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THE PROGRESS OF
THE MINERAL INDUSTRY
OF
TASMANIA,

FOR THE QUARTER ENDING 30TH SEPTEMBER, 1907.

COMPILED BY

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BY ORDER OF

THE HONOURABLE D. C. URQUHART.

MINISTER FOR MINES.



Tasmania

JOHN VAIL, GOVERNMENT PRINTER, HOBART

1907.



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MINERAL INDUSTRY OF TASMANIA
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Launceston, 8th November, 1907.

THE following table shows, as far as can be ascertained, the quantities and values of Metals and Minerals raised during the quarter ending 30th September, 1907, as compared with the previous quarter ending 30th June, 1907:—

	During the Quarter ending 30th Sept., 1907.		During the Quarter ending 30th June, 1907.	
	Quantity.	Value.	Quantity.	Value.
• Gold won	ozs. 16,339·799	£ 69,407	15,984·079	67,896
Silver-lead Ore produced	tons 23,691½	151,195	21,960½	141,525
† Blister Copper produced	„ 2224	209,586	1919	228,708
Copper Ore and Copper produced	„ 122½	7744	199½	14,161
Tin Ore produced	„ 1153½	133,855	1011½	133,376
Iron Ore raised	„ 1000	400	...	...
Coal raised	„ 16,987	14,439	15,225	12,941
Wolfram Ore produced ..	„ 9¾	1267	5½	782
		587,893	...	599,389

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

† Value of gold contents deducted.

GOLD.

During the past quarter, 7886½ ozs. of gold were obtained from quartz, 219 ozs. from alluvial, 3228 ozs. by means of the cyanide and chlorination processes, 5215 ozs. from blister copper from the Mount Lyell Mining and Railway Company, Limited, and 1423 ozs. from the silver-lead bullion from the Tasmanian Smelting Company's works, Zeehan, valued at £69,407.

The following table shows the quantities obtained from the various sources on the different fields during the period under review, together with the totals for the corresponding period of 1906, and the previous quarter ending 30th June, 1907:—

	Gold obtained during the Quarter ending 30th September, 1907.					TOTAL.	Totals corresponding Quarter, 1906.	Totals for Quarter ending 30th June, 1907.
	From Quartz.	Alluvial.	Cyanide & chlorination.	From Blister Copper.	From Silver-lead Bullion.			
	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.
Beaconsfield	6689	48	2602	...	...	9339	2686½	9312½
Mathinna ...	1101	...	297	...	...	1398	724	730
Mt. Victoria	} 78	102	...	...	...	180	118½	136½
Warrentinna								
Mt. Cameron	} 11	..	...	...	...	11	...	47
New Burns								
Creek.....	7½	...	329	...	...	39	207½	80½
Lefroy	} ...	65	...	...	...	65	78	48
Lisle								
Golconda ...	} ...	4	...	5215	1423	6642	6179½	5721½
West Coast.								
TOTALS	7886½	219	3228	5215	1423	17,971½	...	...
Totals corresponding Quarter, 1906.....	1153½	321	2380	5449	691	...	9994½	...
Totals for Quarter ending 30th June, 1907.....	7218	237	2918½	4119	1584	...	...	16,076½

Value £69,407; equal to 16,339,799 ozs. fine gold.

BEACONSFIELD.—The quarter's statistics for the district are as follow:—

	Gold produced. ozs.	Men employed.
Tasmania Mine.....	8535	604
Tasmanian Tailings Syndicate..	704	18
North Tasmania.....	52	12
Others.....	48	30
Total.....	<u>9339</u>	<u>664</u>

Tasmania Mine.—Fifteen thousand three hundred and eighty-eight tons quartz crushed, and 8535 ozs. gold obtained (by amalgamation and chlorination), which makes a total of 673,075 tons quartz crushed, and 687,819 ozs. gold obtained since the mine was first started.

Mr. C. F. Heathcote, A.M.I.C.E., the general manager, reports:—During the past quarter Grubb shaft has been continued, the total depth now being 1270 feet. Included in this sink is a large opening for temporary plungers, 40 feet long by 22 feet 6 inches wide. Hart shaft has been continued to a depth of 1230 feet; stopped at present owing to fear of cutting too much water.

LEFROY.—The quarter's statistics are as follow:—

	Gold produced. ozs.	Men employed.
New Pinafore.....	87	13
Creek Cyanide	125	12
Wilson's Cyanide	61	8
Digney P.A.	15	3
Fullerton & Clark P.A.....	7½	2
Prospectors and others.....	41	21
Totals.....	<u>336½</u>	<u>59</u>

Lisle, Golconda, &c.—Sixty-five ozs. of gold have been won from these fields. Twenty-nine men have been employed.

New Burn's Creek.—Eleven ounces of gold have been won during the quarter. Four men employed.

Mt. Victoria.—Fourteen men have been engaged in these mines, winning 78 ozs. of gold from 113 tons quartz crushed.

