

THE PROGRESS OF
THE MINERAL INDUSTRY
OF
TASMANIA,

FOR THE QUARTER ENDING 30th SEPTEMBER, 1902.

COMPILED BY

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BY ORDER OF

THE HONOURABLE EDWARD MULCAHY,

MINISTER OF MINES.



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PROGRESS OF THE MINERAL INDUSTRY OF TASMANIA

FOR THE QUARTER ENDING 30TH SEPTEMBER, 1902.

*Launceston,
22nd November, 1902.*

THE following Table shows, as far as can be ascertained, the quantities and values of Metals and Minerals raised and exported during the quarter ending 30th September, 1902, compared with the corresponding Quarter in 1901 and the previous Quarter ending 30th June, 1902:—

	During the Quarter ending 30th Sept., 1902.		During the Quarter ending 30th Sept., 1901.		During the Quarter ending 30th June, 1902.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		£		£		£
Gold won	18,549 ⁴⁰	78,793	12,714	47,677	18,435 ⁰⁸	£78,307
Auriferous Quartz and Pyrites exported.....	tons 27	491	76	1452	55	1032
Silver Ore exported.....	5741 ¹ / ₂	53,580	5190 ³ / ₄	62,184	7786 ³ / ₄	41,342
Blister Copper exported....	1552	91,500 [†]	2416 ¹ / ₄	217,762	2576	188,790 [†]
Copper Ore exported	1324 ³ / ₄	15,561	2346	33,655	1809 ³ / ₄	20,823
Iron Ore exported .....	...	...	200	200	355	355
Coal raised	14,259	12,120	16,705	14,199	10,981 ¹ / ₄	9334
Silver-lead Bullion exported	1466	49,092	749 ³ / ₄	26,215	1618 ¹ / ₄	56,635
Tin Ore exported.....	7	557	30	1600	3	36
Tin (metallic) exported	527 ¹ / ₂	66,515	469 ¹ / ₄	56,052	440 ¹ / ₄	57,975
Asbestos exported .....	...	...	...	...	...	...
Gold Quartz exported .....	...	...	12	300	...	...
Oxide Mineral exported	4	9	...	...	...	...
Gold Concentrates exported	...	...	...	...	...	...
Zinc Ore exported .....	...	...	...	...	...	...
Iron Pyrites exported.....	...	...	...	...	...	...
Copper -xported	168	5903	150	10,511	...	...
Copper Matte exported ...	325	6500	...	...	100	2000
Cyanide Slag exported ....	...	...	...	...	¹ / ₂	150
TOTAL VALUE .....	... £	380,621	... £	471,807	... £	456,779

* Fine gold, including gold obtained from blister copper and silver-lead bullion.
† Value of gold contents deducted.

GOLD.

During the past quarter 9188 ozs. 15 dwts. of gold were obtained from quartz, 119½ ozs. from alluvial, 2199½ ozs. by means of the cyanide and chlorination processes, 6126 ozs. from the blister copper from the Mount Lyell Mining and Railway Company, Limited, 570 ozs. from the silver-lead bullion from the Tasmanian Smelting Company's Works, Zeehan, and 1352 ozs. from the sulphide ores from Mt. Read.

The following Table shows the quantities obtained from the various sources on the different fields during the period under review:—

Gold obtained during the Quarter ending 30th Sept., 1902.							
	From Quartz.	Alluvial.	Cyanide & Chlorination.	From Blister Copper.	From Silver-lead Bullion.	From Sulphide Ores.	TOTAL.
	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.
Beaconsfield	5451	1½	1479	...	...	...	6931½
Mathinna ...	3371	...	508	...	...	...	3879
Mt. Victoria	} 125	...	...	...	...	...	125
Warrentinna		...	...	...	...	...	...
Lefroy	51¾	...	152½	...	...	...	204¼
Lisle	} ...	93	...	...	...	...	93
Golconda
Mangana ...	190	...	60	...	...	...	250
Bell Mount.	...	16	...	...	...	...	16
Middlesex...	...	4	...	...	...	...	4
West Coast.	...	5	...	6126	570	1352	8053
TOTALS	9188¾	119½	2199½	6126	570	1352	19,555½

Value £78,793, equal to 18,549·449 ozs. fine gold.

BEACONSFIELD.—Five hundred and ninety-five men were occupied in this district during the past quarter. Of these, 28 were prospectors or tributors.

At the Tasmania Mine the only points of interest are confined to the water pumped. The 818-foot level west has been driven past the points at which former bursts of water have occurred without any being met with; the drainage level has, however, been lowered to the 818-foot level, the 718-foot level being practically dry. There has been a considerable increase of water at Hart's (new main) shaft, with a corresponding decrease at the main shaft, the total increase being only 2 per cent. Developmental work is behind-hand, hence the grade of ore delivered to the battery cannot be kept uniform. There are no signs of any variation in the value of the lode. Since the end of the quarter, Mr. Richard Provis has inspected the mine on behalf of an English syndicate desirous of purchasing this important property.

If the mine changes hands, it is expected that one result will be that other mines in the district will receive more attention than has been paid to them recently. During the quarter from 40 to 60 heads of stamps have been running full time, 10,451 tons of quartz were crushed, and 6744 ozs. of gold produced (by amalgamation and chlorination), bringing the totals since the formation of the company to 474,356 tons crushed, and 556,604 ozs. of gold obtained, of a value of £2,041,454 0s. 2d. The dividends declared during the quarter were £3000, making a total of £772,071 15s.

