot badly jammed	Was with two other men carrying a clack door on a bar, when the bar slipped and caught him on the foot.
11 Oct.	Tasmanian Shale & Oil Co.	Latrobe	Fall of roof in tunnel	Griffin, Desmond	Single	Contusion of hip and loin, penetrating wound of perineum extending to anus	Was working shale tunnel. Shots were fired, and on returning to work he was, whilst stooping, struck by a piece of shale and knocked down, sustaining injuries as stated.
12 Oct.	Tasmania Gold Mining Co.	Beaconsfield	Cross-stay too low, caught his hand against it and piece of mullock in truck	Casey, Ernest	Ditto	Forefinger of right hand jammed off at second joint	Was running a truck full of mullock, got his finger jammed between a lump on top of truck and cross-stay in drive.
12 Oct.	Ditto	Ditto	Accidental falling of filling-chock of machine-bar	Mullins, Patrick	Married	Small toe of right foot jammed	Was taking machine-bar down in Grubb's shaft; let filling-chock fall on his foot. Was off work 38 days.
20 Oct.	Mt. Nicholas Colliery	Mount Nicholas	Hand slipped beneath moving truck-wheel	Nolan, Thos.	Ditto	Contused wound at junction of fingers with palm of right hand	Employed as platelayer. Attempted to snatch some tools off the rail, slipped, and got his hand beneath wheel of truck.

LIST of Accidents in Inspector Griffin's District for Year 1910—continued.

Date of Accident.	Name of Mine.	Locality.	Cause of Accident.	Name of Sufferer.	Married or Single.	Nature of Injuries.	Particulars.
1909. 24 Nov.	Anchor Tin Mine	Lottah	Rush of stuff in overburden sluiceway	Richards, Wm.	Ditto	Fracture of right leg bone below the knee	Was employed attending to nozzle and firing out stones at overburden-race; a sudden rush of sludge and stone caught him, and carried him down the race.
26 Nov.	Tasmania Gold Mining Co., Ltd.	Beaconsfield	Fall of stone in stope	Vernal, George	Ditto	Clean fracture of left thigh bone	Was trimming down stope-face preparatory to erecting a set; a piece of stone fell, striking and fracturing his left thigh.
26 Nov.	Ditto	Ditto	Cap falling	Medwin, Thos.	Single	Calf of right leg bruised	Was lifting a cap into position at 1200-ft. level; it slipped and fell, catching him on the calf of right leg.
26 Nov.	Ditto	Ditto	Meddling with machinery in motion	Dunstan, Geo. Henry	Ditto	Bruised or broken thumb	Engaged at battery; attempted to bolt tappet together, caught his thumb between fixed and moving tappet.

MR. INSPECTOR HARRISON (Zeehan) reports:—

Accidents.—In submitting my annual report for 1910 I am pleased to be able to state that there have been no fatal accidents during the year. The number of non-fatal is 13. As will be seen by the accompanying list, most of them were not of a very serious nature.

Ropes and Cages.—These have been attended to in accordance with the regulations.

Ventilation.—Ventilation of the mines has been, with a very few exceptions, good, and there have been no complaints.

Magazines.—Magazines are kept clean and in good order. Several fresh ones have been added to the list, including three on the Balfour field, and one at Whale's Head.

Prospects of the Field.—In May last the Tasmanian Smelters closed down, and caused a considerable depression in mining. In November the Oonah Smelters and Mine both closed down, with the result that a large number of miners left the field for the neighbouring States. But with the resumption of work at the Tasmanian Smelters, which I understand takes place very soon, we may look forward to the reopening up of the mines on a much better and permanent basis. In the meantime, extensive works are in course of erection at Rosebery, to treat the large sulphide lodes in that district.

Tin mining on the Coast is making rapid strides, the output for the year being 409'32 tons, as compared with 259'201 tons for 1909. The Dundas field is extending in area to a considerable extent, and more mills to treat the ore are in course of erection. The Stanley field is opening up well, and will add very considerably to the output during the present year. On Heemskirk there are a few parties doing well.

