

MININD1905_2

THE PROGRESS OF
THE MINERAL INDUSTRY
OF
TASMANIA

FOR THE QUARTER ENDING 30TH JUNE, 1905.

COMPILED BY

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BY ORDER OF

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MINISTER OF MINES.



Tasmania:

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1905.



PROGRESS OF THE
MINERAL INDUSTRY OF TASMANIA

FOR THE QUARTER ENDING 30TH JUNE, 1905.

Launceston, 29th September, 1905.

The following table shows, as far as can be ascertained, the quantities and values of Metals and Minerals raised during the quarter ending 30th June, 1905, as compared with the previous quarter ending 31st March, 1905:—

	During the Quarter ending 30th June, 1905.		During the Quarter ending 31st March, 1905.	
	Quantity.	Value.	Quantity.	Value.
		£		£
* Gold won ozs.	16,170·296	68,687	17,696·523	75,170
Silver Lead Ore raised ... tons	17,701	54,896	14,940	53,034
† Blister Copper produced ..	1967	152,778	1981	157,732
Copper Ore and Native Copper produced..... ..	215½	11,903	319½	13,865
Tin Ore produced..... ..	927¾	82,662	741½	61,882
Iron Ore produced	1600	700	1700	700
Coal produced	13,283	11,291	12,372	10,516
Wolfram Ore produced... ..	9½	747	6¾	480
Bismuth Ore produced.. cwt.	15	200		
...		383,864	...	373,379

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

† Value of gold contents deducted.

GOLD.

During the past quarter 8432¼ ozs. of gold were obtained from quartz, 113 ozs. from alluvial, 1670¼ ozs. by means of the cyanide

and chlorination processes, 6006 ozs. from blister copper from the Mount Lyell Mining and Railway Company, Limited, and 185 ozs. from the silver-lead bullion from the Tasmanian Smelting Company's works, Zeehan, valued at £68,687.

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 1904, and the previous quarter ending 31st March, 1905:—

	Gold obtained during the Quarter ending 30th June, 1905.							Totals corresponding Quarter, 1904.	Totals for Quarter ending 31st Mar. 1905.
	From Quartz.	Alluvial.	Cyanide & chlorination.	From Blister Copper.	From Silver-lead Bullion.	From Sulphide Ores.	TOTAL.		
	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.		
Beaconsfield	5890 $\frac{3}{4}$	3	1182	...	...	...	7075 $\frac{3}{4}$	6390	9040
Mathinna ...	2473	...	238	...	...	...	2711 $\frac{1}{4}$	3312 $\frac{1}{2}$	3456
Mt. Victoria	} 25	...	...	...	...	...	25	49 $\frac{1}{2}$	27 $\frac{1}{2}$
Warrentinna		...	...	...	...	...	...	...	...
Lefroy	43 $\frac{1}{4}$	22	250 $\frac{1}{4}$	...	...	...	315 $\frac{1}{2}$	337 $\frac{1}{2}$	210 $\frac{1}{4}$
Lisle	} ...	45	...	...	...	...	45	128	...
Golconda ...		...	...	...	...	...	...	...	...
Mangana ...	...	...	...	...	...	...	...	166	...
Bell Mount.	...	2	...	...	...	...	2	15	...
West Coast.	...	41	...	6006	185	...	6232	7646 $\frac{67}{100}$	6080 $\frac{5}{10}$
TOTALS	8432 $\frac{1}{4}$	113	1670 $\frac{1}{4}$	6006	185	...	16,406 $\frac{1}{2}$	...	...
Totals corresponding Quarter, 1904.....	8964 $\frac{1}{4}$	216	1274 $\frac{1}{4}$	5849	825 $\frac{19}{100}$	915 $\frac{1}{2}$	...	18,044 $\frac{16}{100}$	...
Totals for Quarter ending 31st Mar., 1905.....	11,080 $\frac{1}{2}$	105 $\frac{13}{100}$	1583	5604	441	...	...	...	18,814 $\frac{3}{10}$

Value £68,687; equal to 16,170·296 ozs. fine gold.

BEACONSFIELD.—The quarter's statistics for this field are as follows:—

	Gold produced, ozs.	Men employed.
Tasmania Mine.....	7000	700
North Tasmania.....	72 $\frac{1}{4}$	13
Other Companies & Prospectors	3	25
Total.....	<u>7075$\frac{3}{4}$</u>	<u>738</u>

Tasmania Mine.—Nine thousand four hundred and fifty-eight tons quartz were crushed, and 7000 ozs. fine gold obtained (by amalgamation and chlorination), which makes a total of 550,882 tons of quartz crushed, and 614,170 ozs. gold won since the mine first started.

