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THE PROGRESS OF
THE MINERAL INDUSTRY
OF
TASMANIA,

FOR THE QUARTER ENDING 31ST DECEMBER, 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 31ST DECEMBER, 1902.

*Launceston,
27th February, 1903.*

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 31st December, 1902, compared with the corresponding Quarter in 1901, and the previous Quarter ending 30th September, 1902:—

	During the Quarter ending 31st. Dec., 1902.		During the Quarter ending 31st Dec, 1901.		During the Quarter ending 30th Sept., 1902.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold won	ozs.	17,599 ^{*000}	14,662 ³	54,984	18,549 ^{*40}	78,793
Auriferous Quartz and Pyrites exported	tons	57 1111	36 ¹	1110	27	491
Silver Ore exported	"	6367 59,925	3766	39,636	5741 ¹	53,580
Blister Copper exported	"	1102 82,671	2503	213,987 [†]	1552	91,500 [†]
Copper Ore exported	"	3 ¹	21	950	16,096	1324 ³
Iron Ore exported	"	355 355	202	102	...	...
Coal raised	"	12,076 10,264	12,587	10,699	14,259	12,120
Silver-lead Bullion exported	"	1364 47,729	2071	65,771	1406	49,092
Tin Ore exported	"	57 ¹	2601	41 ¹	1896	7
Tin (metallic) exported	"	617 71,443	498	65,158	527 ¹	66,515
Gold Quartz exported	"	42 62	11	125	...	...
Oxide Mineral exported .....	"	...	...	...	4	9
Iron Pyrites exported	"	...	14 ¹	116	...	...
Gold Concentrates exported	"	...	2	45	...	...
Copper Concentrates exported	"	201 ¹	10,066	100	8000	168
Copper Matte exported	"	2175 43,612	...	...	325	6500
Silver exported	ozs.	44 4	...	...	...	...
Copper Concentrates exported	tons.	16 ¹	330	...	...	...
TOTAL VALUE .....	... £	404,950	... £	468,725	... £	380,621

* Fine gold, including gold obtained from blister copper and silver-lead bullion.

† Value of gold contents deducted.

GOLD.

During the past quarter 9174 ozs. 9 dwts. of gold were obtained from quartz, 249 ozs. 3 dwts. from alluvial, 2412 ozs. by means of the cyanide and chlorination processes, 4954 ozs. from the blister copper from the Mount Lyell Mining and Railway Company, Limited, 485 ozs. from the silver-lead bullion from the Tasmanian Smelting Company's Works, Zeehan, and 1361 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 31st Dec., 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	5137	5	1720	...	...	...	6862
Mathinna ...	3696½	...	485	...	...	...	4091½
Mt. Victoria	308½ ¹⁷ / ₂₀	16 ³ / ₂₀	...	...	...	...	325
Warrentinna							
Lefroy	115½	...	207	...	...	...	322½
Lisle .....	...	228	...	...	...	...	228
Golconda ...							
Mangana ...	6½ ³ / ₂₀	...	...	...	...	...	6½ ³ / ₂₀
Bell Mount.	...	...	...	...	...	...	...
Middlesex...	...	...	...	...	...	...	...
West Coast.	...	...	...	4954	485	1361	6800
TOTALS	9174 ⁹ / ₂₀	249 ³ / ₂₀	2412	4954	485	1361	18,635½ ³ / ₂₀

Value £74,756; equal to 17,599·059 ozs. fine gold.

BEACONSFIELD.—This district gave employment to 547 men during the quarter, of whom 517 were in the service of mining companies, and 30 were prospectors or on tribute work.

During the quarter under review an English syndicate made an offer for the purchase of the Tasmania Mine, and their expert visited and examined the property towards the end of October. The offer was £360,000 in cash to the shareholders, and 120,000 shares in a new company of £750,000, with £100,000 placed to the credit of the working account. In January the syndicate made an amended offer, placing £115,000 to working account, paying the same amount in cash as before, but giving the shareholders only 60,000 shares in the new company, the capital of which was not to exceed £650,000. This offer was declined, and subsequently a further one was considered, namely, the purchase of a quarter interest in a company of £400,000 for £100,000 cash. This has apparently fallen through owing to reported legal difficulties. No

further work has been done on the lode at the 1000-foot level, owing to the burst of water that occurred there on 17th August last; a little preparatory work for new pump-chamber has been started.

The 818-foot level has been extended to 491 feet west of the cross-cut from the shaft, and is now past that part of the lode at which former large bursts of water occurred, and there has been no increase of water.

The Directors have had under consideration the question of a new pumping-plant to replace the four plants now in use, and proposals are being received by the English agents of the company.

The General Manager states that both ends of the 1000-foot level were improving in appearance when the water put a stop to operations there, and he adds that there has been no evidence of the main lode becoming poorer or diminishing in width as depth is attained.

During the quarter 9947 tons of quartz were crushed, and 6702 ozs. 18 dwts. of gold produced (by amalgamation and chlorination), making a grand total since the formation of the company of 484,224 tons crushed, and 563,307 ozs. 3 dwts. 17 grs. of gold obtained, of a value of £2,066,654 18s. 11d., equal to an average yield of 1 oz. 3 dwts. 6·39 grs. per ton. The total amount paid in dividends has been £772,071 15s. 0d. The average yield for the past half-year has been 13 dwts. 15·65 grs. per ton, and the mining-cost £1 17s. 5·64d. per ton.

Moonlight-cum-Wonder Mine.—The tributors on the Olive Branch section, in continuing their cutting into the hill, followed 18 inches of stone down about 12 feet in friable sandstone, when it broke up into a stringer. They have now sunk an underlay shaft 15 feet deep, following 5 or 6 inches of quartz, showing specimen gold, but have not yet had a crushing. The country all round is cut up by old drives and holes. All these veins, though traversing the country, are very irregular, thinning and thickening at intervals, and when sunk on disappear at shallow depths. Tributors are opening out drives east and west at the 500-foot level, where they have been driving upon a run of irregular stone. They have driven 50 feet, and risen a few feet, winning 10 tons of quartz, which returned 4 ozs. of gold altogether; the latest reports show the lode to have thinned out. If the drive east is continued, it will connect with the bottom of a winze, which was sunk from the level above, and which was reported to have bottomed on gold-bearing stone. Ten men have been at work on this company's property.

Bonanza Mine.—The shaft is now down 200 feet in sandstone and conglomerate.