Sulphur Ore.—A good output is kept up by Bruce's tribute on the Oonah Mine and the Chester Mine at North Pieman.

In conclusion, I feel justified in stating that I am confident the present year will prove far more prosperous than 1910.

LIST of Accidents in Inspector Harrison's District for Year 1910.

Fatal, 0 ; non-fatal, 13 ; total, 13.

Date of Accident.	Name of Mine.	Locality.	Cause of Accident.	Name of Sufferer.	Married or Single.	Nature of Injuries.	Particulars.
1910.							
10 Jan.	Magnet	Magnet Range Dundas	Timber falling	Parker, George	Married	Right leg broken	While putting in a set of timber pulled it over on himself.
1 Apr.	Hercules	Dundas	Fall from stope	McKenzie, Arthur	Ditto	Two ribs broken	Slipped and fell from leading stope to drive.
21 Apr.	Oonah	Zeehan	Fall of rock	Keogh, James	Ditto	One rib fractured	Fall of rock from side of stope in which he was working.
16 May	Ditto	Ditto	Ditto	Smith, Joseph	Ditto	Broken leg	Ditto
21 June	Mt. Bischoff	Waratah	Fall of earth	Hes, Mont-gomery	Ditto	Bruised leg	Fall of earth in open cut.
14 Aug.	Magnet	Magnet Range	—	Wallace, J. J.	Single	Cut on hand	Caught with sharp piece of ore.
17 Aug.	Ditto	Ditto	Blasting	Evans, Richard	Ditto	Bruised leg	Struck by a stone from a shot.
25 Aug.	Oonah	Zeehan	Slip of ore	Flaherty, Thomas	Married	Small bone in left leg broken	Slip of ore from a soapy head.
5 Sept.	Ditto	Ditto	Fall of ore	King, Cornelius	Ditto	Right leg broken	Fall of rock from wall of stope, loosened by shot-firing.
14 Sept.	Magnet	Magnet Range	Fall of a stone	McElwee, Charles	Single	Cut on both legs and head	A stone fell from an upper stope where a man was working.
4 Nov.	Ditto	Ditto	Ditto	Smith, John	Married	Cut on leg	Fall of a piece of rock from the roof of the stope in which he was working.

16 Nov.	Renison Bell	N. Dundas	Explosion	Anderson, George	Single	One eye badly injured	Anderson was getting a charge ready, when the cap exploded—a coil of fuse, a box of caps, and several plugs of gelignite went off.
26 Nov.	Mt. Bischoff	Waratah	Trucking	Jones, Vivian	Ditto	Cut hand	Trucking with strong arm on side of truck; hand struck against the timbers.

MR. INSPECTOR CURTAIN (Queenstown) reports:—

Accidents.—The accompanying tabular statement shows the number of accidents reported and investigated during the year 1910. Those which followed so quickly in October gave that period notoriety which was unwarranted, as according to the evidence adduced at the subsequent enquiries nothing of a culpable or negligent nature was elicited. Each case possessed features that were particularly its own, and which could not be foreseen prior to its occurrence. All, however, were found free from any degree of danger greater than that which prevailed for the past decade—the unit of time usually allotted for review, when statistics are under investigation, and not a selected period that may be made to serve any purpose. The others registered, with their accompanying remarks, explain their purport, and need no further mention in this report.

Health of the Miners.—This, on the whole, from medical testimony, remains satisfactory. Cases of lung trouble have been mentioned, but it is questionable if their origin was solely attributable to causes contracted while working in our mines. Age, and complaints incidental thereto, with other causes have been brought under medical notice, but proportionately these are not greater in the case of miners than in some other occupations. Woodcutters are greater sufferers from pulmonary troubles than underground men. Naturally, when the latter contract silicosis or siderosis their case is usually hopeless, and for that reason it is seriously desired that stringent measures should be taken to prevent either form making its appearance in our mines.