Alluvial Gold and Dredging Companies.—Gold has been obtained by the following companies in streaming tin:—

	Standard Gold.
	ozs.
Briseis Tin Mines.....	20½
New Brothers' Home.....	5¼
South Mount Cameron	32
Ringarooma Dredge	13¼
Dorset Dredge.....	12
Gladstone Dredge.....	19
Total	<u>102</u>

MATHINNA.—The quarter's statistics are as follow:—

	Quartz crushed.	Sand treated.	Gold produced.	Men.
	tons.	tons.	ozs.	
New Golden Gate .....	...	...	...	50
Tasmanian Consols.....	3400	3189	1398	77
Others .....	...	...	...	39
	<u>3400</u>	<u>3189</u>	<u>1398</u>	<u>166</u>

New Golden Gate.—The directors report as follows:—During the six months ending 31st July, 835 tons of quartz have been crushed, and 1137 ozs. of retorted gold have been obtained at the battery, valued at £4421 8s. 11d. From this, also 8 tons of pyrites were obtained by concentrating tables, containing 217 ozs. of gold, valued at £812 3s. 4d., and the tailings and slimes treated by cyanide of potassium produced 30 ozs. of gold, valued at £118 5s. 10d., which, together with interest on fixed deposit, £80, made a total revenue of £5431 18s. 1d.

The cost of raising and crushing quartz, treating concentrates, tailings and slimes, repairs and renewals to plant, progressive and surface works, and all other expenses incidental to working the mine and managing the company, amounts to £4762 14s. 2d., leaving a profit of £669 3s. 11d. for the half-year.

The total quantity of quartz now obtained from the mine is 270,351 tons, which has yielded 226,413 ozs. of gold, an average of 16 dwts., 17·98 grs. per ton, and which has realised £861,191 16s. 9d. The total amount paid in dividends is £355,200, or £11 2s. per share; and the total amount paid for dividend tax is £16,638 10s.

Since the payment of the last dividend in January, 1905, 18,260 tons of quartz have been raised and crushed, the main shaft has been sunk 188 ft., two plats cut at 1800-ft. level (12 ft. × 12 ft. × 10 ft.), and 2874 ft. of cross-cutting and driving has been done in search of another payable chute of gold, the cost being £42,143 14s. 7d., which has, in the main, been met by the proceeds of the

gold won from the mine since that date. The remaining payable quartz in sight and cash in hand are sufficient to carry on prospecting operations for another six months, and during this period the West and East reefs, which were strong, though poor in quality at the 1600-ft. level, will now to be seen at 1800-ft. level, and something of their value ascertained

WEST COAST.—Four ounces have been reported as received from 4 men, but no returns have been received from alluvial workers at Darwin, &c.

TIN.

The statistics for this metal for the past quarter are as follows:—

	Ore won.		Men employed.	
	tons.	cwt.	Europeans.	Chinese
Northern and Southern Division	15	...	28	..
North-Eastern Division.....	711	9	909	91
Eastern Division.....	148	17	367	24
Western Division.....	41	7	72	...
North-Western Division.....	236	6	433	...
Totals.....	1153	7	1809	115

NORTH-WESTERN DIVISION.

The output has been as under:—

	tons.	cwt.	Men employed.
Mount Bischoff	185	0	280
Mt. Bischoff Extended	23	14	47
Waratah Alluvial.....	4	0	5
Wombat Mine	3	0	3
Mount Cleveland.....	...	...	30
Others	0	12	6
Mt. Balfour	20	0	62
Totals.....	236	6	433

Mt. Balfour.—Mr. F. Gaffney reports:—The great drawback to this field is the want of a road from the mines to Whale's Head Harbour, distant about 18 miles. At present everything has to be carried on pack-horses, a mode of carriage which would be useless for conveying heavy machinery, and makes freights and living on this field very dear.

Mt. Bischoff Extended.—Mr. W. Gullock, manager, reports:—Mine opening-up well; cut splendid tin lode at 1000 ft. from Mount, in western crosscut, and in places equal to 30 per cent. tin oxide; other parts of mine in good order, and giving a good percentage of tin in ground worked—about 2 per cent.

THE MINERAL INDUSTRY

NORTH-EASTERN DIVISION.

RINGAROOMA DISTRICT:—

	Tin ore won.		Men employed.	
	tons.	cwt.	Europeans.	Chinese.
Tin-pot Creek Mine	2	6	14	...
Cascade River.....	4	2	22	6
Black Creek.....	5	3	14	...
Dorset River	3	2	23	...
Dunne's Creek.....	0	16	8	...
Gorge Creek	0	16	4	...
Mount Maurice.....	2	1	12	...
Bell's Hill	2	18	12	...
Hope Creek	1	11	3	..
Ruby Flat	0	13	2	...
Ringarooma River.....	0	1	2	...
Totals	23	9	116	6

PIONEER AND GLADSTONE DISTRICTS:—

	Tin ore won.		Men employed.	
	tons.	cwt.	Europeans.	Chinese.
Pioneer Tin Mine	50	10	100	...
Pioneer Extended	15	18	25	...
Argus Tin Mine	14	8	20	...
South Mt. Cameron	33	12	45	...
Ringarooma Dredge	10	0	19	...
Dorset	16	0	17	...
Mussel Roe	5	14	14	...
Gladstone Dredge	15	3	13	...
White Rock	1	3	6	..
Purdue Tin Mine	0	0	22	...
Garibaldi.....	10	7	22	4
Miners' Claims.....	26	10	69	5
Chinese Claims	17	16	...	44
Totals	217	1	372	53

Mt. Horror Claims.