East Tasmania Mine.—The diamond-drill is not yet available, but when it can be obtained, the question of boring will be taken into consideration. If the Tasmania reef has been faulted in the eastern part of the workings of the Tasmania Mine, the heaved portion will have to be sought in the East Tasmania ground, by a line of bores extending all along its western boundary; if, on the other hand,

the reef has not been faulted, but simply died out before reaching the limestone in the Tasmania, it will enter the East Tasmania at a considerable depth according to the underlie of the strata eastward.

Tasman Ophir Mine.—The wash of this lead has now been cut in the 400-foot level. A drive 60 feet below this was in bedrock below the alluvial. The programme now is to sink the shaft 60 feet, connect with the bottom drive, and then rise to the wash.

A run having taken place in the 300-foot and 400-foot levels, these will be blocked up. The shaft is to be cut down full size to the bottom, and the mine generally put in order and equipped for working.

Ten tons of wash and mullock were crushed at the Wonder battery, and yielded 8 ozs. of amalgam. A good deal of the gold won is from reef-débris shed in Tertiary times from the Cabbage Tree strata, and this débris has evidently not travelled far, as much of it is angular. The quantity of this gold appears to exceed that of the alluvial gold, which is mixed with it at the 300 and 400-foot levels. The return of the small trial-crushing alluded to would, it is said, have shown a better proportionate yield if calculated only on the wash contained in the parcel of stuff.

Amalgamated West Tasmania.—This company is about to resume work in its mine. The south drive is to be continued.

The Salisbury Gold Mining Company.—A burst of water interrupted work last quarter, but driving has been resumed, and the level has been advanced to over 300 feet from the shaft. For the last 40 feet the driving has been in serpentine, green and red. The Victoria lode cannot now be far ahead, and the present drive is expected to cut it 150 feet below a part from which some rich concentrates were obtained.

Duchess of York.—The sinking of the new shaft on this mine has been suspended from want of funds. An effort is being made to increase the working capital, when operations will be resumed, with a view of testing the nugget-chamber formation in depth. That formation, in which nuggets of gold to the amount of 50 or 60 ozs. were found, appears to be in a part of the Salisbury serpentine dyke, which has been greatly decomposed and silicified during the introduction of auriferous solutions. The work ought to be taken up again without further delay.

The Blue Tier being a continuation of the Cabbage Tree Hill, and the same strata running through it from one end to the other, the conditions for the formation of quartz reefs and for the precipitation of gold would appear to be the same in both ranges, and further prospecting is desirable.

LEFROY.—Seventy-two men have been employed in this district. Forty-three of these were at work at the New Pinafore. The company's battery and cyanide works produced 169 ozs. of gold during the quarter. In December, at the 280-foot level, a well-defined reef formation was passed through, giving a little gold by crushing. The

stone is similar to that of the No. 1 reef at the 1200-foot level. Work at the Point and Crown is proceeding; a little stoping going on upon the Point Reef, but the quality is patchy.

On Bain and Richards' Reef the western drive shows a well-defined reef formation carrying gold. The company's prospects for the coming year are more encouraging than for some time past.

The Ellgeeteer P.A. is working down to 50 feet, and its show looks promising; it produced 50 ozs. battery-gold during the quarter.

Laird & Sons obtained 30 ozs. from ground opened up. Prospecting has been going on upon the following claims:—Gray & Higgs, who have won a little gold; west of Golden Point by the Youthful P.A.; on the Volunteer sections by Casey & Digney; on the Perpetual line of reef by Tregurtha and Brown, promising well; on new reef north of Chums by Tearle and Ponting; south-east of Volunteer reef by Weetman & Crockford; Hidden Treasure reef, Back Creek, by A. D. White and party. Johns Brothers continued cyaniding the United Chums' tailings, and produced 71 ozs. bullion.

As has been reiterated so many times, the Lefroy field deserves further and systematic prospecting. The failure hitherto of the deep workings is no excuse for neglecting the shallow levels, from which so much gold has been won in the past. There can be no doubt that the shallow ground has not been exhausted by a long way.

LISLE.—The Lisle Dredging Company produced 228 ozs. of gold during the quarter, with 24 hands. The dredge has been getting through a fair amount of dirt.

GOLCONDA AND DENISON.—Twenty men have been employed on this field, which is languishing at present, and nothing better is reported from Warrentinna.

MOUNT VICTORIA.—The Ringarooma Company's New River claim, which was recently worked on tribute by Brown and party, is now idle, owing to the returns not being remunerative. Two men only are at work on Krushka's alluvial. At the Long Struggle Mine, Sewell and party have driven 100 feet, and sunk a shaft 50 feet; 102 ozs. of gold were obtained from 66 tons of quartz crushed.

There are indications of a revival of interest in the Mount Victoria field. The good shoots of gold which have been worked from time to time ought to encourage prospecting work, even though the stone is irregular. The shafts which have been sunk have attained no depth worth speaking of and merely serve for the most part to connect drives above ground water-level. The mistake which has usually been made here has been to expend all the resources of a venture upon a productive shoot, instead of keeping up progressive work as well. The shoots are particularly irregular and capricious in this field, and available capital for the necessary deadwork is a *sine quâ non*. They are so frequent, however, all over the moun-

tain that quantities of payable stone may be fairly argued to exist at a greater depth. The field is destined to come to the front at no distant date.

GLADSTONE.—Active work is proceeding at the Brisbane Mine (formerly Portland), 25 men being employed. During the quarter 90 tons of quartz were crushed, and 94 ozs. of gold obtained. The prospects of the mine are considered promising.

MATHINNA.—At the New Golden Gate the work of opening up the mine at the lower levels is being continued. The reef in the bottom levels is 12 feet wide, consisting of massive stone, well mineralised, but poor in gold so far. One hundred and seventy-five men were employed during the quarter; 4660 tons of quartz crushed, returning 3156 ozs. gold, and 8040 tons of sand cyanided, &c., for 405 ozs. of gold. The mine is a relatively dry one, but it is understood that an electric pumping-plant is to be installed, capable of coping with double the quantity of water down to a depth of 2400 feet.