Ventilation.—This, on the whole, is very good. No additional sinks having been attempted, the stopes from the different levels have been connected with those overhead, and induces a current that is perceptibly agreeable throughout, while the temperature is likewise constant, and only in rare places found to register 16 centigrade; the reading on the plats being lower, while the carbon dioxide in the most remote parts of the workings did not in any case exceed 0.15 per cent., which it may be assumed assimilates any trace of monoxide gas, which is much more pernicious.

Dust.—This unfortunately is evident where rock-drills are in operation, especially while boring “uppers.” Attempts have been made to abate it by the use of hydro-pneumatic “atomisers” (sprays), but the system was not approved of by the men, and quickly went out of commission. Recently water jets, which were some time ago recommended, have been installed at the North Lyell Mine, and, it is pleasing to state, are meeting with better recognition from the men. The last four rises have been put through with their aid, and those similarly engaged from stope 22 now speak approvingly of their utility. This question is altogether foreign to that of ventilation, for while the latter may be plentiful, it may at the same time be likewise dusty.

Latrines.—Those in the lower levels are provided with commodes that can be, when not required, hermetically closed, almost automatically; but the slight attention that is necessary for this precaution and the use of deodorants are

neglected. This in a like manner refers to the collection and temporary storage of waste food and crib-wrappers in the receptacles which are provided for that purpose.

Changing-houses.—The principal mines are provided with these accommodations; that recently erected on the Mt. Lyell being commodious and up-to-date in all its equipments.

Drinking-water.—The question of its supply underground recently cropped up, but on enquiry I failed to learn that any demand had been made for it by men working in the mines. In exceptionally hot mines, where men are subject to much perspiration, it is a necessity; but in workings like ours it is questionable whether it is wanted, the men providing sufficient tea in cans to their own liking, which is much more satisfactory. However, if a request were made to the management by those preferring water, I am sure it would be complied with. During our limited summer oatmeal-water is provided for those working in the open-cuts, while a plentiful supply of spring water is always on hand at the smelters.

Ladders.—Owing to the top portion of the winze or auxiliary shaft at the North Lyell Mine "springing" and becoming unworkable for the cages above the 600-foot level to the 300-foot—which is the lowest surface entrance—travelling communication was restricted to the main shaft, where, if anything went amiss with the hauling plant, the ladders would have to be resorted to. These, in order to provide room for the appliances connected with the pumps and air-pipes, are mounted vertically in 25-foot trapped sections or stages, and under the circumstances have come in for much discussion with the management, who pronounced their inability to comply with Rule 31 other than in the manner it permits for pump-shafts, but agreed to make other suitable connections with the surface by the rises, which has since been accomplished. Their Mt. Lyell Mine, through its recently-completed incline shaft, is similarly accommodated.

At the Lyell Blocks Mine the new shaft is 12 feet 6 inches by 6 feet 6 inches in the clear, and will permit the necessary inclination of its ladders, which is general in the other mines of the district.

Speed of Winding.—This, with the electric hoist at the North Lyell Mine, now exceeds that permitted by Rule 42 of our regulations, which necessarily needs amendment, or the practice must be curtailed. While on this matter, it may be mentioned that in addition to this, Rules 45, 46, and those portions of Sections 172 and 173 relating to machinery deal so closely with the duties of inspectors of machinery that they should be deleted from our regulations and tacked on to theirs. In support of this contention, Section 207 of our Act gives the officers of the other Department such remarkable privileges that it is difficult to understand, as the matter now stands, where the administrative powers of either of us begin or finish.

Cages.—Those in use, both single and double decked, are mounted with Miller's safety device, which is satisfactory, and if properly attended to it is questionable whether, under ordinary circumstances, it would fail in time of necessity. Its

mechanism is clear and open to observation, so that any defects may be readily detected and easily adjusted. Locally it has been improved by guides and cushion nuts for the slide and draw bars, which control the springs and add to their efficiency.