	Tin ore won.		Men employed.	
	Tons.	cwt	Europeans.	Chinese.
Wilberforce Pump Co.	5	12	7	...
North-Eastern	5	10	12	...
Others	1	19	10	...
Total.....	13	1	29	...

DERBY DISTRICT:—

	Tin ore won.		Men employed.	
	tons.	cwt.	Europeans.	Chinese.
Briseis Tin Mines.....	257	6	140	...
New Brothers' Home, No. 1.....	99	10	20	...
Briseis Extended	22	6	36	...
Other Derby Claims	5	19	26	11
Total.....	385	1	222	11

BRANKHOLM DISTRICT:—

	Tin ore won.		Men employed.	
	tons.	cwt.	Europeans.	Chinese.
Arba Tin Mine.....	5	2	45	...
New Ruby Flat	23	12	21	...
South Arba	2	15	6	...
Other Brankholm Claims.....	4	7	5	21
Total	35	16	77	21

MOORINA DISTRICT:—

	Tin ore won.		Men employed.	
	tons.	cwt.	Europeans.	Chinese.
Weld Tin Mine	9	12	7	...
Wyniford Tin Mine	7	15	12	...
Native Youth	6	10	9	...
Abbotsford	1	13	7	...
Moorina	2	12	7	...
Mutual Hill .....	...	...	15	...
Main Creek .....	...	5	7	...
Other Moorina Claims	6	18	17	...
Total.....	35	5	81	...
Mount Strobach Tin Mine .	1	16	12	...
<i>Total for North-Eastern Division</i>	711	9	909	91

EASTERN DIVISION.

	Tin ore won.		Men employed.	
	tons.	cwt.	Europeans.	Chinese.
<i>Weldborough Mines.</i>				
Weldbrook Tin Mine.....	23	10	30	...
Fancy Creek Co.	7	8	14	...
Weldborough	3	11	6	...
Cambria	1	2	4	...
Eyers & Party	3	15	4	...
Bryce Bros.	3	18	6	...
W. Gardiner	1	4	2	...
Chinese (Weldborough).....	2	19	...	20
Other Claims	9	9	25	...
Total	56	16	91	20

THE MINERAL INDUSTRY

<i>Lottah and Blue Tier Mines.</i>	Tin ore won.		Men employed	
	tons.	cwt.	Europeans.	Chinese.
Anchor Mine	49	...	122	...
Australian	1	12	2	...
Other Claims	4	9	28	...
Chinese Claims .....	...	5	...	3
Total	55	6	152	3
<i>St. Helens Mines.</i>				
McAuliffe & Party	4	10	3	...
A. Williams	2	18	7	1
J. C. Macmichael	2	10	8	...
Royal Ruby Co.	2	6	6	...
S. Miller ..	1	11	4	...
J. Smith	1	...	2	...
Deep Lead	1	1	2	...
F. Budgeon .....	...	19	4	...
Others	2	7	17	...
Total	19	2	53	1
<i>Avoca Mines.</i>				
Gipp's Creek.....	7	...	12	...
South Esk Co.	1	7	4	...
Mount Rex Co.....	...	17	12	...
Others.....	8	9	43	...
Total	17	13	71	...
<i>Total for Eastern Division</i>	148	17	367	24

WESTERN DIVISION.

	Tin ore won.		Men employed.
	tons.	cwt.	Europeans.
Renison Bell	8	0	13
Heemskirk Claims.....	3	11	3
Montana Tin Co.	12	0	21
Munro & Co.	3	10	16
Yorke & Co.	4	15	14
Brumby's Section	4	3	5
Emu Bay Railway	5	8	...
Total	41	7	72

NORTHERN AND SOUTHERN DIVISION.

Shepherd and Murphy Mine.—Fifteen tons 8 cwts. tin ore concentrates were raised, and 28 men employed.

SILVER.

WEST COAST.—The registered output of silver ore in the Western Division for the quarter ending 31st September is given below:—

	Ore.	Tons.	Value. £	Men.
<i>Zeehan Mines:</i>				
Mount Zeehan, Tas.	galena	1737	30,242	240
Zeehan-Montana	"	1181	19,085	240
Zeehan-Western	galena &c	463	6769	126
Zeehan-Queen	"	72	571	14
Silver Queen Extended	galena, &c.....	44	808	12
Oonab	"	1171	4334	65
Silver King	galena	21	296	6
Florence	"	388	5907	100
Watts' Section	"	58	701	6
Austral Valley	"	292½	4354	47
Zeehan Bell	"	180	1955	44
Section 1914	gossan	10¼	92	2
" 1064	galena	6	113	3
Nubeena	"	2½	31	6
Section 1846 Comstock	"	14¾	275	3
Queensberry	"	21	212	12
New Mt. Zeehan	"	97½	469	11
Tas. Smelting Co., Balstrup	"	37	599	5
Sylvester	"	20	128	8
South Comstock	"	21	289	10
<i>Dundas Mines:</i>				
Comet	galena & gossan	2328½	3646	65
West Comet	fluxing ore	4104	1779	47
Hercules	{ zinc-lead	4617	20,186 }	80
Red Lead	{ zinc-ore	644	1819 }	2
	" .....	...	...	2
<i>Rosebery Mines:</i>				
Primrose .....	.....	...	...	11
Tasmanian Copper	lead-sulphide	3054	11,819	37
<i>Mt. Farrell Mines:</i>				
Mt. Farrell	galena.....	30	710	22
North Mt. Farrell	"	994	11,928	150
Mackintosh Mine	"	38	798	7
Murchison River	"	153	2154	70
<i>Sundries:</i>				
Tasmanian Smelting Co. ....	.....	...	...	320
Sundry Companies .....	.....	...	...	98
Prospectors, &c. ....	.....	...	...	337
Total .....	.....	21,800	132,069	2206