At the Moonlight-cum-Wonder the tributors on the Olive Branch sections cut 6 inches of gold-bearing stone since the end of the quarter, and are now opening a surface-cut, which will cross the belt of quartz leaders (50 or 60 feet wide), and intersect the above stone at about 30 feet from the surface. Though possibly these makes of stone may not pay to work, if each one is followed singly, it is hoped that they may be profitable when several are worked together in the above manner. Two hundred and eight tons of quartz, of which 200 were for the North Tasmania, were crushed at the battery during the quarter, returning 32 ozs. of gold. Twelve tributors have been at work.

The Bonanza Proprietary has continued sinking its shaft, which is intended to cut the Tasmania reef on its underlay in depth.

The East Tasmania Company's intention is to put down a line of bores, in the endeavour to intercept the eastern extension of the Tasmania reef, which has never been seen to the east of the broken ground in the eastern end of the Tasmania Mine.

The Ophir Company, after the end of the quarter, came into wash in the 300-foot level, succeeding or resting upon a body of black clay and silt, through which the level passed for 23 feet. It is intended to rise to this from the 400-foot level. Work has been carried on in this alluvial basin for the last 25 years, searching for the deposit of wash which might reasonably be expected to exist in this run of ground; none has been found on the bedrock in the bottom workings at 490 feet, and the extent of that now discovered will have to be defined by actual work.

It is to be hoped that the deposit will prove payable. The position of the ground, as regards the old surface workings on the Cabbage Tree Hill, is a favourable one, and it is somewhat remarkable that this old alluvial channel at the bottom of the hill has not yielded more of the gold which must have been shed from the higher ground.

Steady progress is being made by the two companies who are at work on the Salisbury, Blue Tier. By the end of the quarter the Duchess of York Company had fairly begun the sinking of its new shaft, which is to go down 200 feet, or 50 feet below the present level. It is intended to open out at 200 feet, and prospect the nugget and pyritic slate formations which were cut in the drive.

The Salisbury Gold Mining Company has cut another vein at 280 feet in the drive, and is continuing the drive to intersect the Victoria lode at 150 feet below the old workings.

A good deal of detrital gold has been found from time to time on the Blue Tier in surface patches, and pyrites veins were found gold-bearing in the old Victoria workings. The hill has been tunnelled in different directions without finding any persistent reef of payable quartz. There are, however, numerous short makes of quartz, and veins of arsenical pyrites, both being auriferous. Some of the fine gold which has been found would appear to have been derived from the decomposition of the sulphide, and this would account for its patchy occurrence. The works now in progress will test the hill in a desirable way. The hill itself is a topographical continuation of the Cabbage Tree Hill; but the sandstone strata appear geologically equivalent to those which succeed the limestone of the East Tasmania and Dally's United. That, however, both these and the Cabbage Tree strata belong to one and the same geological system is apparent from the presence of identical fossils in the Tasmania Mine, Dally's United, and in the Blue Tier beds.

A little prospecting has been carried on at the base of the Asbestos Range, west of Anderson's Creek. Some quartz reefs intersect the old slates which form that range, and a few shallow shafts have been sunk at one time or another, but unsuccessfully. The range has a poor reputation for gold, but has indications of copper ore, and a quarter of a century ago a little copper mining was done at and near Badger Head. This great range, however, may be said to be practically unknown. Prospecting has been desultory in character and limited in extent.

LEFROY.—Sixty-three men have been at work in the district; 37 of these were in the service of the New Pinafore Company. In this mine work at the 280-foot level resulted in finding a clean body of stone 8 feet wide, carrying a little gold. The 360-foot level has been stopped for the present, and work concentrated at the 280-foot level.

At the Point and Crown No. 1 level veins have been met with carrying a little gold, being the downward continuation of the reef seen at the 40-foot level. Bain and Richards' reef is being driven on west. Johns Brothers' Cyanide Works produced 20 ozs. bullion. Prospecting has been carried on north of the Pinafore on Tonkin and Stubs'—a promising show—also north-west of the Pinafore by Woods' Prospecting Association, and Cannon; and at Back Creek, by White and Co.

The work done on Anderson's Reward at the Den Hill has not resulted in any discovery of value. Three tunnels have been driven into this hill, with a view of picking up the reefs which are supposed to have shed the alluvial gold won in the old Den diggings at the southern end of the spur. A little gold has been traced in the detritus a short way up the hill-side, and a quartz-and-pug vein 2 feet wide was cut in the bottom trench, carrying 1 dwt. 15 grs. of gold per ton. Various small quartz veins have been cut in the several workings; but none of these have been of any importance, and the hill has now been pierced from east to west by tunnelling without

any satisfactory results. Some boulders of gold-bearing quartz were met with in the approach to the low tunnel; and it is intended to cut this down to the bedrock, in order to see whether a concealed reef exists underfoot or not.

LISLE.—The dredging company produced 93 ozs. alluvial gold during the quarter. Twenty-five men were at work. The new and larger pump has now arrived.

GOLCONDA AND DENISON.—Twenty-four men have been at work here. Work is to be resumed at the New Star Block 2, Golconda.

WARRENTINNA.—Nothing is being done besides a little prospecting on Bayley's Leases.

MOUNT VICTORIA.—Brown's tribute party (20 men) has been raising quartz on the Ringarooma Company's freehold property. The tributors on the Central Ringarooma claim crushed 100 tons of stone for 60 ozs. of gold, but have since relinquished work. Five men are employed on Krushka's freehold alluvial claim.