Ropes.—Those in use are improved wire ones, and practically new. They are accompanied by the maker's certificate, which in all cases comply with Rule 34 of our regulations. Under these circumstances the test therein is somewhat severe, e.g., the ordinary load at North Lyell is approximately 4 tons, and the ropes provided have a guaranteed breaking-strain of 33 tons, which complies with our factor of safety. If, however, the load is doubled with a full length of rope, the latter stretches considerably, and to my mind is not improved. Hence, if these tests—with heavy loads—are to continue, the breaking-strains should be raised to correspond with a factor of safety more in sympathy with that of the double load than that of the ordinary one. Unless this is done the test now stipulated should only be resorted to when it is considered advisable to condemn the ropes.

Signals.—It is desirable that a general code should be made mandatory throughout the State. That inaugurated at Zeehan some years ago is a really serviceable one, and with slight alteration to the sectional portion in order to suit telephone and electric signalling, could with advantage be incorporated in our general regulations. Where the latter system is in vogue portions of Rules 17 and 18 are not complied with respecting lines for danger purposes in the divisions of each shaft.

Electricity.—Dynamo and motor propulsion have practically superseded the steam engine in this district. Rules and regulations relative to this force should therefore be enacted, and put into operation without further delay. They should be simple and, as far as possible, devoid of technicalities, so that all who have to work under them may understand what is required to be complied with.

Magazines.—Those in use are kept clean, and in most instances comply with the requirements of the regulations.

Explosives.—The quantities used during the year totalled 125 tons of nitro glycerines, "cheddite," and other compounds, together with 250,000 detonators and 1,000,000 feet of fuse; that readily tells the extent of the operations that have been carried out in our mines. The chief brands underground are Nobel's Glasgow, Hamburg, and the Cape, with Curtis and Harvey's black powder and cheddite in the open-cuts and other surface workings. To combat deleterious fumes arising from the use of the higher nitro-glycerine compounds in the pyritic stopes of the Mt. Lyell Mine, an explosive named "Monobel," chiefly composed of nitrate of ammonia, has been tried, with results that are reported as satisfactory. The detonators and fuse used are obtained from reputable makers, and in no instance has complaint reached me respecting their character and efficiency.

Candles.—Those in general use have been obtained from firms manufacturing within the Commonwealth. The Mt.

Lyell Company, who are the chief consumers, having used 25 tons during the year, obtain their present supply from George Mowling & Sons, "Empire Brand," Melbourne, Victoria.

Working Conditions.—Those generally prevailing can be returned as satisfactory. Instances have occurred where care and judgment were necessary, but it is pleasing to state that in all such cases the difficulties were satisfactorily negotiated. The dust problem is meeting with consideration from the Mt. Lyell management, who are installing some 10,000 feet of piping in both mines, whereby it may be combatted by a system of water reticulation similar to that used and approved of in the rises of the North Lyell Mine, and when this is completed there should be no just cause for complaint. If there is, the only alternative will be to prohibit the use of rock-drills in dry holes, for their dust is deadly.

Future Prospects.—That of the Mt. Lyell group of mines is assured, the reserves, after considerable extraction from the North Lyell Mine, having increased instead of diminishing, which has permitted a discontinuance of sinking that may continue for the present year, the virgin ground in the levels opened providing ample opportunities of prospecting, which is kept continuously going with the diamond-drill. What this has done for the mine is only known and appreciated by the management.

A progressive policy is pursued by the Lyell Blocks, and it is to be hoped their efforts will be successful; which likewise applies to the Consols, Comstock, Tasman and Crown Lyell, and those shows at Mt. Darwin, where Messrs. Souter and Cocking have continued working so patiently. The balance of the copper mines having done no progressive work during the term, need no enumeration.

Gold.—The prospectors of the "Davie P.A." have kept going, and while somewhat disappointing, their work has revealed intermittent makes of stone carrying gold, which also refers to the old May sections, which have likewise received attention from this party. On a blow of stone formerly belonging to the old King River Company, Messrs. Elliott and Davie are following a surface show which is certainly promising. The stone paddocked shows gold freely, and the prospects generally have every likelihood of improving.

Alluvial.—The quantity reported totals 127 oz. Of this, the chief portion was obtained from a terrace at Linda, the balance of the patches barely supplying sustenance for those following this primary source of wealth.