The Volunteer Mine employed 40 men, and crushed 1120 tons of quartz for 346½ ozs. of gold, obtaining additional 13 ozs. from 2 tons of sand. This makes 2530 tons of stone crushed during the half-year, yielding 836½ ozs. of retorted gold. During the same period 21 cwts. of pyrites were consigned for treatment, and about 1¼, valued at 17 ozs. of gold per ton, is ready for shipment; consequently, the average yield of gold per ton has been 6 dwts. 15 grs. The total quantity of quartz crushed to that date is 3030 tons, which yielded 980½ ozs of gold, or 6 dwts. 11 grs. per ton. The Directors are considering the question of increasing the battery-power. Nearly all the stone won during the past half-year has been raised from the No. 1 working-shaft and above the 100-foot level; under-foot, the lode looks strong and payable, a winze sunk to 32 feet discloses it good stone 3 feet wide as far as sunk. The new main shaft is now down 212 feet. At 200 feet, a level was opened from it (No. 3 level), and the reef driven upon north and south for 107 feet. A small area has been stoped over the back of level, and the stone raised has been of average quality.

The New Golden King employed 21 men, and crushed 22½ tons of quartz for 90 ozs. gold, and treated 257 tons of sand yielding 67 ozs. gold. The main shaft is down 70 feet, and preparations are being made to open out the No. 2 level.

The Revenue Mine has employed 9 men, and crushed 50 tons of quartz for 14 ozs of gold.

The above represents the gold output of the Mathinna field for the last quarter, viz.—4091½ ozs. of gold; 5852½ tons quartz crushed; 245 men employed.

Besides this, developmental and prospecting work has proceeded on several properties. The Tasman Consols is sinking the main shaft. The Loane P.A. has 9 men employed on prospecting work.

MANGANA.—The Golden Entrance has closed down. The South Golden Entrance has employed 4 men prospecting. The tributors, 6 in number, at the Mangana Reefs, crushed $20\frac{1}{2}$ tons of quartz, and obtained 6 ozs. 12 dwts. of gold. The Salmon Gold Estates employed 12 men.

FINGAL.—Twenty-four men have been employed at the Abbotsford Creek Mine. A large quantity of stone has been exposed, and a 20-head battery is to be erected.

NORTH-WEST COAST.—The operations of the Whyte River Dredge have not been very successful as regards payable gold returns, but a little fine gold has been obtained. Prospecting work has been continued at the Long Plains, and gold is reported to have been found in Cox's gold face. A good deal of gold has been won from these plains, and it is probable that it has been derived from more than one source. Some of it is associated with carbonate of iron, some with magnetite, some with quartz, some in the layer of detritus which covers the country. The prospectors, who are sticking to the field, deserve success.

WEST COAST.—Hydraulic sluicing still continues on the King River claim, but without much success. Underground prospecting is now talked of. The old Harris' Reward Mine, four miles from Lynchford and south of the King River, has been re-started under the auspices of the Coronation Gold Mining Company. In October the site was cleared for winding-engine, poppet heads erected, and preparations made for an overshot water-wheel, driving pumps and a 10-head battery. The track to the mine has been cleared and repaired. Work is to be pushed forward vigorously, as the company is determined to thoroughly prospect and develop the property. The steam plant has been purchased in Melbourne. It is intended to unwater the main shaft with tanks, and the sinking of the shaft from the present 82-feet level will then be proceeded with.

May's section, on Harvey's Creek, which runs across the Queens-town end of the Abt portion of the Mount Lyell Railway, is receiving attention, and 70 feet have been driven on a promising reef, the rubble from which returns fair prospects of fine gold. At Mount Ellen, Havill and party have finished putting up their 5-head battery, and are now sluicing and crushing the decomposed rock at the mouth of the old tunnel. So far, they have not had a clean up, but the oxidised seams in the clay give excellent prospects. At Woody Hill, the Murray Brothers continue prospecting work. The Princess River Gold Mine is receiving attention again. The old company obtained £4000 worth of gold from stone averaging about 16 dwts. per ton. The stone is extremely white, consisting of pure silica, and it is stated that the Mount Lyell Company is prepared to buy it as a flux, and to pay the Princess Company for its gold contents.

TIN.

The output of tin ore at Waratah for the past quarter has been as follows:—

	Tons.	Men employed.
Mount Bischoff.....	318	220
West Bischoff.....	9	25
Waratah Alluvial.....	6 16 cwt.	3
Stanhope Alluvial.....	2 7 ditto	4
Totals.....	<u>336 3 cwt.</u>	<u>252</u>

The quantity of tin ore produced by the Mount Bischoff Company for the past six months has been 636 tons, making a total of 60,946 tons since the formation of the company. The dividends declared during that period have been £27,000, making a total of £1,858,500. The surface deposit on the north side of the hill has now been opened for a length of 180 feet by 40 feet in height. It consists of clay carrying tin ore throughout, and the overlying alluvial is charged with nuggets of ore, some of which weigh 60 lbs. and upwards. The company's statement of the cost of producing each ton of stanniferous material is as follows:—

	s.	d.
Mining, including new works, Maintenance and other expenses.....	2	5·426
Filling, hauling, and emptying trucks.....	0	4·164
Crushing, dressing, and maintenance of plant.....	0	9·963
Slime sheds.....	0	1·107
Ringtail sheds.....	0	2·374
Management and supervision.....	0	6·485
Plant (including all machinery).....	0	2·528
Development and progressive work.....	0	3·437
Waterworks.....	0	0·411
Ore bagging.....	0	0·433
Sundries.....	0	2·623
Stores.....	0	4·436
Total.....	<u>5</u>	<u>7·387</u>

Mount Bischoff West Tin Mining Company.—This mine can only be said to have made a fair start since Christmas. The stone in the stopes is being worked, and the quantity of stuff required for the mill is made up from a heap of stanniferous mullock at the Number 2 tunnel until the completion of another pass from the main level to stope is accomplished, after which the battery will be kept going with the stone underground. The lode looks well, and the machinery is working satisfactorily.

Briseis.—Ninety-nine tons two hundredweights of tin ore were raised during the quarter, and 95 men employed. Operations have been principally confined to the removal of over-burden.

New Brothers' Home No. 1.—Thirty men have been employed removing over-burden by dry stripping. Three tons one hundred-weight of ore were raised.

Ringarooma Tin Mine.—This mine has 29 men, and raised 13 tons 11 cwts. of tin ore. About 12 months' work is now opened up in the low ground on the west side of the property. A hydraulic elevator has been placed in position, having a capacity of 500 cubic yards of gravel per day, and able to lift, with pressure available, 60 feet. Owing to difficulties met with in sinking, &c., only a very small amount of ground has been treated. A good face has been opened up, and very good ore is showing in the bottom level. The pumping-plant has run well, and has supplied 265,500,000 gallons at a pressure equivalent to a head of 275 feet, for a mean cost of 1·09*d.* per thousand gallons. The company is now beginning to put down bores in the western portion of the property, beyond the old Triangle Company's ground.