At the Long Struggle, 18 men were employed, and 25 tons of quartz crushed for 65½ ozs. of gold. A contract has been let for a lower tunnel to cut a reef in 100 feet of driving. A good deal of progressive work has been done at this mine, and the owners calculate that they now have sufficient stone in sight to keep the battery at work for many months. The battery will also crush the stone raised from a newly-discovered reef on Everett's Spur, about three miles distant; this reef is now being worked. Further south, a fresh reef has been exposed by Goley and O'Brien, and shows gold freely.

GLADSTONE.—The old Portland Mine, on two 10-acre sections, about six miles from Gladstone; has been taken up again under the name of the Brisbane. Over £4000 was spent upon it by the former company; a main shaft was sunk 210 feet, and levels driven or opened out at 80 feet, 150 feet, and 200 feet. At the 80-foot level the lode has been driven upon for 90 feet east and west, and goes up to surface; it has been taken out for about 40 feet over the back of the drive; but the old company was unable to extract the gold on the mine, and heavy transport and reducing costs absorbed the profits, besides which, only the best ore was sent away. The water is now lowered to the 80-foot level, where work will be begun first. The cyanide leaching-vats are now being erected. The assays show that the gold and silver contents range from 1½ to 2 ozs. gold per ton, and from 2½ to 16 ozs. silver per ton.

MATHINNA.—The half-yearly statement of the New Golden Gate Co. shows that during the six months ending 31st July, 9805 tons of quartz were crushed, from which 5313 ozs. of retorted gold were

obtained at the battery, valued at £19,320 12s. 9d. Ninety tons of pyrites were also obtained by concentrating tables, containing 557 ozs. of gold, valued at £2136 15s. 7d., and 18,695 tons of tailings, together with 700 tons of slimes, have been cyanided, which produced 866 ozs. of gold, valued at £3354 8s. 6d., making a total revenue of £24,811 17s. 1d. The cost of raising and crushing quartz, treating concentrates, repairs and renewals of plant, progressive and surface works, and all other working and managing expenses, was £13,989 1s. 6d., or £1 8s. 6.42d. per ton of quartz crushed (exclusive of labour and stores at cyanide plant, amounting to £2751 5s. 7d., or 2s. 11.33d. per ton of tailings treated). Five dividends, amounting to £8000, have been paid during the half-year; making a total of £320,000, or £10 per share. The total quantity of quartz now obtained from the mine is 202,261 tons, which has yielded 182,002 ozs. of gold, an average of 18 dwts. 16 grs. per ton; and which has realised £697,267 4s. 6d.

The Volunteer Mine, with 42 men employed, crushed, this quarter, 1410 tons of quartz, and obtained 491 ozs. of gold. Since then, a further crushing of 460 tons yielded 171 ozs. Good progress has been made with the new shaft, which has been sunk 100 feet, and cross-cutting is now proceeding. The mine continues to pay its way. At the No. 1, or tunnel, level, a new make of good-quality stone has been cut, running east and west, and the latest news is that the reef has been struck at the No. 3 level, with 4 feet of payable stone.

The East Volunteer Company is likely to be reconstructed, with a capital adequate to open up the property, which has not yet had a fair trial. During the quarter 12 tons of quartz were crushed for 34 ozs. of gold. Four men were employed.

The Golden King crushed 145 tons of quartz, and treated 4 tons of sand; 330 ozs. of gold were produced. The shaft has passed through several bunches of stone worth 16 dwts. Twenty-five men employed.

Davies and Son have opened up a vein, which yielded 30 ozs. of gold for 10 tons of quartz crushed. Two men employed.

The other Mathinna claims have employed 23 men on developmental work. The Loane P.A. has been formed into a company with a moderate capital to further develop the property. The Revenue has purchased a battery from the old Strickland, and a Wilfley table from the Havelock. At the Havelock the company has abandoned work, and part of the plant has been sold. Clayton's is a new discovery on the old Heaton ground, about 150 feet north of the old workings. The specimens received are extremely rich. It has been sunk on down to 15 feet, and is being trenched north. Since the end of the quarter the Tasman Consols (formerly North Gate) has sunk the main shaft from 1000 to 1100 feet. It is intended to sink to 1400 feet, the level at which the adjoining New Golden Gate left payable stone on the boundary.

MANGANA.—The Golden Entrance, with 6 men, has crushed 21 tons of quartz for 32 ozs. of gold. The South Golden Entrance has driven a tunnel on the lode; the stone is not yet payable, but is encouraging. The tribute parties (19 men) on the Mangana Reefs obtained 158 ozs. gold from 208 tons of quartz crushed, and 60 ozs. of gold were extracted from 700 tons of sand cyanided.

The Salmon Gold Estates are cross-cutting 150 feet from the west shaft, and expect to cut the lode very shortly.

FINGAL.—The Hit-or-Miss tunnel has gone through the lode, which is not payable. The Abbotsford Creek Mining Company has been developing a quartz reef on the Tullochgorum Estate. The lode is known locally as the "Morgan," striking N. 20° E., and dipping S.E. at an angle of 83°. Excellent prospects were obtained from the reef exposures in shallow trenches for a distance of 800 feet. Four prospecting shafts have been sunk to depths varying from 30 to 70 feet, and two tunnels driven. One of the latter intersected the reef at a vertical depth of 60 feet, and at the point of intersection the stone was auriferous. The second tunnel has been driven along the course of the reef northwards, for a distance of 264 feet, and has carried quartz for nearly the entire length, but, so far, not payable. Thirty men are employed here.

NORTH-WEST COAST.—The Whyte River dredge has been working intermittently on gold-bearing gravel, but not payable. The work has been interrupted by buried timber met with from time to time.