Prosecutions.—A prosecution was entered against a powder-monkey in the Mt. Lyell Company's employment for infringing Working Regulation 154, and although successful, it was shown this regulation wanted amending.

LIST of Accidents in Inspector Curtain's District for the Year 1910.

Fatal, 6 ; non-fatal, 17 ; total, 23.

Date of Accident.	Name of Mine.	Locality.	Cause of Accident.	Name of Sufferer.	Married or Single	Nature of Injuries.	Particulars.
1910. 1 Jan.	Mt. Lyell Mg. & Ry. Co., Flux Quarry	Queens- town	Fall of stag- ing	Goodlad, John	Single	Splintered right shin-bone	The staging on which Goodlad was standing, in the face of No. 1 Bench, gave way after he had finished boring.
3 Feb.	Mt. Lyell Mg. & Ry. Co., Mt. Lyell	Gorman- ston	Struck by an uprising crowbar	Lucas, James	Ditto	The muscles on the right ear were lacerated, resulting in fatal paralysis to breathing- nerve	While "barring down" ground Lucas dislodged a piece of pyrites, which struck the bar he was using, causing it to rebound and strike him.
13 Feb.	Mt. Lyell Mg. & Ry. Co., North Lyell	Nth. Lyell	Explosion of dynamite caps	Trembath, Richard	Ditto	Flesh wounds on face and hands	Trembath, while recharging a series of battery jars, spilled some sulphuric acid, which came in contact with some detonators and caused an explosion.
22 Mar.	Mt. Lyell Mg. & Ry. Co., Mt. Lyell	Gorman- ston	Premature "bulling" explosion	Quill, Thomas	Ditto	Severe abrasions of face	Quill was assisting to bull a hole, after recharging, within a few minutes of first explo- sion; he was pouring water into the bore, when the charge exploded.

13 April	Ditto	Ditto	With a rock-drill bored into an unexploded charge of gelignite	Trice, Thomas	Uncertain	Right side of head blown off, chest and shoulder shattered, producing instantaneous death	Was working a rock machine, and while engaged in boring a "toe-hole" it was "colared" directly into an unexploded charge of the preceding series.
11 May	Mt. Lyell Mg. & Ry. Co., North Lyell	Nth. Lyell	Cage bumped on closed "dogs"	Basemore, John	Single	Shock	On being lowered down the main shaft the cage struck the "dogs" at the 500 feet level, and Basemore was injured, chiefly about the knees.
17 May	Mt. Lyell Mg. & Ry. Co., Mt. Lyell, Open Cut	Gormanston	Fall of a piece of broken spoil	Dowde, Daniel	Married	Leg fractured in two places below the knee	A piece of spoil became unstable, and rolling down, jammed Dowde against the rails of tramline.
2 June	Mt. Lyell Mg. & Ry. Co., North Lyell	Nth. Lyell	Fall of a piece of roof	Harding, Martin	Ditto	Bruised back	While Harding was shovelling in the stope a small piece of ore came away from the roof a few feet above him, and struck him on the back.
12 July	Ditto	Ditto	Fall of rock	Rebecchi, Stanley Thomas	Single	The abdominal portions of the body were severely crushed, with fatal result	Rebecchi was working in the stope, and was crushed by the fall of a large piece of ore which had been bored to come down.
16 Aug.	Ditto	Ditto	Ditto	Apps, John	Married	Crushed hip, pelvis, and vertebrae, with fatal result	Apps was crushed by the fall of a boulder in stope where he was working.

LIST of Accidents in Inspector Curtain's District for the Year 1910—continued.