Mount Zeehan (Tasmania).—Mr. T. Vincent, manager, reports:—
Spray Mine: looking well; have sunk main shaft to No. 6 level; opening-out to cut lode; total depth below adit level, 1450 feet; resumed sinking No. 1, or New Spray, shaft, and making excellent progress; no fresh development to report underground; prepara-

tion is being made for installation of plant at No. 5 (Balstrup's) shaft, and sinking should be commenced early in the coming quarter.

Zeehan-Montana.—Mr. J. Craze, manager, reports:—Exploratory work is being carried on at Nos. 5, 6, 7, and 8 levels, by driving on Nos. 2, 6, and 8 lodes. No. 2 lode has been found north of the slate at Nos. 5 and 6 levels, showing payable ore. This has apparently opened up a new part of the mine, as previous to this discovery nothing has been done or found north of the slate slide. No. 8 lode is now being driven on at No. 7 level at a good payable point. Generally speaking, the mine is looking well, and is likely to continue the present output for some years to come.

Zeehan-Western.—Mr. J. Craze, manager, reports:—No fresh discovery has been made during the quarter, although a very considerable amount of exploratory work has been carried out. The lode is being stoped at No. 11, or 800-ft. level, by tributors, the ore being of exceptionally high silver values. The assay value of the last parcel sold was 77·3 per cent. lead and 148·5 ozs. silver, worth £30 per ton. During the quarter preparations have been made to continue sinking the shaft. Everything is now in readiness for this, and sinking will be started as soon as money is available from the Government grant.

Silver Queen Extended.—Mr. Chas. Stevens, manager, reports:—Developmental work carried out is as follows:—477 ft. driven, stoped, risen and sunk during the quarter.

Oonah.—Capt. W. Fisher, manager, reports:—The option has expired, but arrangements are being completed for an extension of option for 12 months from 1st October to allow of experiments being carried out in treatment of the stannite ore. The optionees are driving a crosscut E. at No. 4, and crosscuts W. at Nos. 5 and 6 levels. Work on the stannite lode has been suspended. Tributors are winning a fair quantity of sulphide ore from the old workings.

Silver King.—Capt. W. Fisher, manager, reports:—The property is still under option. Peppard is erecting pumping and winding machinery, and will be ready to start sinking next week. Cowburn has driven south for 97 feet on a lode with 8 inches of galena and blende.

Tasmanian Copper Company.—Mr. G. Barker, manager, reports:—No. 4 level: main drive north is being extended, and there is a fine body of payable ore showing. No. 2 level is also opening up very well. There is a large body of ore opened up into blocks ready for stoping. Main adit: this adit is 120 ft. below our bottom level, and is being made wide enough for a double line of way.

Tasmanian Smelting Company.—Mr. T. Kapp, manager, reports:—

Ore bought during the quarter, 13,666 tons, containing—	
3196 tons lead of a gross value of	£63,508
407,580 ozs. silver of a gross value of	£53,220 standard.
1389 ozs. gold of a gross value of	£5556
Total	<u>£122,284</u>

Exported 2769 tons bullion, containing—368,942 ozs. silver, and 1423 ozs. gold.

NORTH-WESTERN DIVISION.

Magnet Mine.—Mr. E. A. De Lautour, general manager, reports:—1831 tons of silver-lead ore were exported, of a gross value of £18,212, and consigned to New South Wales and Zeehan. During the quarter the main shaft has been sunk to No. 8 level, and the chamber cut. We are now crosscutting for the lode. No. 7 level is opening-up well. Some of the stopes are 30 ft. wide, and produce average-grade milling ore. The whole of the steam plant for driving the mill has been replaced by water-power. Water has been brought in from a distance of 3 miles, and gives an effective head of 408 feet at the mill. The plant runs very satisfactorily. Owing to the steady and constant running the output has increased some 15 per cent. The mill treats 450 tons per week. Alterations and additions are being started so as to increase its capacity to about 750 tons. The 10 miles of tramway have been rebalasted throughout. The drying plant, compressor, and locomotives are all in good working order. One hundred and ninety-three men employed.

Long Tunnel Mine, Mt. Stewart.—Fifty-seven tons of silver-lead ore were raised, valued at £844. Ten men employed.

Confidence Mine.—Two men were employed.

NORTHERN AND SOUTHERN DIVISION.

Devon Mine.—During the quarter 3½ tons galena were raised by 5 men.

COPPER.