At Long Plains, Lynch has driven a prospecting tunnel across a formation carrying a little shotty gold. A good deal of detrital gold was won on this field at one time, but no payable reefs were ever found. It is probable that much of this gold was liberated from its parent formation in solution, and subsequently re-deposited. Carbonate of iron veins appear to be one matrix of the gold, and where this kind of formation is met with, it should be tested. It is only by indefatigable prospecting that the important sources of the specimen gold will be discovered.

WEST COAST.—At the King River claim hydraulic sluicing has continued, and a clean up of a small portion of the race has yielded 5 ozs. of coarse, ragged gold.

At Mount Ellen, which was formerly called Huxley, but is in reality a spur of Mount Owen, and not a part of Mount Huxley, Havill and party are erecting a five-head battery to treat the formation outside the old mine. The clay at the approach is gold-bearing to some extent, generally in association with seams of iron ore and quartz. The gold is somewhat sparingly distributed, taking the formation as a whole, and the material will have to be dealt with economically. The old Huxley tunnel was driven in the quartz-porphry, or felsite rock, which was only gold-bearing in the softer portions, which are traversed by small ferruginous quartz veins. Owing to the salting some years ago, the name of Mount Huxley has

sunk into disfavour, but for all that, there is some gold in the formation, and the present modest attempt to test the ground will be watched with interest.

TIN.

The output at Waratah during the quarter has been 330½ tons of tin ore, from the following mines:—

	Tons.	Men employed.
Mount Bischoff.....	318·00	223
West Bischoff.....	6·50	29
Waratah Alluvial.....	4·00	4
Stanhope Alluvial.....	1 75	4
	<hr/>	<hr/>
	330·25	260
	<hr/>	<hr/>

The Briseis Mine removed during the three months 145,784 cubic yards of overburden, all but about 10 per cent. of which is retained upon the company's dumping areas. The tin ore despatched to the smelters during the same period amounted to 122 tons 15 cwts., and metallic tin shipped to London from Launceston 90 tons, valued at £11,147 10s. The new electric light plant, run by a 3-foot diameter Pelton wheel, was started on the 19th September, and is running satisfactorily. Average number of men employed, 125.

The Ringarooma Tin Mine has now stopped work on the eastern or high reef portion of the property, and is engaged in opening up the western or Triangle side, where the tin zone goes below the present river-level, but where the overburden is not thicker than 40 feet. Good progress is being made with the work of stripping, and 57,356 cubic yards of overburden and top-drift have been removed during the quarter, at a mean cost of 5·42*d.* per yard. An hydraulic elevator has been recently placed in position, with a view of exploiting the very rich drift formerly worked by the Triangle Company, and a fair yield of tin is soon expected. The pumping plant has supplied 153,939,517 gallons to the nozzles, at a pressure equal to a head of 250 feet, and at an average cost of 1·15*d.* per thousand gallons. The stripping-face has yielded 4 tons of tin ore, but apart from this no tin-slucing has been done.

The Arba raised eight tons, 33 men being employed. During the quarter the work was principally confined to removing and re-erecting plant. The prospects of a good output from this mine are encouraging. At Ruby Flat, the Chinese party of 22 has won nine tons of tin ore. In the Moorina district the Weld claim produced 9 tons 18 cwts. with nine men, and the Moorina Tin Mining Company raised 9½ tons with six men.

The Pioneer Tin Mine employed 60 men, and raised 47 tons 7 cwts. The low-level ground in the bottom of the workings is still rich, and the manager estimates that, working the mine as at present, it will take at least 30 years to exhaust the ground which has already been prospected. During the past 12 months, dividends have been distributed to the amount of £15,000, and it is expected that two

more will be declared by the end of the year (one in October, and the other at the end of December).

The Garibaldi Company produced 11 tons 11 cwts. of ore with 19 men, and the Ruby claims at South Mount Cameron, worked by 19 men, yielded 9 tons 6 cwts.

At the Star of Peace Mine, near the Upper Ringarooma, a drive has been put in for a distance of 230 feet, and is being continued with a view of cutting the ore-formation. A battery is being constructed for this mine, a large dam is nearly completed, and a tram line is being made.

The Weldborough mines have produced 36 tons 13 cwts. of tin ore during the quarter, and employed 69 men, of whom 52 were Chinese. The Weldborough Company has overcome the obstruction in the tunnel which is to carry their tail-race. Besides the four claims owned by the Weldbrook and Weldborough companies, and Messrs. Inglis and Marriott, 39 miners' and leaseholders' claims were worked. There has been a fairly good supply of water available during the quarter.

The output of the Lottah mines has been as under:—

	Tons. cwts.	Men employed.
Anchor Mine	57 15	115
Australian Mine.....	8 2	21
J. Ogilvie on leased land, Blue Tier.....	1 2	2
25 Miners' claims on Blue Tier.....	7 8	33
	<hr/>	<hr/>
	74 7	171
	<hr/>	<hr/>

Mr. Lindsay Clark, formerly manager of the Mount Lyell Mine, has taken charge of the Anchor, *vice* Mr. Mitchell, resigned. The Hunt Tin Mining Company is a new venture, in the vicinity of the Power Rivulet, Goshen, where there is a large flat, the continuation of the Derwent Creek, part of which was formerly worked. Two leads of tin are reported, and the wash is stated by the owners to average two to three feet for over half a mile, and one and a half to two chains wide. The estimate of the average quality of the wash as formed by the owners on Mr. C. Hunt's report is 30 lbs. ore per cubic yard of dirt. Prospecting work has already begun.