Pioneer Tin Mine.—Sixty men employed. During the quarter 79,900 cubic yards of drift were sluiced, for 143 tons 13 cwts. of stream-tin, and the dividend payments for the past year were raised to £17,500. The increase in the yield this year is due to the bottom of the lead having been worked for the first time. A hydraulic elevator is in operation 24 feet below the sluicing-level of the large pumping-plant, and raises the bottom drift to that level, while an upper bench of drift is being worked simultaneously, the pump taking the water and drift from both faces, and raising it to the tail-race; the total combined lift of both plants is 96 feet. In view of the pressure of water for the elevator slackening in summer, the small pumping-plant has been shifted in to the elevator-paddock, and will shortly replace the latter. The gutter of the lead has now been worked for a length of about 200 feet, and shows all the characteristics of the ground worked in the old Argus and present Garibaldi workings on the old Wyniford River, of which the Pioneer lead is undoubtedly a continuation. In the gutter and along the sides water-worn, soft, decomposed granite boulders, from the size of a cricket ball to several feet in diameter, from a layer 1 to 8 feet thick, the interstices being filled with alluvial gravel and rich tin ore. To more closely determine the average depth and tin contents of the drift immediately ahead of the workings, a further series of bore holes (14) have been put down, 200 feet apart; these have shown the depth of the drift to average over 60 feet, and its tin contents to be considerably more than was shown by the first series of bores. The rich granite boulder wash alluded to above has been intersected by the recent bores 400 yards in advance of the present workings. A new tail-race at a higher elevation is being constructed, as well as a large dam on Bradshaw's Creek. The mine is looking first rate, and the plant has proved admirably adapted for the work it has to do.

The Garibaldi Mine.—This mine has produced 9 tons 1 cwt. of tin ore, with 19 men.

The Argus Extended raised 4 tons 7 cwts., with 10 men.

The Moorina district has done well this quarter, the Weld claim raising 19 tons 16 cwts. of ore with 9 men, and the Moorina Tin Mining Company 7 tons 15 cwts. with 6 men. The Frome claim, on the river of that name, yielded 4 tons of tin ore with 6 men employed. At Branhholm, the Arba Mine has made a good start, having raised $27\frac{3}{4}$ tons during the quarter, with excellent prospects from the impending clean up. During the half-year 31 tons 16 cwts. 3 qrs. 16 lbs. of tin, valued at £2567, have been raised. Most of the necessary deadwork has been completed, and the plant is now in a position to raise the drift from the lower levels, and put out tin ore regularly. The machinery on the punt is working well, and its present deep site commands all the ground at present stripped.

The Ruby Flat.—The Chinese party of 15 men have won $6\frac{3}{4}$ tons. In the Ringarooma district, 14 miners' claims are being worked, and are giving fairly satisfactory returns. A new mine has been started at the Maurice River by Fraser and party, and is reported to have good prospects.

The Weldborough mines have raised 32 tons 16 cwts. of tin ore with 75 men. Of this quantity, $5\frac{1}{4}$ tons were raised by the Weldbrook Company with 6 men, 3 tons by 8 tributors on Inglis', 1 ton 1 cwt. by A. C. Nicholls with 2 men; the remainder was derived from sundry leaseholders' and miners' claims.

The Lottah and Blue Tier mines have returned as under:—

	Tons.	cwts.	Men employed.
Anchor Mine	58	10	117
Australian Mine	8	10	30
Leases and Miners' claims on Tier.....	6	6	21
Totals.....	<u>73</u>	<u>6</u>	<u>168</u>

The Anchor Mine has had a good supply of water, and the property is being developed with satisfactory prospects. It is anticipated that the plant will be added to, and the output of the mine greatly increased. The water-race has been completed to the North George River; it is 123 feet higher than the old one, and the column has been extended to it.

At the *Hunt Tin Mine*, the lead is being proved, and sinking shows better prospects than in the bores. It is estimated that there will be plenty of water for eight months in the year.

The St. Helens Mines have raised 9 tons 14 cwts. of tin ore with 57 men; of this quantity, 1 ton 19 cwts. were produced by the Thureau's Deep Lead Mine, and 1 ton 16 cwts. by the Royal Ruby.

In the Avoca district the output has been as follows:—

	Tons.	cwts.	Men employed
Mount Rex Mine	75	0	55
Story's Creek	0	5	2
South Esk	18	0	12
Totals.....	<u>93</u>	<u>5</u>	<u>69</u>

At the end of the year the lode was struck at No. 2 level in the Mount Rex, 250 feet from the surface, carrying fair tin. The ore-body in No. 1 level is still extending north. The battery has been kept running since September upon stone raised from various parts of the mine, and the production has been 6 tons of concentrates per week. The average price realised for same has been £53 per ton. The dimensions of the ore-body taken out in the No. 1 level are 90 feet by 40 feet, and if No. 2 level turns out to be as good as No. 1, the General Manager estimates that the output can be kept up to 6 or 7 tons weekly at the present rate of crushing. The average contents of the stone raised to date have been 2·3 per cent., and of the stone treated 2·1 per cent.

South Esk Mine.—In the No. 1 shaft the whole of the stone continues to carry tin, and there is a large ore-body reported to be in sight.

Mt. HOUSETOP.—Near the eastern boundary of the V.D.L. Company's property, $3\frac{1}{2}$ miles from the 21-mile peg of the Emu Bay Railway, a discovery of tin-bearing alluvial has been reported, 2 chains wide. The greater portion of the ore is stated to be very fine in grain, but a fair quantity is coarser, and in nuggets up to half-ounce.

MIDDLESEX FIELD.—This is rather neglected for the present, but is destined to come to the front when the necessary capital is forthcoming for its development. The Shepherd and Murphy Mine is the principal one, but is idle for want of funds for the necessary opening up of the mine and equipment with improved concentrating and separating machinery. The mixed contents of the ore (oxide of tin, wolfram, and sulphide of bismuth) have given rise to difficulties in separation, and the concentrates, though worth from £70 to £80 per ton, only command a price utterly disproportionate to their intrinsic value. The view taken at present by the owners is, that after concentration a process of magnetic separation may be adopted for disassociating the wolfram from the other two components. The mine itself has seven parallel lodes, three of which are very promising, and vary from 15 inches to 2 feet in width. The regular and consistent character of the lodes indicate good possibilities as to quantity of ore. If the property were worked on a proper financial basis, other shows in the neighbourhood would receive attention also.