Mt. Lyell Mine.—Mr. Robt. Sticht, general manager, reports:—The ores and metal-bearing fluxes treated during the quarter ending 30th September were as follow:—

	Dry weight.			
	tons.	cwt.	qrs.	lbs.
Mt. Lyell Mine ore.....	68,385	19	0	25
North Lyell Mine ore	30,518	4	2	7
By-products from Crotty.....	9	13	3	8
Purchased ore.....	220	4	3	0
North Lyell Mine	417	0	3	8
Lyell Tharsis	3984	3	1	7
	<u>103,535</u>	<u>6</u>	<u>1</u>	<u>27</u>

Quantity and value of metal produced :—

	£	s.	d.
B blister Copper, 2224 tons, containing—			
Copper, 2194 tons, valued at.....	186,110	8	9
Silver, fine, 179,547 ozs., valued at.....	23,475	15	5
Gold, fine, 5215 ozs., valued at	22,163	15	0
Total.....	£231,749	19	2

Number of men employed :—

At the Company's Mt. Lyell Mine	358
" " North Lyell Mine.....	479
" " Lyell Tharsis Mine.....	25
" " Royal Tharsis Mine	1
" " Reduction Works.....	1003
Railway Department—Mt. Lyell Railway	146
" " North Lyell Railway	21
Total	2033

Mt. Lyell Mining and Railway Company's Mines.—Inspector Curtin reports:—At the Iron Blow pyritic ore continues to be won in the open-cut workings. The chief sources of supply are No. 4 and the benches below this level. Increased quantities of high-grade and fluxing ores are drawn daily from the workings of the North Lyell Mine, the most important centres of supply being the 700-ft. and 850-ft. levels. Development work is kept well ahead of immediate requirements, and, consequently, both the main and auxiliary shafts have been sunk 150 ft. below the lowest, or 850-ft. level, at which depth (1000 ft. below the crest of the open-cut workings) preparations are being made to open the next, or No. 8 level. At the Reduction Works an extra, or No. 12, furnace, of increased capacity, has been added to the No. 2 plant, and is nearing completion. A substantial building is also being erected in order to house and seat another tier or nest of turbine-blowers, which it is stated will supersede those now in use in the old power-house.

Mt. Lyell Blocks Mine.—Mr. Robert Ferguson, manager, reports :—Eleven thousand one hundred and thirty-two tons of cupriferous clay have been mined and concentrated, for a return of 89½ tons of fine copper, valued at £6069. The underground work comprised 853 ft. of driving, 469 ft. of rising, 48 ft. of crosscutting, and a winze sunk 37 ft., with a corresponding amount of stoping. One hundred and ninety-five men were employed. Owing to the fall in the price of copper and the low grade of the ore, operations in the productive parts of the mine have ceased for the present, and only a sufficient number of miners have been kept on in order to keep the main entrance in useful repair for future requirements.

Mt. Lyell Consols.—Mr. Hy. Hoyle, manager, reports:—The concentrating plant has been completed, and given an initiatory run on 200 tons of clay, which proved amenable to treatment. A quantity of overburden was removed, and 323 ft. were driven on the cupriferous clay. Thirty-five men employed.

Tasman and Crown Lyell Extended Mine.—Mr. Ed. Carter, manager, reports:—The rise from the 70 ft. intermediate has holed through to the winze sunk towards the end of No. 2 adit on the sulphide lode. Forty feet have been driven south from this intersection on bands of fair-grade concentrating ore. From the main, or No. 3 level, a drive has been put out east 50 ft., and cut another ore body, which gives favourable prospects. Ten men were employed.

Crown Lyell Mine.—Mr. Wm. Madden reports:—During the quarter 100 ft. were added to the west adit workings, which now total 275 feet, and show a little copper in the schist throughout. Four men were employed.

Thompson P.A (Mt. Darwin).—Prospecting work has been recently resumed, with two men.

DUNDAS DISTRICT:—

	tons.	£	Men employed.
Ring River Mine	3½	251	9
Ring Valley Mine	2¾	1264	14
	<u>6¼</u>	<u>1515</u>	<u>23</u>

Walford Peak P.A.—This association has employed 11 men prospecting at Lake Dora.

NORTHERN AND SOUTHERN DIVISION.

Burnie Copper Mines.—The returns from these mines are 27 tons copper ore, valued at £160. Thirty men employed.

WOLFRAM.

The output of wolfram during the quarter was as follows:—

	tons.	cwt.	£	Men.
Shepherd and Murphy Mine.....	0	5	32	...
Claims on Ben Lomond	9	10	1235	19
Total.....	<u>9</u>	<u>15</u>	<u>1267</u>	<u>19</u>

COAL.

The output this quarter was 16,987 tons, against 15,225 tons the previous quarter. The output of the respective collieries was as follows:—

Colliery.	Tons raised.	Men employed.
Mourt Nicholas Colliery	6625	70
Cornwall "	7782	60
Spreyton "	354	8
Ilamatha "	30	2
York Plains "	94	2
Sandfly "	1768	60
Woodbridge "	10	1
Mount Cygnet "	324	2
Total	<u>16,987</u>	<u>205</u>

IRON.

The Tasmanian Iron Company at Penguin raised 1000 tons of iron ore, with 12 men, valued at £400.

CONCLUSION.

