

(No. 47.)



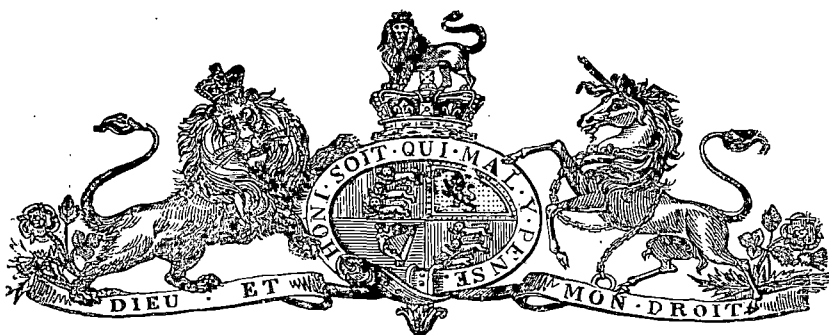
1888.

PARLIAMENT OF TASMANIA.

REPORT OF THE SECRETARY OF MINES
FOR 1887-8:

(INCLUDING INSPECTOR OF MINES' REPORT.)

Presented to both Houses of Parliament by His Excellency's Command.



REPORT OF THE SECRETARY OF MINES.

Office of Mines, Hobart, 20th July, 1888.

SIR,

I HAVE the honor to submit my Report upon the Mines Branch of the Lands and Works Department, for the year ending the 30th June, 1888.

Appended will be found comparative Tables of the yields of Minerals and Metals, the number of Leases issued, the area of land held for Mining purposes, and detailed reports made by the various Commissioners upon the progress and present condition of the Mining industry in their several divisions, a perusal of which will afford satisfactory proof that, notwithstanding the exceptional drought which was experienced during the past summer, and the consequent absence of that essential element in all Mining operations—water, the yields of metal have been satisfactorily maintained, and the general progress and development of all branches of the industry have been of a steady and permanent character. I speak not, of course, of the wild excitement induced by the exceptionally high price of Tin which ruled during the early part of the present year, and by the reported discoveries of Silver in various parts of the Colony—circumstances which caused hundreds, nay thousands, of acres of land to be applied for for Mining purposes upon the very barest possible hope of ultimate success, and which, as the result will show, will, in too many instances, have been the means of diverting capital into the pockets of sharebrokers and scrip-mongers, to the injury of legitimate Mining, and to the serious loss and disappointment of too confiding investors. But there have been, beyond doubt, valuable discoveries made. Capitalists in England and the adjacent Colonies have been encouraged to enter upon several *bonâ fide* ventures in various parts of the Colony. In many directions an improved style of mining and more modern appliances have been introduced, and the general outlook is more promising and hopeful than it has ever yet been.

The discovery at the Linda, on the West Coast, from which, at the early part of last year so much was expected, has not, I regret to say, so far justified what was prognosticated in respect of it. Various discoveries have been made during the year, notably at the Scamander River, Mathinna, Ilfracombe, Mount Claude, Middlesex Plains, and in several localities on the West Coast, but up to this time nothing of extraordinary richness has been unearthed. Gold.

Discoveries of this metal have been made, and are daily being reported, in several parts of the Colony; the most notable during the year being at Mount Zeehan on the West Coast; the Penguin, on the sea-shore on the North-West Coast; Mount Claude; Rex Hill, near Avoca, and at the Scamander. At Mount Zeehan alone no less than 24,000 acres have been applied for for Silver mining; the deposit of metal is described as practically unlimited, and the assays as exceptionally rich. In the absence of roads through the dense wild forests of our western country, but little has yet been done to open up this field; but if one tithe of what is said of it be true—and there is no reason to doubt it—ere many months elapse a scene of life and activity will arise that will revolutionise that portion of the Colony. A company is now being formed for the purpose of constructing a railway from Mount Zeehan to the seaport at Strahan, a distance of some thirty miles. Silver.

Discoveries have been made at Heemskirk, Mount Ramsay, Mount Granville, Mount Claude; Tin, and in the vicinity of Ben Lomond, Gould's Country, Mount Maurice, the Straits Islands, and other places, valuable deposits are in process of development.

An old discovery at Frankford, on the West Tamar, has been further developed, with great promise, it is said, of success. A discovery has also been made at the Mainwaring River, on the South-West Coast. Copper.