WEST COAST.—The output of tin ore on the Coast has been 30 tons 18 cwts. About 100 men have been engaged prospecting. At Mayne's Mine, Mt. Agnew, rich lode-stuff has been opened up on the No. 2 lode, and the discovery is considered to have increased the value of the mine. Since the end of the quarter, the property has been sold to Queenstown investors. The prospects on adjoining sections are also regarded as excellent. There is a decided revival of

interest in the Heemskirk district, and there is every reason for anticipating a substantial contribution to the output of tin ore from this field. Prospecting work has been going on in the North Dundas tin field. At the Cornwall Mine the tin ore is associated with pyrites, and some of it goes up to a very high assay-value. The property is considered to deserve development. Some search-work has also been carried on at the Penzance, where large specimens of rich tin-stone have been found recently. The prospects of ore deposits on the Penzance sections are good. The Renison Bell property is still idle. It is a pity that investors do not take this mine in hand during the present high market rates for tin. It deserves development.

SILVER.

WEST COAST.—The registered output of silver ore in the Zeehan and Dundas districts during the quarter ending 31st December is as follows:—

Zeehan Mines.	Ore.	Tons.	Value. £
Mount Zeehan, Tas.	galena.....	2172	14,986
Zeehan-Montana	galena.....	980	10,805
Oonah	galena.....	3	25
"	gossan.....	23	370
"	stannite	250	2053
Silver King	gossan.....	13	45
"	galena.....	11	76
Zeehan " Queen	galena.....	198	939
" "	copper sulphide.....	7	50
" "	gossan.....	23	54
Silver Queen Extended	galena.....	8	75
" " "	gossan.....	6	27
Comstock Mine	zinc blende.....	24	34
Zeehan South Comstock	zinc blende.....	180	360
	Total.....	<u>3898</u>	<u>29,899</u>
Dundas Mines.	Ore.	Tons.	Value.
Hercules Mine	zinc lead sulphide...	1595	1518
"	gossan.....	1868	5425
"	copper sulphide.....	15	7
Comet	galena	1839	2303
"	gossan	820	594
Ring Valley	fahl ore	54	850
"	copper	3	
	Total.....	<u>10,092</u>	<u>40,586</u>

Zeehan-Montana Mine.—This mine is looking well. No. 6 lode has been cut and driven upon north in No. 5 level, and the good shoot of ore which was so productive in the upper levels has been

entered, and looks promising. A rise is now being put up between Nos. 5 and 6 levels; the ore cut in the rise is very promising. No. 8 lode, which was driven along for some distance at No. 5 level, is being stoped for about 200 feet in length between No. 5 and No. 4. This lode is payable, but rather patchy. North of the stopes the lode is intersected by several faults. No. 4 lode is also cut at this level, and has proved productive for about 200 feet. Of this, about 90 feet are good ore, and the remainder just about payable. No. 6A lode north of the main slide is looking well. It has only been found, so far, at No. 2 level. There is a shoot here 90 feet in length, with from 3 to 9 inches of good ore, principally first class. The shaft is now below the No. 6 level, which is 604 feet below the brace. This is now the deepest shaft in Zeehan, No. 9 level of the Western Mine being 600 feet below the collar of the Western shaft. The collar of the latter is 75 feet above that of the Montana. One hundred and eighty-six men have been employed on wages, and 4 tributors.

The Mount Zeehan Mine (Argent and Spray), looks well generally. The Manager reports having cut plat and No. 10 lode in Queen Extended No. 2 shaft, 105 feet below No. 1 level, and driven north 21 feet and south 13 feet on a promising and payable lode. On the Spray section, at 60 feet below No. 2 level, the lode looks well. The main crosscut has been driven 1040 feet, and the lode is expected to be cut shortly. Preparations are being made to sink the main shaft on Balstrup's section. One hundred and ninety-five men employed, of whom 35 are on tribute.

The Oonah output of galena this quarter was small. A fair quantity of seconds was obtained, but there was a shortage of water for dressing at the end of the year. Concentrating has been started later. Twenty-three tons of gossan, averaging 200 ozs. to the ton, were won from the old junction. There is still a fair quantity of this in sight. The last sample of 4 tons 13 cwts. went 438 ozs. of silver. The marketable stannite produced averaged 62 ozs. silver and 14 per cent. copper per ton. The workings throughout the mine look fairly well. The ore on the main lode was stoped right out between Nos. 2 and 1 levels, as also in the south workings between Nos. 3 and 2 levels. The stope from No. 3 has come up unexpectedly in the footwall at 11 feet out from No. 2, and this has furnished a new lode which, to all appearances, may be stoped up to surface. On the whole, the mine looks well. Forty tributors have been employed.

Silver King.—The west crosscut was driven to 924 feet; the lode (poor) was cut and connections made with air shaft 108 feet from surface. For 45 to 50 feet there is a fair lode; from that down to the level it is poor. There are three lodes in this crosscut, considered well worth driving upon, but the exhaustion of the company's funds has rendered it necessary to close down. Fahey's old tribute is again being worked on a small scale, and better results are looked for.

Zeehan Queen.—The necessary work preparatory to commencing operations at No. 4 shaft is being done. Everything is expected to be ready before the end of March. Thirty men have been at work, 20 of these being tributors.

Silver Queen Extended.—Thirteen men, of whom 12 were on tribute. The work done during the quarter embraced 126 feet of driving, 48 feet of sinking, 20 feet of rising, 174 feet of stoping, 221 feet of trenching; total, 589 feet.

Comstock Mine.—Two men. A fifty-ton parcel of zinc ore is being taken out. The mine is expected to be taken over and developed by the South Comstock Company.

Zeehan South Comstock.—Thirteen men. The work at present is mainly confined to the open cut. The ore is being taken out in two benches to the No. 1 level. As soon as these benches are sufficiently advanced, a third bench will be taken out to the intermediate level. The greater portion of the work above this level was done by the original owners, who raised galena only and left large bodies of zinc-blende, some of which was used for filling the stopes. The old working to the intermediate level is being exploited by an open cut, and produces a large quantity of high-grade zinc ore.