The number of men engaged in the mining industry remains about the same (7859). The aggregate value of the mineral output this quarter has been £587,893, compared with £599,398 for the previous quarter. The difference is entirely due to the fall in the market prices of metals, which has unexpectedly supervened on highly favourable rates; for any differences which exist in quantities raised are in every case increases for this quarter. Thus, under gold, there has been an increase of 355 ozs., under silver-lead 1731 tons, under copper 228 tons, under tin 142 tons, under iron 1000 tons, under coal 1762 tons, under wolfram $3\frac{3}{4}$ tons. The market changes are likely to stimulate rather than curtail our production of silver-lead and tin ore, but are unfavourable to untried copper mines of low grade. Prices, however, are still above the critical limit, and there has been of late an increased number of men engaged in prospecting ground for fresh deposits.

The following return shows the average number of men employed in or about the mines during the quarter ending the 30th September, 1907:—

District.	European.	Chinese.	Total.
Northern and Southern	906	...	906
North-Eastern	923	91	1014
Eastern	682	24	706
North-Western	638	...	638
Western	4595	...	4595
Total	<u>7744</u>	<u>115</u>	<u>7859</u>

Value of mineral output per man employed:—£74 16s. 1d.

Dividends paid by Mining Companies during the quarter ending 30th September, 1907:—

	£	s.	d.	£	s.	d.
From Copper Mines.....		Nil				
From Gold Mines		Nil				
From Tin Mines:—						
Bischoff T.M. Co., Registered.....	9600	0	0			
Pioneer Tin Mining Co., Limited.....	4725	0	0			
New Brothers' Home No. 1 T.M. Co., N.L.....	4500	0	0			
Wilberforce Pump Co., No. 1, N.L.	150	0	0			
Briseis Tin Mines, Ltd.....	22,500	0	0			
New Ruby Flat T.M. Co., N.L.	1522	0	0			
Gipp's Creek Tin	150	0	0			
				42,547	0	0
From Silver Mines:—						
Mount Zeehan (Tas.) S.L. Mines, Limited	11,440	0	0			
Zeehan Montana Mine, Limited	8000	0	0			
West Comet Pros. Syn., N.L.....	252	0	0			
Magnet S.M. Co., N.L.	2000	0	0			
North Mt. Farrell Mining Co., N.L.	3497	0	0			
				25,189	0	0
Total				£67,736	0	0

APPENDIX I.

Report by the Government Geologist on the New Imperial Mine, north of Gladstone.

The mining work is situated 6 miles north of Gladstone, in Lot 141, 3150 acres, held under a pastoral lease by Malcolm Cross, and $1\frac{1}{2}$ mile west of the Great Mussel Roe River. The shaft is $12\frac{1}{2}$ chains W.N.W. of the north-western corner of Grove's purchased land, north of the Mussel Roe Marsh.

The country is covered with a thin covering of recent alluvium, which stretches away to the mouth of the Boobyalla to the west, and in a level plain to the granite peak of Mt. William, on the east. The plutonic boss of this mountain, rising 700 ft. above the sea, is visible in the distance, dominating the level grass-tree plain and marsh country all round.

A mile or two south of the mine, on John Foster's land, a low ridge of Mesozoic diabase runs east and west for some distance, but this rock is entirely unrelated to the mineral deposits. The country in which the quartz reefs occur is composed of slate and sandstone, presumably of Ordovician age. The reefs themselves are doubtless connected with underlying granite. The great granite mass of the Mt. Cameron range is not far to the south (at Glad-

stone), and a granite exposure, a few miles in extent, was reported by Mr. Chas. Gould about a couple of miles north of this mine. It is charted on his map of part of the County of Dorset, and it might be useful to verify this, and prospect for contact ore deposits round its margins.

The Portland reef is a little over 2 miles south of the New Imperial; and the Blue Bell reef, parallel with the New Imperial one, was sunk upon to a depth of 200 ft., and a crushing taken out at about 1000 ft. south. Other reefs exist in the neighbourhood. All have features which stamp them as belonging to one natural group, viz., that of the arsenical gold quartz veins, which are often found in Tasmania, either in or near granite masses. The reef minerals in this group are arseno-pyrite, galena, and zinc blende. The oxidised parts of the reefs show free gold, but in depth the gold is generally locked up in the pyrites.

A good many years ago a shallow shaft was sunk on this reef. From accounts, the reef at the bottom was split up into auriferous veins. It is now filled in. About 10 ft. south-east of it a new prospecting shaft has been put down 26 ft. on a reef, apparently striking N. 25° W., and a cuddy opened west across the reef from the bottom of the shaft. In the floor of the shaft is a formation of metamorphic sandstone veined with quartz, and about 3½ ft. wide. This is succeeded on the west in the cuddy by 4 ft. of slate and sandstone, then by 18 in. of quartz and 6 in. of pyritic matter. The samplings which I took have been assayed by the Government Analyst with the following results:—From the floor of shaft: 8 grains gold per ton (comparatively little pyrites was present in this sample). From the cuddy: 13 dwts. gold, 7 dwts. silver per ton.