The St. Helens mines have produced 10 tons 4 cwts. of ore with 85 men; of this quantity, 1 ton 9 cwts. were won by the Thureau Company, and 2 tons 7 cwts. by the Royal Ruby. The latter Company has employed five men on the mine, and 42 in cutting race. The Stonyford battery is hung up, and nothing is known as to probable resumption of work.

In the Avoca district 11 tons 15 cwts. of ore have been won, of which 9 tons 4 cwts. were produced by the South Esk Mine, employing 12 men. At this mine a shaft was sunk 40 feet, and a crosscut then intersected the ore-formation, 29 feet wide, which is now being driven upon east. A width of 4 feet of this formation is payable. The intention is to sink a shaft on the underlay, and follow the tin down.

Mount Rex resumed producing only after conclusion of the quarter, and has since been shipping to London fortnightly 10-ton parcels of concentrates, which are estimated to yield 90 per cent. tin oxide. The shaft-sinking is now done, and the dam has been raised.

GLADSTONE.—The Scotia Mine has been got into good working order. A new tail-race has been completed, 30 feet deeper than the old one, and this will enable 8 to 10 feet more depth to be added to the face. A quarter of a mile west, 20 chains of fluming from the river are in hand, eventually to be used on the Newhaven part of the property. By the end of January everything is expected to be in full work here, and a regular output started.

WEST COAST.—Thirteen and a quarter tons of tin ore were produced by various small parties, numbering in the aggregate 25 men. Prospecting work has been continued at Heemskirk, and the output, though still inconsiderable, is increasing. A lode-tin formation has been discovered on the Orient Tin Syndicate's section, north-west of Mayne's outcrop, and is being prospected. This ought to stimulate work in the district. About 100 men are engaged in tin prospecting on Heemskirk. There is now a better outlook for this field, and it is to be hoped that the lesson afforded by inadequately-financed and ill-directed undertakings in the old days will be taken well to heart. The output of tin ore in the State is on the up-grade, being in excess of the previous quarter's production.

SILVER.

WEST COAST.—The output and values of ore during the past quarter in the Zeehan and Dundas Division have been as follows:—

Mine.	Ore.	Tons.	Value. £
Mount Zeehan, Tas.	galena.....	1640	} 17,464
	gossan.....	115	
Zeehan-Montana	galena.....	950	} 10,688
Silver Queen	"	157	
"	gossan.....	27	} 771
Oonah	galena.....	7	
"	gossan.....	20	} 158
"	stannite	185		1406
"	fluxing ore.....	8	2
Silver King	galena and gossan...	6	96
New Mount Zeehan	galena.....	7½	72
M'Auliffe's	"	52	412
Chew's tribute (Western Mine)	"	12	150
Silver Queen Extended	"	26	139
Comstock	"	1	5
"	zinc blende	47	55
Comet	galena.....	1524	} 2853
"	gossan.....	750	
Hercules Mine	gossan ore	1500	5500
"	zinc-lead sulphide .	1920	2572

At the Mount Zeehan the shaft was sunk to nearly the required depth for No. 2 level (*viz.*, 100 feet). The Spray is sinking below No. 2 level. The ground is hard, and progress slow. Men employed on wages, 156; on tribute, 30. The Silver Queen employed 25 men on tribute, and four on wages. The property has now been taken over by the Zeehan Queen Company, Limited, and funds will be forthcoming to carry out a definite mining programme. The mine has yielded 24,800 tons of ore to date, and it is anticipated that more vigorous management will greatly improve its position. The Zeehan Montana employs 184 men. It is pursuing a wise policy in continuing to sink its shaft, with a view of opening a deeper level at 600 feet. The five existing levels have opened up stopes which are still productive, and the outlook is highly satisfactory.

The Oonah tributors number 38. The stannite lode at the main adit level has improved, and a larger output is expected from this part of the mine next quarter. The lode throughout averages nine inches of good stannite. The manager reports that if the footwall lode cut in several levels come to the surface, it will create practically a new mine with 150 feet of backs to stope out. This ore averages 63 ozs. silver per ton, and 13 per cent. copper. The tributors' sales for the year ending 30th September have been 77 tons 13 cwt. 1 qr. 19 lbs. galena and gossan for £427 1s. 10*d.*, and 469 tons 9 cwt. 3 qrs. 19 lbs. stannite for £3529 6s. 4*d.*

The Silver King employed 21 men. The principal work has been the extension of the west crosscut from the main shaft. No. 2 lode was cut, but not payable at point of intersection. The crosscut was continued, and No. 3 lode reached; its nature remains to be seen. The old South King has been let on tribute again.

The Silver Queen Extended was worked on tribute by 13 men. M'Auliffe's tribute had eight men employed. No. 1 shaft is 60 feet deep; No. 2, 40 feet at about 250 feet south of No. 1. Most of the ore is being won through No. 2 shaft, and it is intended to sink it further for another level.

The Florence (formerly Smith's) has been sinking the main shaft, which will be put down to 200 feet.

The Tasmanian Smelting Company is about to drive at the Sylvester Mine.

The Tenth Legion has extended its tunnel to over 300 feet.

The Dundas field shows signs of a revival. The Comet Mine has employed 68 men, and new ground is being opened up, with profitable results. Promising lodes are being prospected on several sections (Hodges' show, Everest and party, Male and Weber, &c.).