Mr. C. F. Heathcote, the general manager, reports as follows:— During the last quarter the new boiler-house, 120 feet long by 82 feet wide, and 52 feet to the ridge-cap, has been completed and roofed. The engine-house for Grubb's shaft is now in progress, length 140 feet by 37 feet 6 inches wide. Grubb's shaft has been sunk and timbered a total depth of 378 feet, this shaft being 32 feet 1 inch long by 8 feet 6 inches in the clear, timbered with 15-inch square timbers. The pumping-plant now at work at the mine is capable of dealing with a total of about 5,250,000 gallons per day.

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

	Gold produced, ozs.	Men employed.
New Pinafore.....	132½	18
McIvor Syndicate.....	43¼	8
H. Ping and Co.....	42	5
Sludge Creek Syndicate.....	69½	9
Jas. Wilson.....	6½	6
Lanham and party.....	6½	4
Sundry.....	15½	41
Total.....	315¼	91

Mr. J. T. Stubs, manager of the New Pinafore, reports:— Operations at this mine confined to surface prospecting north of Youth and south-west of Point reefs. On the former some gold-bearing veins have been cut, which, from their position, may have shed some of the gold obtained from the alluvial now being worked a few chains north. About 60 feet driving has been done, and prospects warrant the sinking of another shaft to a depth of 60 feet, which is now being done. On the latter, a tail-race has been cut, and prospecting is being carried out by means of shallow drives and small shafts. The alluvial wash, which is angular, carries rough reef-gold, so that there is every chance of a reef being discovered in the vicinity. The necessary capital to carry out the above work is being derived from treatment of old battery slimes by cyanide. The Nugget P.A. is also doing surface prospecting, and trying to locate the reef which shed the alluvial gold, but so far without much encouragement. McIvor and party, having found reef-gold and small specimens in the wash on their section, eventually cut the reef which shed these, and have since proved it to carry gold down to 30 feet from surface. The reef is small, but carries some good stone, as a crushing was obtained

from stoping to surface, when 13 tons yielded 43½ ozs. retorted gold. Good specimens are being obtained further along the line, and it is intended to further prove the property. A large number of prospectors are at work on the various reefs, and there exists a better feeling than for some time past. In addition to the New Pinafore, three cyanide plants are at work, namely, two on Sludge Creek and one on West Chum tailings; these all show small profits, besides finding employment for a number of boys and carters. Lanham and party have cut about a mile of race, and are busy ground-slucing, and anticipate fair returns. Efforts are still being made to induce capitalists to exploit the deep lead, both at Lefroy and Back Creek.

LISLE AND GOLCONDA.—Forty-five ozs. alluvial gold were won from the Lisle field. Thirty-six men have been engaged in these districts.

MT. VICTORIA.—The Long Struggle employed 7 men, and obtained 25 ozs. gold from 32 tons quartz. Twelve men were engaged at the New River. Work at the Ringarooma Gold Mine is to be resumed by a local syndicate, which has acquired the property.

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

	Quartz crushed. tons.	Gold produced. ozs.	Men.
New Golden Gate	4830	1831	175
" " 4815 tons Sand	...	298	
Tasmanian Consols	540	409½	74
Miners' Dream	12	40	3
Volunteer Consolidated...	425	186	32
King Edward	40	7	5
Other mines and claims...	...	...	45
	<u>5847</u>	<u>2711½</u>	<u>334</u>

New Golden Gate.—The stopes continue to show large quantities of stone, but of lower grade than has ruled hitherto. The reef has not been picked up south of the No. 2 main slide. Gold-bearing stone has been met with in the reef at the 1600-foot level. The manager recommends advancing the 1400 and 1600-foot levels on the reef to the main slide, and connecting same by winzes; then proving the reef below the bottom level by sinking a large winze on same. The electrical pumping-plant is proving a great success.

WEST COAST.—*Lake Jukes Mine.*—Mr. H. S. Muir reports that the 5-head battery is in course of erection. Owing to the nature of the ground, the transit of all material from the railway has been difficult, and progress necessarily slow, but a start will be made during the ensuing quarter. Six men employed.

Coronation Mine, Lynchford.—Mr. Jno. Havill, manager, reports that the south-east drive from the 70-foot level has been suspended, and driving begun direct east from a point closer to the shaft. Although a good deal of work has been done, nothing permanent has been discovered so far. Four men employed.

May Gold Mine, Lynchford.—Owing to delays in dismantling and delivering a water-wheel purchased at Heemskirk, this property is practically at a standstill, but the abovementioned plant will be placed in position, and its value ascertained. Four men employed.

Woody Hill Mine.—Messrs. Murray Bros. report that they are rising between Nos. 2 and 3 adits, so as to pass the most profitable stone to the battery-hopper with only one handling. Six men employed.