This corresponds fairly well with the results reported by the promoters of an assay of 1 cwt. stone taken by them from surface and across the lode in course of sinking, and made at the Ballarat School of Mines. Some assays have been published as returning from 2 to 2¼ ozs. per ton, but it is scarcely necessary to mention these, except to say that they are in agreement with what might be expected from samples from different parts of an arsenical pyrites lode. Numerous assays of the Portland lode stuff (a lode of the same description) gave from 1 to 3 ozs. gold, and more of silver. Some trenching has been done on the supposed course of the New Imperial reef, but nothing very definite can be learned from the different excavations. One of the first things to be done in the way of prospecting this reef is to expose it for some length on its course by deep trenching, and if it is seen to be fairly continuous, a new prospecting shaft can be sunk with some confidence that the stone will be fairly permanent. The reef can then be explored, with a view of locating payable shoots along its course. An alternative course is to sink straight away and prove the reef in depth at the point where it has been opened upon and shown to be gold-bearing.

APPENDIX II.

Report of the Government Geologist on the Country between Lefroy and Back Creek.

There is a stretch of country forming the divide between the Lefroy Basin and Back Creek which has been hardly prospected at all, though it is intersected by numerous quartz reefs and iron-stone formations. It is in the southern part of the broken hill range, which abuts on the sea-coast at Black Rock and 14-mile Bluff, and is in a direct line, 7 miles from the shore-line.

It is not more than 3 miles north-east of Lefroy, and extends really to Back Creek, which makes it unaccountable why the stream of prospectors flowing to and from those centres has never been arrested midway by this rather inviting area. Its geology is comparatively simple, as the country consists of slate, sandstone, and quartzite, referred in Tasmania to the Ordovician system. The strike of the strata is about N. 30° W., with a general dip to the S.W. In the Back Creek basin these are overlaid by Tertiary basalt and infra-basaltic auriferous drifts of middle Tertiary age. No intrusive igneous rock appears in the district. The nearest signs of granite are boulders and stones of this rock, which may be seen in alluvial ground on the east side of Slaty Creek, above the bridge on the George Town-road, and a little further along the road towards George Town, where a little prospecting was done a few years ago, under the impression that the occurrence was a granite outcrop. Similar stones are seen near the Volunteer, south of Lefroy, and Mr. Richards, of George Town, informed me that he has recently discovered some solid granite, a few miles N.E. of George Town, on the iron ore reward claim. It is probable that these boulders mark the line of underlying granite, though the fact that the stones which are found are of different varieties of granite makes one hesitate.

The reefs throughout the area under review observe, for the most part, a strike corresponding with that of the Lefroy lodes, namely, approximately, east and west, or a little north of east and south of west; only when they follow the planes of the country do they assume directions nearer to north. The reefs, therefore, form a series north of and parallel with the Lefroy reefs. There is another set of reefs in the district which conform in direction with the north-westerly strike of the strata. Many of these reefs are formations of clayey iron oxide or slaty gossan, sometimes carrying inter-laminated quartz. They apparently occupy the place once occupied by the country rock, afterwards penetrated and replaced by pyrites, bearing silica, and finally becoming what they now are by oxidation of the pyrites. Such formations frequently carry free gold, which has been probably released from the pyrites. They have not been followed down by mining works sufficiently deep to trace their change into normal quartz reefs in depth, but there is no reason to doubt that this change takes place.

What is their exact connection with the ordinary quartz reefs of the district is difficult to say until more is learned of their occurrence and behaviour. Mr. Alex. Montgomery, a former Government Geologist, considered that they had no connection with the auriferous series of lodes. Since then, however, gold has been found in them. From an occurrence at W. G. Barker's show, where a normal quartz reef impinges on one of these ironstone lodes, I am inclined to think that the latter type is of slightly earlier date than the ordinary quartz series.

In this district, and apart from the Back Creek field, where three or four parties are working, three parties are carrying on work at present, which may be described as of a prospecting nature.

Messrs. Hart, Gaunt, and Barker are sinking to prove an ironstone reef on of their three 20-acre prospecting claims. Mr. Ignatius O'Keeffe is prospecting quartz reefs south of Mr. W. Barrow's farm, and Mr. Barrow is proving a quartz reef south of the track to Back Creek. This is all the work going on over an area of several miles of country.

Hart, Gaunt, and Barker's Sections (H. No. 1 Mine).—In about the middle of the central section in February last, Mr. W. G. Barker made a gold discovery at the contact of a quartz reef, striking N. 75° E., and dipping N.W., with an ironstone or gossan formation striking N. 30° W., and dipping S.W. The quartz reef has been cut across at surface by 13 trenches and excavations in a distance of 340 feet. Its width varies from a track to a couple of feet. No gold has been found in this reef apart from the contact occurrence. At the north-east end of the line of trenches the sinuous strike of the country slate and of the gossan formation mentioned above brings the latter again into contact with the line of the quartz reef. An assay of the gossan has given 2 dwts. per ton.

A small shaft, 14 ft. deep, was sunk at the other end of this line where the gold was first found, as much as 3 ozs. per ton, and the reef was driven on both ways for 28 ft. without finding gold. Its width was 1 ft. Twenty feet west another shaft was sunk (the 36 ft. shaft), and openings were made at 10 ft., 19 ft., and 36 ft. At 10 ft. a connection was made with drive from the 14 ft. shaft. In the roof of the level the footwall of the quartz reef, dipping W., is shown, abutting on the footwall of the gossan formation dipping S. Specimens of gold were obtained from this drive close to the contact of the iron and quartz. Small leaders of quartz penetrate the gossan, and the latter then yields good prospects of gold. The quartz reef is not seen for 12 or 14 ft. in this drive, which has been extended west from the shaft for 26 ft. At the 19 ft. a crosscut has been opened for 24 ft., cutting through the gossan, which widens from a few inches to a foot. The country is softer for a foot above and below the flat gossan, consisting of reddish streaky slate. The gossan dips at a low angle, 30°. An assay has returned 2 dwts. 16 grs. per ton.