MOUNT READ.—During the half-year the Hercules Mine delivered 3627 tons gossan ore to the Dapto Works, and 2273 tons of sulphide ore to the Zeehan Smelters; the former valued at £10,943 5s. 3*d.*, and the latter at £3728 0s. 9*d.*; bringing the total consignments to that date to 12,726 tons 3 cwt. 1 qr. 4 lbs., value £34,876 11s. 7*d.*

During the half-year 7553 feet have been driven, risen, and sunk. The four tunnels have contributed to the output, and in the No. 5

tunnel the work of proving the copper ore-body has been continued. A winze was sunk from this tunnel to over 50 feet, passing through ore of varying quality—down to 31 feet $4\frac{1}{2}$ per cent. copper ore, and afterwards a lower grade, which would appear to be only local, as a crosscut put in to pick up the lode where it went out of the winze at 50 feet passed into 4 per cent. ore. A No. 6 tunnel is to be started shortly. Economies have been successfully effected in the breaking out of the ore, the mine working-costs being reduced by 13s. 4d. per ton of ore handled.

Tunnelling at Dunne's Mount Read Mine continues.

Tasmanian Smelting Company.—Increasing quantities of ore were purchased for smelting, the tonnage this quarter being 5878·609 tons, containing 1583·072 tons lead, 283,381·67 ozs. silver, and 570·231 ozs. gold. The shipments were 1525·630 tons bullion, containing 275,229·16 ozs. silver, and 554·831 ozs. gold.

NORTH-WESTERN DISTRICT.—The Magnet Mine sent away during the quarter 3007 tons of ore, of which 1252 tons, valued at £2504, were consigned to the Tasmanian Smelting Company, and 1755 tons, valued at £3510, were sent to the Dapto Works in New South Wales. One hundred and three hands were employed. Recently a contract has been made with the Sulphide Corporation, Cockle Creek, New South Wales, for the delivery of 18,000 tons ore, with a minimum consignment of 500 tons per month, to be increased by mutual consent. The new shoot of ore has been driven on 110 feet, and the face is showing 3 feet 6 inches of good saleable ore. Surface exploration has proved this shoot for 300 feet, and it may exist still further. The erection of the new buildings referred to in last quarter's Report has been completed.

Mining is still proceeding in the Heazlewood district, 20 men being employed at the Confidence, Godkin, Bell's Reward, and the Long Tunnel at Mount Stewart. The last-mentioned mine raised 80 tons of ore during the quarter, valued at £960.

The North Mount Farrell has raised during the quarter 250 tons silver-lead ore, containing 64 per cent. lead and 70 ozs. silver per ton. During the twelve months to 30th September, 900 tons of hand-picked ore have been won, and are now stacked at the mine awaiting despatch by the new tramway just approaching completion. The ore raised during the half-year has an assay value of 61 per cent. lead and 67 ozs. silver per ton, which is a higher average by $3\frac{1}{2}$ ozs. than that of the ore raised when the mine was started. The ore from the deepest level has reached 74 per cent. lead and 88 ozs. silver per ton. The three upper levels are considered reliable for a regular output for a long time, and if the No. 3 level proves, as is expected, the ore-shoot to be of the same value, the future of the mine may be looked upon as assured. The question of providing concentrating works for treating the milling-ore is under consideration. £3000 worth of such ore is stacked at the mine, and provision for making this class of ore marketable becomes more and more necessary as the work proceeds.

The Devon Mine raised 6 tons silver-lead ore during the quarter, valued at £51.

COPPER.

Mount Lyell Mine.—The ore passed through the Reduction Works during the quarter ending 30th September has been as under:—

	Dry Weight.			
	Tons.	cwts.	qrs.	lbs.
Mt. Lyell Mine ore	79,481	0	2	23
Purchased ores	847	5	0	13
Metal-bearing fluxes, from The Company's South Tharsis Mine	10,234	6	2	16
Metal-bearing fluxes, from The Company's Royal Tharsis Mine	164	5	3	5
Total.....	90,726	18	1	1

The metal produced was:—

Blister copper, 1757 tons, con- taining—		£	s.	d.
Copper, 1738 tons, valued at	93,765	2	0	
Silver, fine, 170,213 ozs., valued at.....	17,021	6	0	
Gold, fine, 6126 ozs., valued at	26,035	10	0	
Total.....	£136,821	18	0	

The number of men employed was:—

At the Company's Mount Lyell Mine	412
At the Company's South Tharsis Mine	46
At the Company's Royal Tharsis Mine	6
At the Company's King Lyell Mine.....	1
At the Company's Mt. Lyell Reserve Leases...	5
At the Company's North Crown Lyell Mine ...	1
On the Company's Railway	187
At the Company's Reduction Works	1265
Total	1923

At the Iron Blow, in addition to ore-winning for the Smelters, progressive work has been continued in the deeper levels, where the ore-body has been contoured and penetrated. Its usual massive nature has shown itself in the No. 8, or deepest, of these workings, and an extra bench (4A) has been added to the open cut. Recently, the diamond-drill was set to work on the portion of the property which was acquired from the King Lyell, and at a depth of 140 feet prospects of native copper were obtained in a clay similar to that on the Lyell Blocks. It is intended to sink a prospecting shaft

here to prove the deposit. At the South Tharsis increased quantities of fair-grade flux are being raised, and prospecting work of a serviceable character is being continued on the Royal, Reserve, and North Crown Lyell sections.