MOUNT READ.—*The Hercules Mine* is looking as well as ever, but the latest advices are to the effect that, owing to a combination of the smelting works in New South Wales and Tasmania as purchasers of ore, the prices obtainable for the silver-lead ore raised from this mine will not allow a fair margin of profit, and that, consequently, the present programme for the development of the property will have to be reconsidered.

Comet Mine.—Seventy men employed. The company has entered into a new contract with the Tasmanian Smelting Company for the delivery of the entire output of the mine (inclusive of 400 tons gossan flux monthly) at favourable rates. The quantities of flux available are said to be unlimited, and in working this large formation new chutes of ore may be disclosed at any time. The stopes above No. 3 level are maintaining their usual average output of both first class and milling ore. The stopes back of No. 3 level are also looking well. The No. 2 stope going north is now working on a lode 14 feet wide, all remunerative. The draw-lift to unwater No. 4 level is now connected; when unwatered, driving to intersect the lode worked at No. 3 level will be commenced.

Ring Valley Mine.—Twenty men employed. The work done here for the past quarter consisted chiefly of stoping at the No. 2 level on Section 3212. On Section 1400 driving north from the 100-foot level is being continued towards the old Fahl Ore prospecting shaft. Good ore is expected to be disclosed below the tributors' workings, where the chute of ore worked by them proved payable. The immediate extension of No. 1 tunnel on Section 3212 is under consideration, and about 200 feet further driving will bring it under the chute of No. 2. Very rich silver ore exists underfoot in this level,

and its continuance and possible enrichment in the lower level (100 feet below No. 2) is probable. The 54 $\frac{3}{4}$ tons of fall ore raised contained 8507 ozs. silver, and also produced 3 $\frac{1}{4}$ tons standard copper.

Tasmanian Smelting Company.—During the three months ending 31st December, 5509·875 tons of ore have been bought, containing 1489·934 tons lead, 263,201·54 ozs. silver, and 470·438 ozs. gold. The production of bullion has been 1603·338 tons, containing 1563·255 tons lead, 271,856·41 ozs. silver, and 484·945 ozs. gold. The figures for the corresponding three months of the previous year were as follows:—3190·067 tons of ore purchased, containing 1353·824 tons lead, 110,194·76 ozs. silver, and 323·923 ozs. gold. The bullion produced was 1886·266 tons, containing 1838·834 tons lead, 158,486·33 ozs. silver, and 197·091 ozs. gold. While the production of bullion during the period just mentioned was high, in consequence of high-grade lead ores being smelted from stock, a comparison of the quantities of ore bought during both periods shows plainly that the works are now treating larger quantities of low-grade ores. During the last quarter of 1902 the purchase of ore amounted to 2319·808 tons more than in the corresponding period of 1901, while the tonnage of lead in this ore increased only by 136·11 tons. The additional ore-tonnage consisted mainly of low-grade gossan ores, containing from 30 to 40 ounces of silver per ton, which accounts for the higher amount of silver during the last three months of 1902.

The comparative statistics for the total of the two years 1901 and 1902 are as follows:—

	Year.	Ore (Tons)	Lead (Tons)	Silver (ozs.)	Gold (ozs.)
Purchased.	1901	9367·710	4257·772	344,644·18	639·998
	1902	19,338·498	5838·908	881,105·32	1697·166
Produced.		Bullion.			
	1901	4513·444	4395·220	419,986·72	1045·623
	1902	6824·988	6654·376	962,502·88	2135·056

The proportions noticeable in these totals are similar to those referred to above in the figures for the quarterly periods in the respective years.

NORTH-WESTERN DISTRICT.—*The Magnet Mine* sent away during the quarter 3639 tons of ore, of which 2314 tons, valued at £4253 net, were consigned to the Dapto Works in New South Wales, and 1325 tons, valued at £2794, were sent to the Smelting works at Zeehan. The mine continues to send away regularly about 300 tons (gross) each week. The weights given in the above figures are on a basis of dry ore. The mine is looking well underground, and a nice

shoot of high-grade ore has been opened up to the south. The tramway and drying-plant have been improved in detail, and have worked without a hitch for several months. A complete description of the tramway, its construction and rolling stock, written by the Mine Manager (Mr. R. F. Waller, M. Inst. C.E.), appears in the last Annual Report of the Secretary for Mines, and will repay perusal. An underlay winze is being sunk from No. 4 level to prove the lode at a greater depth. Recent advices are to the effect that at a depth of 40 feet below the level the lode was found to be 3 feet 6 inches wide, consisting of bands of high-grade sulphide ore, occasionally showing native silver. Assays of selected samples returned 82 per cent. lead and 245 ozs. silver per ton.

In the Heazlewood district the Confidence Mine has employed 4 men. For the last 130 or 140 feet the drive has carried a little metal almost continuously, in places 2 or 3 inches perfectly clean galena. About 260 feet have now been driven on the lode in the low level, and about 40 or 50 feet more driving will bring the level under the big body of mineral in the upper level. The Washington Hay Mine is idle, awaiting the result of the work in the Confidence, when there is a probability of its starting again. The hand-picked ore from the Washington Hay (firsts) carries from 76 to 104 ozs. silver per ton.

The Long Tunnel Syndicate has suspended work for the present, as the market rates were not high enough to compensate for the excessive cost of transporting the ore to the rail (£3 7s. 6d. per ton). A little more deadwork is required at the mine. The tunnel has been extended to below the shaft, and the connection has to be made by a 10-foot rise. It is estimated that a further distance of 40 feet has to be driven to get the shaft-shoot of ore. For the last 40 feet a slide is stated to have come in, cutting out the lode. Good ore is said to exist all the way down the shaft (90 feet). The silver contents of the parcels sent away by the syndicate have been high, ranging from 82 ozs. to 130 ozs. per ton for 7 per cent. to 16 per cent. of lead. With some of the ore there is an admixture of from 12 per cent. to 18 per cent. zinc. With an improved track the mine could be developed with some chance of profit.

The Victorian Magnet and Bell's Reward have been at work in this district; the latter is now idle.

North Mount Farrell Mine.—The ore reserve is still increasing, but the output is limited pending the erection of a concentrating mill, which is now in hand, and expected to be finished by the end of April. The hand-picked ore raised the last quarter was 224 tons, averaging 70 ozs. silver per ton and 64 per cent. lead; net value, £3024. Forty-four men were employed. About 36 tons per week are being sent away by the new tramway; 250 tons were despatched during the quarter.