Alluvial Mining.—Fourteen men were employed, and the gold disposed of locally amounted to 41 ozs.

TIN.

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

	Ore won.		Men employed.
	tons.	cwts.	
Northern Division.....	5	5	15
North-Eastern Division.....	433	19	608
Eastern Division.....	146	4	358
North-Western Division.....	324	9	254
Western Division.....	18	0	70
Total.....	927	17	1305

The tin output this quarter shows an increase of 25 per cent. on the production of the previous quarter. The continued rise in the market price of the metal and the increasing attention paid to our stanniferous deposits by Victorian investors have caused a great revival in tin-mining.

NORTH-WESTERN DIVISION.—At and near Waratah the output has been as follows:—

	tons.	cwts.	Men employed.
Mount Bischoff	318	0	230
Waratah Alluvial.....	3	0	4
Stanhope Alluvial	1	9	4
Wombat.....	2	0	2
Weir's Bischoff Surprise .....	...	...	10
Bischoff Taylor.....	...	...	4
	324	9	254

THE MINERAL INDUSTRY

MT. BISCHOFF.—During the half-year the following quantities have been treated:—

	Crushed.	Produced.		
	tons.	tons.	cwt.	qrs.
60-head battery.....	38,874	391	3	3
15-head battery	10,901	145	7	0
Slime sheds.....	...	87	3	1
Ringtail sheds .....	...	12	6	0
	<u>49,775</u>	<u>636</u>	<u>0</u>	<u>0</u>

The stamps crushed 4·808 tons per stamphead per 24 hours. The percentage of ore was 1·259. The total output of ore since the formation of the company is 64,138 tons 18 cwts. Mr. H. W. Ferd. Kayser, general manager, publishes the following analysis of the cost of mining, crushing, and dressing a ton of crude ore:—

	s.	d.
Mining, including new work, maintenance, &c.....	2	10·132
Filling, hauling, and emptying trucks.....	0	5·660
Crushing, dressing, and maintenance of plant.....	0	10·286
Slime sheds.....	0	1·190
Ringtail sheds.....	0	2·144
Management and supervision.....	0	8·649
Plant, including all machinery.....	0	2·165
Development and progressive work, diamond drilling, &c....	0	5·127
Waterworks.....	0	0·075
Ore bagging	0	0·459
Stores.....	0	6·445
Sundries.....	0	0·589
Electric light.....	0	0·490
Total.....	<u>6</u>	<u>5·411</u>

NORTH-EASTERN DIVISION.—Ringarooma District:—

	Men employed.	
	Europeans.	Chinese.
Maurice River	0	6
Dorset River.....	1	5
Hope Creek.....	0	3
Britannia Creek.....	0	3
Nugget Creek.....	0	1
Cascade River.....	3	0
Black Creek	2	4
Bell's Plains.....	0	3
Dunn's Creek	0	2
Total	<u>7</u>	<u>7</u>
		<u>40</u>
		<u>8</u>

BRANXHOLM DISTRICT.—

	Tin ore won.		Men employed.	
	tons.	cwts.	Europeans.	Chinese.
Arba Mine.....	45	3	33	...
New Ruby Flat.....	3	0	11	...
Contact Mine.....	1	2	3	...
S. Hawkes.....	2	10	3	...
Ruby Flat Claims.....	0	8	7	...
Arba Claims.....	0	6	...	7
	52	9	57	7

DERBY DISTRICT.—

	Tin ore won.		Men employed.	
	tons.	cwts.	Europeans.	Chinese.
Briseis Tin Mines	20	15	145	...
Briseis Extended .....	...	...	32	...
Cascade River.....	6	2	13	25
Main Creek, Abbotsford Mine...	3	0	5	...
Main Creek Claims	0	17	8	...
Sarah Ann, Main Creek	0	10	5	...
	220	4	208	25

Briseis Tin Mines.—Mr. Lindesay C. Clark, general manager, reports:—121,200 c. yards of overburden were removed, and 54,050 c. yards drift sluiced, yielding 155 tons 2 cwt. stream tin. At the New Brothers' Home No. 1, 28,362 c. yards of overburden were removed, and 61,700 c. yards of drift sluiced, yielding 54 tons 13 cwts. stream tin. The rainfall at the mine was 3.60 inches in April, 8.48 inches in May, 7.74 inches in June; and the average water-supply, 146 Tasmanian sluice-heads, of which 42 were from the Cascade, 9 from the Main Creek, and 95 from the Ringarooma. Owing to the increase in the water available during this quarter, there has been an increase in the removal of the overburden and in the quantity of drift sluiced, as compared with the preceding month. The fallen overburden and debris in Krushka. Bros'. old face is now nearly removed, and it will soon be possible to operate on the good ground left by them some years ago.