North Mount Lyell.—Ore-winning has been confined to the Nos. 1 and 2 adits, and the eastern and western ore-bodies; the ore has been delivered to Crotty for reduction, where four cold-blast furnaces have been added to the reduction plant. During the past quarter the output has been as follows:—

	Wet Weight, Tons.	Estimated Gross Value. £
Ore forwarded to Reduction works at Crotty	7885	39,200
Ore sold locally	535	2140
Total.....	8420	£41,340

The number of men employed was:—

At the North Lye l Mine	217
At the Smelters	350
On the Company's Railway	98
On the Comstock Tramway	65
TOTAL	730

The South Mount Lyell and Crown mines have started again under the direction of Mr. F. D. Mitchell, the managing director of the North Mt. Lyell. The South is unwatering, erecting ore-bins, and constructing a branch tramline to connect with the North Mt. Lyell Railway, close to its terminus at Gormanston.

Mount Lyell Blocks.—In this mine work was confined to the copper-bearing clay body, from which 2361 tons of crude ore were raised, valued at £2926. The average number of men employed was 69. During the last month of the quarter the mine was idle, owing to a strike, which terminated in a mutual understanding between manager and men.

Tasman Lyell Mine.—Exploratory work has been continued on both sides of the mountain, but so far nothing of importance has been established. Twenty-five men were employed.

Tasman Comstock Mine.—Preparatory work continues. The tramway to connect with the North Mt. Lyell line is still unfinished. Twenty men employed.

Tasman and Crown Lyell Extended.—The main adit has been extended to 1205 feet; the last 65 feet are in a somewhat disjointed rubbly breccia, through which the mining manager states that 60 feet more must be driven before reaching the lode. Six men employed.

Lyell Peaks.—Two men were engaged for a fortnight, advancing the adit 7 feet, making a total of 149 feet.

Great Mount Lyell Copper Co., Limited.—Operations are to be resumed early in the coming year.

It is reported that Lyell Consols, Consolidated, and Pioneer have amalgamated, and that work will be started before the end of the year.

Darwin and Jukes Field.—The King and Crotty Jukes mines were at work, but both of them discontinued towards the end of the quarter. Nine men were employed.

ROSEBERRY.—Work at the Tasmanian Copper Mine is still suspended. Trials are being made with the Sulman-Picard process, in which 60 to 70 per cent. of the zinc is said to be recoverable in the form of spelter, besides practically the whole of the precious metals. The directors, in their yearly report, issued 11th July, state that trials under this process will be made in Australia with special zinc furnaces. So far as the company's ores are concerned, no further progress has been made with the Phœnix and Butterfield processes during the past year. Tests have been made under the Mechernich system of magnetic separation, but Mr. Henrie, the company's general manager, reports that the ore proved too dense for separation. Mr. Henrie has been continuously conducting experiments on the ore in the way of distilling and condensing the zinc contents, and has succeeded to the extent of 70 per cent. of the zinc, and saving a smeltable residue of 85 to 90 per cent. of the gold, silver, and copper contained in the ore. He considers that these experiments show a reasonable margin of profit on the higher grades of zinc ores, and it has been decided to obtain some additional information as to the likelihood of profitable extraction, and then to send out a large parcel of such ore to prove whether these results hold good on a commercial scale of work.

Endeavours have been made to dispose of the more profitable ore to smelting companies, but the decline in the price of metals has prevented shipments. Mr. W. M. Currie has reported upon the mine, and estimates the ore actually in sight as 160,000 tons. This is, the directors point out, exclusive of the probable reserves which they have every reason to believe are existing. Of this quantity, Mr. Currie estimates 35,000 to 62,000 tons to average 29 per cent. zinc, 8 per cent. lead, 11 ozs. silver, and $3\frac{1}{2}$ dwts. gold per ton, valued at £6 3s. per ton on the basis of 70 per cent. zinc and all silver and gold recovered, with a loss of one unit of lead. Of this he calculates £1 17s. 6d. per ton for winning the ore and putting it on the mainland, leaving £4 5s. 6d. for roasting, distillation, smelting, and realisation. The remaining 100,000 tons are estimated to average 20 to 21 per cent. zinc, 4 to 5 per cent. lead, $7\frac{1}{2}$ ozs. silver, and 3 dwts. gold. The above estimate of cost includes 30s. per ton for mining and freight to Burnie, and is subject to a possible reduction of 6s. or 7s. by the use of air-drills and aerial ropeway to station, &c. Mr. Currie refrains from advising further capital expenditure, beyond a little exploration work, until some cheap zinc process gives to the

ore a marketable value. The adjoining mine of the Primrose has 33 per cent. zinc, and a gross value of £8 per ton, and there is a possibility of the Tasmanian copper ore increasing in value as the works are extended towards the southern boundary. In the south drive, No. 2 tunnel, a patch of ore was met with giving as much as 30 to 35 per cent. zinc.

Ring River Copper Mine.—This mine, situated at the foot of Mt. Read, has also been reported upon by Mr. Currie. It was bought by the Tasmanian Copper Company for mixing the ores of both properties. The lode is 18 inches to 2 feet wide, and consists of pyritic material, averaging 4 to 5 per cent. copper. The best picked-ore reaches 15 per cent. copper contents. A long chute of 12 per cent. ore has been proved for 110 feet in length and 15 inches to 2 feet wide. The total length of this chute has not been determined, but in the level below it is 150 feet, though poorer and thinner, and in the lowest level it has pinched to a thin vein, mostly barren. The quantity of ore in sight is estimated at 2000 tons, of 12 per cent. quality, and the cost of mining at about 20s. per ton.

NORTH-WEST COAST.—Exploratory work is continuing at the Barn Bluff Mine.

COAL.