At the 36-ft. a level has been driven east and west (253°) 17 ft. E. and 49 ft. W. along the course of the quartz reef. The east drive shows the reef in end 1 ft. wide, but barren. The slate country in the drive strikes N. 30° W. The reef in the west drive is followed on the south side, but towards the end appears to have broken, and to have been recovered only in the north arm of a "T" crosscut at the end of the level. No gold having been met with in this level there does not seem to be much encouragement for continuing work on the quartz reef.

A couple of chains to the south-east of this shaft is an excavation called the central shaft, which has been sunk partly on the underlay of the gossan lode for 11 ft., and a drive then opened out for 17 ft. under the flat gossan. The gossan here is barren, or yielding only a trace of gold.

A main shaft is now being sunk 36 ft. to the south of the 36-ft. shaft, and has now reached a depth of 80 ft. It has passed through the gossan reef, and is being continued to below ground water-level, when a crosscut will be opened out and the reef proved. Where passed through in the shaft at 35 ft. down the gossan shows only traces of gold by assay, but in depth it is hoped that the iron oxide will have been replaced by gold-bearing quartz. At any rate, this is the best way of ascertaining what these ferruginous formations really are below the superficial zone of alteration. The ironstone channel is underlaying away from the quartz reef as it descends, and there can be no further junctions of the two. The latter will probably continue on its course for an indefinite distance; but the former is the reef which has to be proved at this mine, and only continued work can show at what depth an alteration in the filling will take place.

W. C. Barrow's Shaft.—This is on a reef about $\frac{1}{4}$ -mile north-east of the farm, about 2 ft. wide, and striking N. 80° E., with a southerly dip. It has been trenched upon in four places east of the shaft, but some of the trenches have not been deep enough. The shaft is sunk on the reef to a depth of 20 ft. The stone is white quartz, with some impregnations of finely-divided galena. This is one of the few reefs in the district which are mineralised, but the location in it of any gold-shoot would be purely speculative work, though the presence of galena is an indication that it is auriferous at some point in its course.

O'Keeffe's Section.—Mr. Ignatius O'Keeffe has uncovered an iron stone reef south of Barrow's farm, striking 303° , and has prospected about on surrounding formations, of which there are several.

Back Creek.—This district is one of the alluvial leads which were at one time worked by a large number of men, and are estimated to have yielded between 9000 and 10,000 ozs. gold. Spurs running in a south-easterly direction carry down alluvial drift in lines known as Old Lead, Red Lead, White Lead, into the Back Creek basin. The two latter leads, at their eastern

terminations plunge beneath a Tertiary basaltic lava sheet. These leads, which are mostly on the hill slopes, therefore belong to a time prior to the flows of lava, when their present channels were the bottom of their respective valleys. The White Lead is the most northerly of the three, and is about $\frac{1}{4}$ -mile long by a couple of chains in width. The white clay of the wash has given the lead its name. Parry and Birkett's claim comprised perhaps the richest ground. The wash consists of sandy clay, white vein quartz, and ironstone. The ground has been worked over and over again. Its depth is from 2 to 7 ft.

Gilham's shaft is at the head of the White Lead. A small shaft has been sunk here recently to a depth of 10 ft., and a short drive has been put in for 17 ft. south, cutting a reef with a south-east strike and a north-east dip, but the level is too shallow and the stone too poor to claim much attention.

North of the above is Gilham's reef, near the top of the spur, and 70 ft. above the gully. A reef of kindly-looking-quartz 2 ft. wide has been cut through. It strikes north-west and dips south-west. The stone is iron-stained, but barren. It was worked some years ago. This side of the spur has not received much attention, but it has no doubt shed some of the gold found in the lead.

The Red Lead is so called from the ferruginous nature of its wash; is three times the length of the White Lead, and is separated from it by a low spur. The drift is often a red cemented sand, 17 or 18 ft. deep. A great number of diggers' holes exist everywhere, generally 12 or 13 ft. deep. William Birkett has some alluvial workings in it, and is now attempting to drain the flat. Both above and below his workings is dirt valued at 1 oz. to $1\frac{1}{2}$ oz., but nothing could be done here owing to the water. Further north, Easter and Gibbons are working the furthest claim on this lead, which runs up against the dividing saddle at the Franklin mine.

On the north side of the saddle is the old Australasian slate quarry, and on this side, too, there is deep ground, 25 to 30 ft. deep.

There is nothing in any of the reefs hitherto discovered at Back Creek to lead one to suppose that they were the source of all the gold obtained from the leads. The principal source has still to be discovered. There has been a good deal of prospecting from first to last, and it is surprising that some valuable reefs have not been found, especially as the angular character of much of the gold and quartz shows that the auriferous stone and gold have not travelled far. It may be that future prospecting work will be more successful. One thing is certain, viz., that careful and intelligent prospecting cannot fail to throw light on the subject.