Prospecting has been carried on throughout this district actively, and capital seems to be ready for any genuine and remunerative claim, as well as for the development of any ground which is considered worth developing.

MOORINA DISTRICT.—

	Tin ore won.		Men employed.	
	tons.	cwts.	Europeans.	Chinese.
Native Youth	3	18	9	...
Moa Mine.....	3	6	7	...
Moorina Tin Mine.....	2	10	7	...
Weld Tin Mine	2	10	9	...
Argus Tin Mine.....	3	10	6	...
	15	14	38	...

PIONEER AND GLADSTONE DISTRICT.—

	Tin ore won.		Men employed.	
	tons.	cwts.	Europeans.	Chinese.
Pioneer Mine.....	98	0	100	...
Argus Mine	0	16	6	..
Hee Sung.....	4	0	...	9
San Tan Kee.....	1	12	...	10
South Garibaldi Mine.....	5	11	6	5
Wilson, Pioneer.....	0	3	1	...
Kip Kit, Pioneer.....	1	3	...	10
Wilberforce Pump.....	2	10	3	...
Boobyalla Claims.....	0	16	4	...
South Mt. Cameron Mine...	16	1	20	...
Cybele Tin Mine.....	3	10	6	...
J. Simpson, South Mt. Cameron.....	1	15	3	12
Scotia.....	...	...	11	...
Gladstone Claims	2	8	18	1
	138	5	178	47
<i>Total North-Eastern Division</i>	433	19	521	87

EASTERN DIVISION.—The following are the statistics for the quarter:—

	Tin ore obtained.		Men employed.	
	tons.	cwts.	Europeans.	Chinese.
<i>Weldborough Mines.</i>				
Weldborough Tin Mining Co.	3	1	6	...
Weldbrook Tin Mining Co...	0	12	5	...
Cascade Tin Mining Co.....	0	10	...	6
Cream Creek	0	12	4	...
Bryce Bros.....	1	12	3	...
J. Evers.....	0	16	4	...
Chinese Claims.....	9	1	...	40
Other Claims.....	5	7	16	...
Total	21	11	38	46
<i>Lottah and Blue Tier Mines.</i>				
Anchor Mine	59	19	124	...
Australian Mine	2	16	9	...
Liberator Mine.....	0	8	2	...
Lottah Claims.....	1	1	10	...
Blue Tier Claims.....	0	8	4	...
Chinese Claims	0	12	...	5
Total	65	4	149	5
<i>St. Helens Mines.</i>				
Royal Ruby	5	9	7	...
Thureau's Deep Lead.....	0	16	3	...
Macmichael and Co.....	2	18	6	...
Miller and Co.	2	3	4	...
Other claims	4	11	22	2
Total	15	17	42	2

	Tin ore obtained.		Men employed.	
	tons.	cwts.	Europeans.	Chinese.
<i>Avoca Mines.</i>				
Mount Rex	31	7	38	...
South Esk	11	15	12	...
Dalrymple.....	...	...	22	...
Other Claims	0	10	4	...
Total	43	12	76	...
<i>Total Eastern Division.....</i>	<u>146</u>	<u>4</u>	<u>305</u>	<u>53</u>

Anchor Mine.—Mr. J. B. Lewis, manager, reports:—For the quarter ending 30th June, 32,026 tons of ore have been crushed, for a return of 59 tons 19 cwts. of tin oxide. Early in April heavy rain fell, enabling the battery to start with a full number of stamps. The rain, however, did some damage, carrying the deposits of drift, &c., of many months of dry weather into races in spite of sludge-traps and tanks, and causing some loss of time. Nor was the beneficial effect permanent, for before the end of the month, the number of stamps crushing was reduced to half. May was the wettest month on record, the fall exceeding that of the previous seven months, and reaching over 24½ inches. For one period of twenty-four hours, the fall reached nearly 6 inches; for two others, each exceeded 4¼ inches; and in seven days reached 14 inches. Damage to races by blocks and slips occurred, but not of a serious character, and there was little loss of time caused to battery, as the new storage-bin carried it over the periods of wettest weather when faces could not be worked. The heavy rains made ore wet and sticky, and difficult to get through chutes, crushers, &c. This caused reduction in quantity crushed. The new Heclon crusher is now running, and is capable of reducing about 600 tons of ore in 8 hours, from pieces the size of 2 or 3 cubic feet to that of road-metal. The re-arrangement of plant is not yet completed, and the full advantage of new plant is not felt yet. The appearance of faces is better than it has been for many months, and the tin returns are at present satisfactory. An alluvial flat below the battery, of about 15 acres area and about 12 feet deep, is now being worked by means of a jet elevator. This wash is very heavy, and does not contain a high percentage of tin, but the working costs are low.