The raisings this quarter have been 14,259 tons, against 10,981½ tons the previous quarter. The different collieries have contributed to the output as under:—

Colliery.	Tons raised.	Men employed.
Mount Nicholas	7080	67
Cornwall	4752	65
Jubilee	350	5
Cardiff	329	9
Spreyton	507	10
Dulverton	95	5
Mount Cygnet	943	9
York Plains	98	3
Glen Leith	105	2
Total.....	<u>14,259</u>	<u>175</u>

The Cornwall Colliery has nearly its full complement of men at work again on the face, after the nineteen weeks' strike.

The Cardiff Mine has sold its deliveries in Launceston satisfactorily, and the coal is well spoken of. The seam has been faulted, and attempts are being made to pick it up lower down.

COLEBROOK.—A new colliery has been started here, under the name of the Marialva Coal Mine. Shaft-sinking is proceeding.

RECHERCHE BAY.—The first trial bore at Catamaran with the diamond-drill was started on the 20th July, on Crown land south of the river, at site marked No. 8 on the chart accompanying "Report on the Coal Field in the neighbourhood of Recherche Bay." It was sunk through sandstone and shale, the latter showing coal-markings at 161 feet. At 216 feet 6 inches the drill entered underlying eruptive rock (diabase), in which it continued to 229 feet 10 inches, when operations at this site were stopped. Already, at 194 feet, the proximity of the diabase was heralded by bands of pink and white radiating zeolites in variegated greasy shale, and its contact was occupied by a layer of clay $1\frac{1}{2}$ foot thick, containing scattered vesicles and amygdules of calcite. The drill was then removed further west to No. 7 site, and up to the end of the quarter bored through 117 feet of sandstone and shale with coal-markings.

EDEN.—In August a bore was put down at the second site, near the Eden Company's coal shaft, through pebbly sandstone to a depth of 110 feet, when work was suspended on 25th August. No favourable change of country took place, and the indications were that the same strata as those met with in the first bore would be passed through if boring were continued.

FARM COVE.—The No. 2 diamond-drill is being removed to Macquarie Harbour, to test the coal measures recently bored into by the Farm Cove P.A. Tertiary coal is exposed on the shore, and boring will be undertaken with a view of passing through the Tertiary sands and clays into the lower coal measures which underly them.

CONCLUSION.

The total value of the minerals raised and exported this quarter was £380,621, against £456,779 the previous quarter. The quantities of tin and coal have increased, the gold output is stationary, but there has been a falling-off in the exports of copper and silver ore and bullion. The low prices of lead and silver are creating disquietude, but as they are beyond immediate control, the aim of mine-owners should be to minimise their effects as far as possible by observing economy, and taking advantage of all improvements in mining methods. As regards silver, the statistics do not show that there has been any appreciable increase in the world's production for the past seven years. In fact, the 1901 production was 174,851,391 ounces, against 178,668,101 ounces in 1894. Nevertheless, the demand has decreased, and the price has fallen to danger-level. If the payment of the Chinese war indemnity be made in silver, a temporary rise is anticipated, and if any semi-civilised countries come into the market with a demand for coinage purposes,

the situation will be favourably affected, but the only present visible means ahead for effecting any radical improvement is the closing down of lead mines, the ores of which are poor in silver. This has become a necessity in Europe for many mines while the market-price of lead is so low as it is at present. As regards lead, this leads to a gradual recovery of prices, but the silver rate is not affected by it to anything like the same extent. Eventually some degree of improvement will be brought about by an increased demand for industrial purposes. At present, the effect of any difference in price from this cause is not marked, and has been counterbalanced by the rising wages of silver craftsmen. The low markets for lead and silver coinciding at the present time, not only reduce the profits of our established mines, but militate against the opening of new ones, unless these give promise of high-grade ores, or admit of exceptionally cheap working. However, with the experience which has been acquired in economical working, there is reason to believe that our West Coast mines will be successful in holding their own through the present period of stress.

For the purpose of easy inspection, the silver statistics below have been gathered from the successive volumes of Rothwell's Mineral Industry, and give the London prices of standard silver (= 0.925 fine) and the quantities produced throughout the world for many years past.

Silver produced.	Year.	Highest Price.	Lowest Price.	Average Price.
ounces.		d.	d.	d.
28,576,688	1852	61.87	59.87	60.50
32,988,906	1862	62.12	61.00	61.43
65,429,646	1872	61.12	59.25	60.31
8,498,681	1882	52.37	50.00	51.81
152,988,746	1892	43.75	37.80	39.81
171,696,012	1893	38.75	30.50	35.62
178,668,101	1894	39.41	27.28	29.13
182,220,228	1895	30.89	27.36	29.53
176,706,718	1896	31.46	29.46	30.67
182,080,914	1897	29.74	24.93	27.55
179,252,362	1898	28.05	25.47	26.76
177,836,582	1899	28.15	27.02	27.44
180,093,364	1900	29.68	27.30	28.17
174,851,391	1901	29.42	25.46	27.11

As for copper, the immediate future is uncertain, and American operations suggest unsettled markets; but sooner or later a recovery in this metal may be looked for.

Return showing the average number of men employed in or about the mines during the quarter ending 30th September, 1902.

District.	European.	Chinese.	Total.
North and South	755	...	755
North-East	530	164	694
East	820	63	883
North-West	428	...	428
West	3742	...	3742
	6275	257	6502

Value of the mineral output per man employed, £58 10s. 9½d.

The dividends and bonuses paid during the quarter were:—

	£	s.	d.
From Copper Mines	13,750	0	0
" Gold	6200	0	0
" Tin	13,500	0	0
" Silver	4099	0	0
" Coal .....	...	
Total.....	£37,549	0	0