Devon Mine.—This has now closed down for a time, the cost of transport being greater than the ore can bear at present market prices.

COPPER.

Mt. Lyell Mine.—The ore treated at the Reduction Works in the quarter ending 31st December was as follows:—

	Dry Weight.			
	Tons.	cwts.	qrs.	lbs.
Mt. Lyell Mine ore	75,595	19	1	27
Purchased ores	110	0	0	1
	<hr/>	<hr/>	<hr/>	<hr/>
Metal-bearing fluxes, from The Company's South Tharsis Mine	11,430	17	1	18
Metal-bearing fluxes, from The Company's Royal Tharsis Mine	24	4	2	17
	<hr/>	<hr/>	<hr/>	<hr/>
Total.....	87,161	1	2	7

The metal produced was—

Blister copper, 1522 tons, containing—			
Copper, 1503 tons, valued at.....	£	s.	d.
Silver, fine, 138,844 ozs., valued at.....	79,452	6	9
Gold, fine, 4954 ozs., valued at	13,301	5	1
	21,054	10	0
	<hr/>	<hr/>	<hr/>
Total.....	£113,808	1	10

Number of men employed:—

At the Company's Mount Lyell Mine	414
At the Company's South Tharsis Mine	43
At the Company's Royal Tharsis Mine	4
At the Company's King Lyell Mine.....	9
At the Company's North Crown Lyell Mine ...	7
At the Company's Central Lyell Mine.....	7
At the Company's Mt. Lyell Reserve Leases...	1
At the Company's Sections 136-86.....	2
	<hr/>
At the Company's Reduction Works	487
At the Company's Railway	1127
	<hr/>
Total	1785

Work was carried on at the Iron Blow as usual. Facilities for increasing the despatch of ore to the smelters have been completed, by providing a suitable chamber on the level of the No. 4 workings, where one of the company's serviceable air-winchies is installed for working the balance of the ground intended for the present to be mined by open cut. Close to the entrance of No. 5 and on the old *King Lyell* ground, a prospecting-shaft has been sunk 140 feet, and opened out north 60 feet and south 35 feet, for the purpose of determining the extent of the cupriferous clays which were disclosed

here by diamond-drilling. On the floor of the south drive copper is showing similar to that mined at the Lyell Blocks. Operations underground are chiefly confined to stoping over No. 8, and prospecting by contouring and penetrating the ore-body at this depth. In the Central Lyell ground a crosscut is being put through the pyrites, in order to locate a position from which a vertical hole will be bored through the mass so as to obtain an idea of its future possibilities.

At the *South Tharsis Mine* increased quantities of fair-grade fluxing-ore (containing occasional enrichments) continue to be mined from the open-cut quarry. At the *Royal Tharsis Mine* boring was continued to a depth of 800 feet. The schist passed through was similar to that showing at surface. At the *North Crown Lyell* three shallow adits have been driven to, and on the contact line, with indications of the higher-grade sulphides in each of them. Prospecting was also continued on the Lyell Reserve and Section 136-86. With these various exploratory works constantly going on, it is anticipated that additional sources of revenue will be disclosed. Great economies have been effected in smelting, resulting in the ore being smelted without using any coke. A further economy recently introduced is in reducing the amount of hot air, and thus effecting considerable saving in labour for firing the stoves. A concentration of the air is having remarkable results in increasing the capacity of the furnaces. These metallurgical improvements reflect the highest credit upon those responsible for them, and have a most important effect upon the working-results at Queenstown.

North Mount Lyell Mine.—During the past quarter the output has been as follows:—

	Tons.	Estimated Gross Value.
Ore forwarded to Reduction works at Crotty	10,730	£55,500
Metal bearing fluxes ditto	3090	400
Total.....	<u>13,820</u>	<u>£58,900</u>

The average number of men employed by the company was—

At the North Lyell Mine	260
At the Reduction Works at Crotty	640
On the Company's Railway	125
On the Extensions of Railway to South Mt. Lyell Mine.....	50
TOTAL	<u>1075</u>

At the mine, the most important work has been the sinking of the winze below No. 2 level 100 feet, and proving at this depth a continuation of the ore met with in the upper workings. To facilitate hauling, a chamber has been shot out in order to receive an air-winch, after which, besides crossing the ore-body, sinking will

be resumed. The output is now solely derived from the western ore-body, from which high-grade mineral is being won. In all 342 feet of exploratory work has been accomplished during the quarter. At Crotty, four furnaces are in full blast. Unfortunately the main stack was struck by lightning and demolished on the 28th December.

South Mount Lyell Mine.—Work was resumed at this mine on the 7th October by unwatering to the 600 feet level. Since then a commodious chamber has been cut and timbered south of the shaft, in order to procure basic-flux from the pyritic body for the smelters at Crotty. To the end of the quarter 2527 tons were despatched. Two ore-bins, holding respectively 260 and 500 tons, are near completion, and 60 men have found employment.

Mount Lyell Blocks.—At this mine 908 tons of copper-bearing clay have been treated, returning 15 tons of concentrates, with an average of 22 per cent copper. Fourteen men have been employed. At present the staff is reduced, pending the re-construction of the company.

Tasman Lyell Mine.—Work continues on both sides of the mountain, and recently an intervening tunnel was started midway on the Comstock track to intersect and drive on the line of contact, but so far the prospects have nowhere been more than encouraging. Twenty men employed.

Crown Lyell Mine.—Since the resumption of operations, the north-west drive on the No. 3 level has been advanced to 544 feet. Its course is on a slide or break in the country, which has been followed from the North Lyell main ore-body, and it is expected that this "indicator" may lead to another deposit of ore. The compressing plant is supplying a quota of air to the North Lyell Mine. Seven men are employed.

Tasman Comstock Mine.—Exploratory work continues, but work on the tramway is suspended, which will delay the time when the mine should be delivering ore to the smelters. Fifteen men are employed.

Tasman and Crown Lyell Extended.—The main adit has now been driven to 1273 feet, which is beyond where the lode was expected to be cut. Favourable splashes of ore are scattered through the face. Six men are employed.

Great Mt. Lyell Copper Mine.—This is idle, but the company is attempting re-construction, and work is expected to be resumed shortly. The expenditure to date, since the incorporation of the company, has been £16,000 on and about the property; of this amount, £11,000 has been distributed in wages.

DARWIN AND JUKES FIELD.—The Lake Jukes Proprietary is the only mine at work on these ranges. A tunnel has been extended to 174 feet with two men. The country passed through is felsitic, and

the intention is to drive to its contact with the schist, which is considered a favourable zone for deposition of ore.