NORTHERN DIVISION.—

	Tin ore won.		Men employed.
	tons.	cwts.	
Shepherd and Murphy.....	3	10	12
Conder's Section.....	1	15	3
Total.....	<u>5</u>	<u>5</u>	<u>15</u>

WESTERN DIVISION.—

	Tin ore won.		Men employed.
	tons.	cwts.	
Mayne's Tin Mine	8	0	10
Tasman River Mine.....	0	10	2
Other Mines &c.....	9	10	58
Total	18	0	70

Tasman River Mine.—Captain W. Fisher, manager, reports:— It has been decided to put in an elevator, but there has been no progress in fitting this up, as, owing to exceptionally wet weather, the claim is under water. Two men have been employed prospecting the old St. Dizier ground, and sluicing has been started, with fair prospects.

In the present revival of the tin industry, the West Coast fields are perhaps not receiving their fair share of attention. The Federation and Renison Bell properties are now likely to be developed. The Stanley River tinfield, however, warrants more expenditure and work than have been put into it up to the present.

SILVER.

WEST COAST.—The registered output of silver ores in the Western Division for the quarter ending 30th June was as follows:—

	Ore.	Tons.	Value.	Men.
<i>Zeehan Mines:</i>				
Mount Zeehan, Tas.	galena.....	2221	£ 16,749	202
Zeehan-Montana	tailings	468	148	222
Zeehan-Western	galena	180	2444	111
"	various ores.....	445	1501	
Zeehan-Queen	galena	775	1357	42
"	tailings	1140	460	
South Comstock	galena.....	252	1520	35
"	zinc blende... ..	61	201	
Oonah	galena and gossan...	341	540	15
Silver King	tailings and gossan...	1136	371	8
Watt and McAuliffe	carbonates	38	47	11
Nubeena	low grade ore.....	28	10	11
Silver Queen Extended	galena and gossan...	13	98	16
New Mount Zeehan	slimes and tailings...	84	66	6
Florence Mine	galena	280	2488	60
<i>Dundas Mines:</i>				
Red Lead	flux	720	350	4
West Comet	"	2500	1100	20
S. W. Curtin-Davis	fahl ore	27	263	6
Comet	galena, gossan, &c...	1526	2455	41
Ring Valley	fahl ore	106	1085	18

<i>Rosebery Mines :</i>				
Primrose	mixed sulphides.....	936	702	24
<i>Mt. Farrell Mines :</i>				
North Mt. Farrell	galena.....	350	3200	75
Murchison	"	176	959	16
Tasmanian Smelting Co. ....	.....	...	...	200
Prospectors and sundry claims..	.....	...	...	154
	Total	<u>14,649</u>	<u>48,095</u>	<u>1297</u>

Mt. Zeehan (Tasmania).—Mr. T. Vincent, manager, reports:—Spray Mine, No. 4 level extended 600 feet; 520 feet payable; winze below No. 4 level, 50 feet, payable, prospects excellent. Good progress made in clearing site for new main shaft, which is to be sunk at once. Queen Extended Mine: Production for the quarter has been the best for some time. Nos. 10 and 30 lodes show pay-ore in their respective faces, the latter being a large producer. The mine generally never looked as well as it does now.

Zeehan-Montana.—Mr. J. Craze, manager, reports:—During the quarter two new shoots of ore have been cut at Nos. 5 and 6 levels. At No. 6 level No. 2 lode, which has not been operated on below No. 2 level, was cut, and, although driven on 200 feet at No. 6 level, it showed no trace of ore. A rise was put up on the lode from No. 6 level, and after rising 20 feet the lode began to improve. The rise was continued upward for 160 feet, having passed No. 5 level 40 feet, a crosscut west from No. 4 lode at 80 feet cut the lode, which has proved most productive. At present the lode is being driven on north at No. 6 level, without ore. The lode is composed of carbonate of iron, 4 feet wide. At No. 5 level the lode is being driven on north and south, both drives in payable ore. No. 3 lode, No. 6 level: this lode in the upper levels became poor at about 80 feet from surface, and although driven on both at Nos. 1 and 2 levels for several hundred feet, and developed by rises and stopes, showed little or no ore; and work on it was consequently abandoned. It was cut through by crosscuts at every level, from No. 2 to No. 6, but showed only a small flucan marking the track. At No. 6 it has been cut again, by driving south-east from the south drive off No. 8 lode, at a point 220 feet south of the main east crosscut, and here it is 3 feet wide, carrying 3 to 6 inches of clean galena, the remainder being fair milling ore. It is interesting to note that the new ore-shoots mentioned above, both in Nos. 2 and 3 lodes, have been found directly below the ore-shoots worked in the upper levels, there being an unproductive blank between the two shoots. The shaft is down 45 feet below No. 7 level, but sinking is discontinued for a time, owing to the increase of water caused by cutting these new

shoots and heavy rains. At No. 3 shaft the work of stoping on Nos. 2 and 4 lodes is still in progress, and the shaft has been sunk to 42 feet below No. 3 level, or 340 feet below surface.