Date of Accident	Name of Mine.	Locality.	Cause of Accident.	Name of Sufferer.	Married or Single.	Nature of Injuries.	Particulars.
1910. 23 Aug.	Mt. Lyell Mg. & Ry. Co., Mt. Lyell	Gorman- ston	Attempting to get on a rake of moving trucks	Cox, Charles	Single	Crushed instep and knee	Cox, in attempting to get on haulage truck in motion, slipped, and was dragged along until the rake of trucks was stopped.
31 Aug.	Mt. Lyell Mg. & Ry. Co., Mt. Lyell	Gorman- ston	Premature explosion	Bedford, Samuel	Married	Right forearm blown off; eyes, face, and other portions of body also injured	Bedford was charging a machine hole with cheddite, when a premature explosion occurred, probably owing to excessive force in tamping.
5 Sept.	Mt. Lyell Mg. & Ry. Co., Reduc- tion Works	Queens- town	Chip of metal fly- ing off while chiselling water- jacket	Bradley, Joseph	Ditto	Displacement of and injury to eyeball	Was chipping a water-jacket with a cold-set chisel when a piece flew off and struck him in the eye.
4 Oct.	Mt. Lyell Mg. & Ry. Co., Open Cut	Gorman- ston	Fall of loose boulder from spoil- heap	Jordan, Thomas	Single	Compound frac- ture of left leg above the ankle	Jordan, in trying to evade a loose piece of rock from the spoil-heap, stumbled over the tram rails, where the block came upon his leg and broke it.

10 Oct.	Ditto	Ditto	Fall of face-rock	Dent, Percival	Married	Backbone and chest crushed together, producing death	Dent had finished boring a machine hole on one of the benches when a slab of rock fell from the face where he had been working, and crushed him fatally.
10 Oct.	Ditto	Ditto	Ditto	Garner, William	Single	Bruised on back and chest by being felled by the rock that killed Dent.	Garner, who was Dent's mate, was also bruised by the same fall.
12 Oct.	Mt. Lyell Mg. & Ry. Co., Orebins	Gormanston	Fell from tipping platform into orebins	Morley, Thomas Leslie	Ditto	Right thigh and forefinger of left hand broken, facial wounds, and serious internal injuries, which caused death two days later	Morley overbalanced himself while trying to release a stick, and fell into an orebin 30 feet below, sustaining injuries which proved fatal.
25 Oct.	Mt. Lyell Mg. & Ry. Co., North Lyell	Nth. Lyell	Slip of timber	McQueen, George	Married	Second finger of right hand broken	McQueen was replacing some timber when the bar which he was using slipped, and caused the timber that he was lifting to slip also, and break his finger.
11 Nov.	Ditto	Ditto	Fall of rock-drill	Delaney, Martin	Ditto	Compound fracture of left leg above the ankle	A drill which Delaney had rigged up kicked when the air was turned on and fell on him, breaking his leg.

LIST of Accidents in Inspector Curtain's District for Year 1910—continued.

Date of Accident.	Name of Mine.	Locality.	Cause of Accident.	Name of Sufferer.	Married or Single.	Nature of Injuries.	Particulars.
1910. 22 Nov.	Mt. Lyell Mg. & Ry. Co., Reduction Works	Penghana	Explosion of uncon- trolled matte	Merange, Felix	Married	Burns to face, chest, and arms	Merange was employed at one of the smelting furnaces, and was injured by an explosion due to the escaping molten material coming in contact with a leakage of water from the jackets.
24 Nov.	Mt. Lyell Blocks Mg. Co.	Linda	Feed-pump with steam on unex- pectedly started	West-rway, Percival	Ditto	Compound frac- ture of the left arm above the wrist, with other minor injuries	Westerway was an engine- driver in charge of the com- pressing plant, and while investigating the cause of a stoppage the pump started suddenly and jammed his arm.
26 Nov.	Mt. Lyell Consols Copper Mg. Co.	Ditto	Fall of clay from side of prospect- ing shaft	Lapham, Bernard	Ditto	Cracked rib and bruised buttock	Lapham was working in a prospecting shaft when a piece of clay slipped through the wall timbers and fell upon him.
5 Dec.	Mt. Lyell Mg. & Ry. Co., Mt. Lyell	Gorman- ston	Fall of barred- down slab of pyrites	Rock, Hedley	Ditto	Deep flesh wounds on left thigh	Rock, while barring down a slab of pyrites, failed to get clear before it broke and rolled over upon him.