NORTH-WEST COAST.—Exploratory work continues at the Barn Bluff Mine. Rutherford's Copper Show at Stowport is receiving attention again. This discovery was made two years ago, when favourable assays were quoted of copper pyrites. Some money was spent in developing it, but increasing water led to a suspension of operations.

COAL.

The raisings this quarter have been 12,076 tons, against 14,259 tons the previous quarter. The different collieries have contributed to the output as under:—

Colliery.	Tons raised.	Men employed.
Mount Nicholas.....	4447	60
Cornwall.....	6536	66
Jubilee.....	...	...
Cardiff.....	...	...
Spreyton.....	330	9
Dulverton.....	513	4
Mount Cygnet.....	148	3
York Plains.....	80	2
Glen Leith.....	22½	5
Total.....	<u>12,076½</u>	<u>149</u>

The Cornwall and Nicholas mines have continued their regular output and despatch of coal. The stocks of Jubilee coal are sufficient to meet the demand, and work at the mine has stopped for the present. Work at the Cardiff Mine was confined to endeavours to recover the seam beyond the fault. Some indications of coal came in, but nothing definite was proved before exhaustion of funds necessitated cessation of work. An increase of capital is being arranged.

GEORGE TOWN.—Coal is reported from a spot about five miles from George Town on the River Tamar. Surface outcrops are known, and it is stated that boring-rods put down to 60 feet have passed through a promising seam.

COLEBROOK.—The Marialva property is reported as having improved prospects, the coal being 11½ feet thick. The capital of the company has been increased, and the siding is to be extended 10 chains further. The shaft itself is only 10 yards from the Main Line Railway.

RECHERCHE BAY.—The second bore on the Manuka Plain, south of the Catamaran River, was carried down to 726 feet without

intersecting a seam. The rock passed through was mainly hard, white sandstone impregnated with micaceous iron ore. A few beds of grey shale were also met with. Coal markings were noticed at 254 feet, 296 feet, and 328 feet. At 695 feet fine-grained diabase rock was struck, and continued in a decomposed condition and changed form to the bottom of the bore (726 feet). These bores indicate that a floor of diabase underlies the coal measure sandstones at Catamaran. The first bore touched it at 216½ feet. The proximity if this intrusive rock is an evident drawback to the field, but, assuming that the intrusions are confined to a fair depth, there is a great extent of sandstone country in which coal-seams can live, and as they are known to exist, the work of proving their extent is a desirable one. The drill is being removed to the Moss Glen Company's property, where two bores are contemplated, one on the shore of Recherche Bay and the other 200 feet up the mountain. The company has been boring with hand-power plant in several places, but unsuccessfully, as the seams are frequently cut out by concealed intrusions of diabase.

FARM COVE.—Boring with the Government diamond-drill (No. 2) was started on the 10th November, and was continued to the 31st December, as far down as 362 feet. The beds passed through were clays, sandstones, and shales. At 9 feet 5 inches from the surface a seam of lignite 3 feet 10 inches thick was intersected; at 180 feet, lignite 5 inches; at 343 feet, lignite 3 inches; at 354 feet, very thin bands of lignite. All these beds are of Tertiary age, and the whole series of the Tertiary strata must be passed through before reaching the Coal Measure sandstones which most probably underlie them.

CONCLUSION.

The total value of the minerals raised and exported from Tasmania this quarter was £404,950, against £380,621 the previous quarter. There were increases in the quantities under the head of silver, copper, and tin by 791 tons in the aggregate. On the other hand, the quantity of gold won was 950 ounces, and of coal 2183 tons less than the previous quarter. The values for the corresponding quarter of 1901 were higher, being £468,725, but this was due to the higher rates ruling for metals, and not to a higher output, for a comparison of the quantities for the two periods shows that the production and export for the past quarter exceed the tonnage of the quarter ending 31st December, 1901, by the following amounts:—Tin and tin ore, 135 tons; silver ore and bullion, 1894 tons; copper, copper ore, and matte, 214 tons; gold, 500 ounces. In coal there has been a falling-off by 511 tons. These figures show the buoyancy of the industry, and the strong position of the fields which have responded, not only to the stimulus of enhanced prices, as in the case of tin, but also (in the matter of silver especially) to

the pressure of adverse markets, by so readily augmenting their output.

Silver, unfortunately, has fallen to a price which affects such mines as are dependent for their profits principally upon that metal, and there is very little hope that it will return to the old figures. Siam has recently joined the countries which have adopted a gold standard, and there are unpleasant rumours that Mexico is considering the question of restricting her silver coinage. It is to be hoped that a wider use of silver in the arts and industries will be encouraged, for at present this seems to be the only way of creating an increased demand. The rising lead market will be beneficial to our silver-lead mines. Some districts in the State have gone out of production owing to the combined effects of low metal rates and high transport costs, but there are already signs of attention being paid to them again, and there is but little doubt that the better prices will stimulate work. The price for copper has advanced during the quarter, though only slightly above what it stood at in the beginning of last year, and the two chief consumers of this metal, the electric and ship-building industries, are as hungry as ever, although discouraging prognostications have been made by high authorities. The large stocks believed to be held in America and the continued steady production combine to restrain the market rates, which, however, for the present, are rising. The market for tin leaves nothing to be desired.

From the preceding, it will be seen that the mining industry of the State at the close of the year gives evidence that it rests on a solid basis. The fields which thrive under current market conditions are specially entitled to the increased attention of investors. The established mines continue to produce with regularity. It is, however, desirable that no slackening should occur in prospecting work; and it is also next to certain that some of our known mines, now idle, could be worked profitably if only attention, adequate skill, and capital were applied to them.

Return showing the average number of men employed in or about the mines during the quarter ending 31st December, 1902.

District.	European.	Chinese.	Total.
North and South	688	...	688
North-East	535	158	693
East	751	59	810
North-West	387	...	387
West	3995	...	3995
	6356	217	6573

Value of the mineral output per man employed, £61 12s. 1 $\frac{1}{2}$ d.

The dividends and bonuses paid during the quarter were:—

	£	s.	d.
From Copper Mines	13,750	0	0
” Gold ”	4800	0	0
” Tin ”	14,000	0	0
” Silver ”	4968	0	0
” Coal ” .....	...	
Total.....	<u>£37,518</u>	<u>0</u>	<u>0</u>