Zechan-Western.—Mr. Jno. Craze, manager, reports:—The lode cut at No. 11 level east of shaft has been driven on 90 feet north and 30 feet south. Occasional small bunches of clean galena have been met with in driving, but with long stretches of barren lode between. The east crosscut has now reached 228 feet from shaft, and the old west lode will be cut shortly. Tributors are engaged stoping ground opened by the Company.

Oonah Mine.—Captain W. Fisher, manager, reports:—The lode known as the kaolin lode is just about opened up, and in in a fair way to produce regular supplies of gossan. The seam of kaolin and gossan averages some 8 inches wide, and contains 60 ozs. silver per ton. The gossan tunnel lode declined in silver contents, and stoping had to be stopped. Four men were kept on, and after a month's persistent prospecting, a seam of gossan 12 inches wide was cut in a rise, with 50 feet of backs. A bulk sample of 10 tons is ready to go to the local smelters as a test. There are 2000 tons of low-grade sulphides in hand, which are being sent to the smelters as trucks can be obtained. The average value of 140 tons sent was 16 ozs. silver per ton. The stannite workings have been stopped since April, the lode in the south end, where the last work was done, being 4 feet wide, but poor and unprofitable. Taken as a whole, the mine looks better than for some time past.

Zechan-Queen.—Mr. T. H. Vincent, manager, reports:—Have driven 111 feet on No. 3 lode, No. 2 level, without as yet meeting with anything of payable character. Stopes on Clarke's lode at No. 1 level are producing galena and stannite in payable quantities.

Silver King.—Captain W. Fisher reports:—As the smelting company now takes any ore carrying a few ounces of silver and units of lead, the Silver King has been able to supply over 1100 tons of gossan flux and tailings, and has still good reserves in hand. On Section 468 a shaft was sunk on a small seam of galena down to water-level (25 feet), the lode driven on north 48 feet, and a rise put through to the surface, which block is now being stoped. The lode is very small, but good.

Silver Queen Extended.—Mr. Chas. Stevens, manager, reports:—The work done was principally driving and stoping, all above water-level.

Florence Mine.—Mr. F. K. Astell, manager, reports:—Main shaft, No. 1 level: south lode has been driven a further distance of 60 feet, and north and south crosscut has been extended 50 feet. No. 2 level: south lode has been driven on north and south 250 feet, and stoping commenced. Currie's lode driven on 100 feet further, and stoping carried on.

DUNDAS AND MT. READ.—*Ring Valley*.—Mr. John Moyle, manager, reports:—Development work for past quarter comprises stoping, rising, and driving Nos. 1 and 2 levels. The former is extended to 1049 feet, and the latter to 640 feet, but no important development has occurred.

Tasmanian Smelting Works.—Mr. T. Kapp, manager, reports:—Ore purchased during the quarter ending 30th June, 9551 tons, containing 2412 tons lead, 333,576 ozs. silver, 172 ozs. gold. Bullion exported: 2334 tons lead, value £29,928; 298,809 ozs. silver, value £35,708; 185 ozs. gold, value £783; total value, £66,419.

NORTH-WESTERN DIVISION.—

	Ore produced. tons.	Value. £	Men employed.
Magnet Mine.....	2791	4811	135
Long Tunnel.....	261	1990	20
Godkin.....	...	...	6
	<u>3052</u>	<u>6801</u>	<u>161</u>

Magnet Mine.—The new mill was started on the 17th April. The main shaft has been sunk to 77 feet, and the chamber cut at the 66-foot level (No. 6). A very important development has taken place at this level, the lode being struck, 23 feet in width, consisting of about 5 feet of high-class ore and 18 feet of seconds, with highly argentiferous blende. The assays of the first-class ore range from 150 to 300 ozs. silver per ton.

COPPER.

Mount Lyell Mine.—Mr. Robt. Sticht, general manager, reports:—The quantities of ore treated and metal produced during the quarter ending 30th June were as follows:—

Ores and metal-bearing fluxes treated:—

	tons.	Dry weight		
		cwts.	qrs.	lbs.
Mt. Lyell Mine ore	75,619	13	2	21
North Lyell Mine ore	27,447	12	2	22
Purchased ore.....	178	12	0	17
Metal-bearing flux from the N. Lyell Mine	1797	1	0	16
	<u>105,042</u>	<u>19</u>	<u>2</u>	<u>20</u>

Quantity and value of metal produced—

	£	s.	d.
Bliester copper, 1967 tons, containing —			
Copper, 1943 tons, valued at	133,484	2	0
Silver, fine, 173,108 ozs., valued at.....	19,294	6	7
Gold, fine, 6006 ozs., valued at	25,525	10	0
	<u>£178,303</u>	<u>18</u>	<u>7</u>

Number of men employed—

At the Company's	Mt. Lyell Mine	310
"	" North Lyell Mine	493
"	" Lyell Tharsis Mine.....	9
"	" Prince Lyell Mine	2
"	" Reduction Works	1011
"	" Mt. Lyell Railway.....	118
"	" North Lyell Railway.....	16
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Inspector Curtain reports that ore-extraction has proceeded as usual at the Mt. Lyell Mine, and prospecting has been resumed south in the No. 8 level on the "contact," the face being now parallel with the old workings of the South Mt. Lyell Mine, with which a connection is to be made, in order to draw off the water and possibly further exploit this neighbouring body of pyrites.

At the North Mt. Lyell another 100 feet lift has been added to the depth of the main shaft, and preparations made for opening out and further increasing this depth when required. The winze, or auxiliary shaft, has been deepened 40 feet; and operations at the 600-foot level have had satisfactory results—which also applies to the Lyell-Tharsis property.

Prospecting continues on other sections, but so far nothing of importance has been reported. Electricity for motive purposes is being distributed, and will be applied at the haulage and winding plants of the North Lyell Mine.

Lyell Blocks Mine.—The output of copper was 174 tons, valued at £11,500. Two hundred and forty-two men employed. Stopping goes on from the office tunnel and No. 1 level of the Balance shaft, with an extension from the latter and Consols, or main tunnel, towards the ore-body which was opened by the main shaft workings. At the concentrating mill, four Phoenix-Weir tables have been added to the plant, and the manager reports favourably on their duty.

Crown Lyell Mine.—This mine has ceased operations.

Tasman and Crown Lyell Extended.—Mr. Holehan, manager, reports that in addition to finishing the winze on the sulphide lode, 42 feet of driving has been done, principally from the main or No. 3 tunnel. Five men employed.

Tasman-Comstock Consolidated.—Mr. Morley, manager, reports:—Prospecting has been continued on the western fall of Mt. Lyell, with two men.

Copper Mines of Mt. Lyell West.—Mr. Thos. Griffiths, manager, reports that 25 feet have been driven in the Razor-back tunnel. Three men employed.

NORTHERN AND SOUTHERN DIVISION.—*Copper King Mine.*—
During the quarter 41½ tons of copper ore were raised, and shipped
from Burnie to Newcastle. Eight men employed.

IRON.

The Tasmanian Iron Company, at the Penguin, raised 1600 tons
of hematite ore. Thirty men were employed. Much time was
lost through exceptionally wet weather.

WOLFRAM.

The production of this mineral has been as follows:—

	tons.	cwts.	Men employed.
Ben Lomond Mines	7	0	20
All Nations Mine	2	0	3
Shepherd and Murphy Mine.....	0	10	...
Total	<u>9</u>	<u>10</u>	<u>23</u>

COAL.

The output this quarter was 13,283 tons, against 12,372 tons the
previous quarter. The raisings at the respective collieries were
as follows:—

Colliery.	Tons raised.	Men employed.
Cornwall	5074	68
Mount Nicholas	6300	69
Spreyton (Allison's)	186	5
Illamahta (Bound's)	35	2
Dulverton Colliery	240	4
Teasdale's (Dulverton).....	104	3
Brightburn (Railton)	190	3
York Plains	107	3
Mt. Cygnet	573	6
Catamaran	374	7
Sandfly.....	100	6
Total	<u>13,283</u>	<u>176</u>

Samples of coal from mines in the Mersey basin have been taken
by Mr. M. J. Griffin, Inspector of Mines, and assayed by Mr. W.
F. Ward, Government Analyst, with the following results:—

	Fixed Carbon.	Gases, &c.	Ash.	Moisture.
Spreyton Colliery (Allison's)...	36·5	46·6	4·0	12·9
Illamahta Colliery	36·6	41·2	9·8	12·4
Dulverton Colliery.....	40·5	44·4	5·8	9·3
Brightburn Colliery	41·7	48·0	2·4	7·9

PHOSPHATE ROCK.

Some analyses have recently been made of rock containing more or less phosphoric acid (from Slopen Island, Frederick Henry Bay, with 13.56 per cent. phosphoric acid = 29.62 per cent. phosphate of lime, and from the King Island group, with 11 per cent. phosphoric acid = 24 per cent. phosphate of lime). The knowledge that a good phosphate rock quarry would be a most valuable mine, and be of use to our agriculturists, has lately prompted some search and enquiry. The Mines Department has for some years paid attention to the subject, and from time to time analyses have been made of promising rocks, but so far unsuccessfully. Still, it must be borne in mind that phosphatic limestone so frequently resembles ordinary limestone in appearance, that it may be handled and broken, and passed over indefinitely without being recognised as the rock that is sought. It is well known that phosphate rock occurrences everywhere have remained unrecognised for a long time, and so much of Tasmania still remains *terra incognita* that it is impossible to say what discoveries may yet be made. But it may be useful to form some definite idea of where it would be best to search.

Although the modes of occurrence are multiform, the sources of phosphate fall into two classes, viz., mineral and organic.

The apatite mines of Canada and Norway were at one time very important sources of supply, but their importance has diminished since the development of organic phosphate deposits in various parts of the world. Owing to the rather favourable conditions existing in the Heazlewood, Dundas, Trial Harbour, and Anderson's Creek districts, where ultra-basic rocks are penetrated by granite, &c., a development of the lime phosphate mineral might be expected. But examination of numerous rock samples has not revealed apatite in any appreciable quantity. Still, these districts are the most likely to furnish apatite veins. The Forth Valley, with its ancient gneissoid and serpentine rocks, would be another hunting ground. Mineral phosphate mines have, however, been thrown into the shade by the discoveries of phosphate deposits derived from organic sources.

Organic phosphates occur as guano, phosphate rock, coprolites, nodules, &c. Phosphate rock in Tasmania would probably occur as limestone phosphatised by the percolation of water from an overlying guano deposit. Such conditions exist in the Straits Islands, where limestone is known to occur, and where certain places must have been visited by sea-fowl for thousands of years. The limestone on Maria Island is older and denser than that in the Straits, but should also be searched. In fact, wherever limestone occurs along our coasts, especially where unprotected by any rock cover, the possibility of phosphatisation is present.

Tasmania is rather deficient in the marine sediments which are the principal sources of phosphate rock. The ancient slates and

quartz-schists of the East and West Coasts, and the coal measure sandstones, are unfavourable. The wide-spread diabase, basalt, and granite areas are still more discouraging. The extensive estuarine or freshwater sediments of the Launceston Tertiary basin, covering several hundred square miles, may possibly contain phosphatic deposits, but the paucity of animal fossil remains and the dominantly argillaceous character of the formation forbid much hope.

On the whole, the limestone areas offer most encouragement for search. The Department of Mines will readily receive any communication from discoverers of supposed phosphatic rock. An easy field-test may be made by touching the rock with nitric acid, and dropping a grain of ammonium molybdate upon it, which will give a yellow re-action if phosphorus is present. If the latter is absent, the ammonium molybdate powder will remain white. If phosphorus is present, the rock should be assayed. At the Den, near Lefroy, there is a narrow belt of wavellite rock (hydrous aluminium phosphate), the phosphoric acid of which has imparted fertility to the soil, and assisted the leguminous crops. Soluble phosphates (superphosphates) are made generally from lime phosphate rock, not alumina phosphate rock: much iron and alumina are undesirable impurities, as the superphosphate made from such rock is apt to lose its solubility.

CONCLUSION.

The values of minerals produced this quarter totalled £383,864, against £373,379 the previous quarter, being an increase of £10,485. Two hundred and fifty-nine more men were engaged in the industry this quarter. Increases in the tonnage of coal, tin, and silver-lead ore have occurred, the increase of the latter being principally due to the larger quantities of low-grade material delivered to the smelting works at Zeehan. A noticeable increase (286 tons) of tin ore is due to the augmented activity in the tin industry, and it may be added that the mining industry generally throughout the State is in an animated and healthy condition.

The following return shows the average number of men employed in or about the mines during the quarter ending the 30th June, 1905:—

District.	European.	Chinese.	Total.
Northern and Southern	962	1	963
North-Eastern	540	87	627
Eastern	796	53	849
North-Western	415	...	415
Western	3624	...	3624
Total	6337	141	6478

Value of mineral output per man employed, £59 5s. 1½d.

Dividends paid by mining companies during the quarter ending 30th June, 1905:—

	£	s.	d.	£	s.	d.
From Copper Mines—						
Mount Lyell Mining and Railway Company Limited	75,000	0	0	75,000	0	0
From Gold Mines			Nil			
From Tin Mines:—						
Bischoff T.M. Co., Registered.....	13,500	0	0			
Pioneer T.M. Co., Ltd.....	3375	0	0			
				16,875	0	0
From Silver Mines:—						
Mt. Zeehan (Tasmania) Silver-lead Mines, Ltd.....	4198	0	0			
West Comet Pros. Syndicate, N.L.....	64	0	0			
Hercules Gold and Silver Mining Co. N.L.....	5149	0	0			
				9411	0	0
Total .....	...			£101,286	0	0