Coal.

No new discoveries have been reported ; but it is satisfactory to note that our native Coal, which is largely used for both steam and domestic purposes, is steadily pushing the imported article out of the market. The output of native Coal during the past three years has been as follows :—

During year ending June, 1886	2233 tons.
Ditto, 1887	9006 tons.
Ditto, 1888.....	22,789 tons.

Whilst the importations of foreign Coal during the corresponding period have been—

1886	38,236 tons.
1887	30,552 tons.
1888	33,070 tons.

So far, the heavy cost of inland carriage has proved too great a handicap to admit of profitable exportation of our Coal ; but, independently of the saving effected by the railways and steam users, an enormous boon is conferred upon the householders of the Colony by the supply of as good fuel as can be desired, at little more than half the cost previously paid.

Precious stones.

This is a new branch of the industry. During the past year a Company has been formed, and is said to be working successfully, for mining Topaz, Spinels, Zircons, and Sapphires, at Thomas's Plains. A discovery is also reported near Circular Head.

Evidences of activity.

During the period from 1st July, 1887, to 30th June, 1888, there have been received—

Under the Mineral Lands Act—

1729 Applications, to lease
60,882 Acres of Land, and
644 Heads of Water.

Under the Gold Fields Acts—

241 Applications, to lease
2073 Acres of Land, and
102 Heads of Water ;

whilst the issue of Miners' Rights, Prospectors' Licences, and Prospectors' Protection Orders has far exceeded that of any other corresponding period.

Technical Education.

I regret to say that nothing has yet been done towards the establishment of at least one School of Mines in the Colony, nor towards the formation in the various mining centres of classes for the instruction of prospectors and working miners, in the identification of ores, making of practical tests and assays, use of blowpipe, and other information readily acquired by the intelligent miner. I am satisfied that such classes would be of great service and much appreciated, and I hope ere many months elapse that even a small beginning may be made in this direction.

Departmental staff.

In Hobart the Staff has, owing to the unusual press of work, been increased by the appointment of a Junior Clerk and a temporary Clerk, but it is not adequate to keep pace with the current business to be done ; the day is not far distant when more assistance must be afforded—the work is growing, and the requirements of the industry are increasing. Many matters, such as Water Supply, Sludge Channels, Timber conservancy, and such like, are pressing upon the attention of the permanent Head of the Mines Branch, and time must be afforded him to enquire into and devise measures for dealing therewith. At Launceston and the Country Branches the Staff remains the same, with the exception of the West Coast, where the much-needed appointment of a Resident Commissioner has been made : this appointment has given unqualified satisfaction to the Mining community in that wild region, and the officer appointed has already, I am assured, gained the confidence of the miners in his division.

Division of the colony.

For departmental convenience the Colony is divided into Districts, each in charge of a Commissioner, as follows :—

The Northern and Southern, comprising the country on the right and left banks of the River Tamar as far west as the River Blythe, and on the east to the Scottsdale District, with such mineral country as there is in the southern portion of the Colony, and includes the Gold-fields at Beaconsfield, Lefroy, and Lisle. The North-Eastern District comprises the whole of the North-eastern country, including several important Tin-fields, with the Gold-fields of Mount Victoria and Waterhouse. The Eastern District comprises the eastern portion of the Colony, and includes the Tin-mining centres at Ben Lomond, Weldborough, and Gould's Country, with the extensive Coal-bearing country around Fingal and Seymour, and the Gold-fields at Mangana and Mathinna. The North-Western District embraces the area of country extending from the River Blythe northwards and westwards to the sea ; it includes the celebrated Tin mines at Mount Bischoff, an extensive area of Tin-bearing country at Mount Ramsay, the recently discovered Silver-field at the Heazlewood, and other more or less

important Mining centres. The Western Division embraces the whole of the West Coast country from the Pieman River southwards, including the Tin-fields at Heemskirk, the extensive Silver country at Mount Zeehan, with the Gold-mining centres at the Linda, King, and Queen Rivers, the Princess River, and other auriferous country.

The Report of this officer is annexed. It is gratifying to find that the number of Mining accidents during the past year has very sensibly diminished. This officer also performs the duties of Mining Geologist, and in that capacity has visited the Silver-field at Mount Zeehan, and reported elaborately thereon for the Government; he has also made geological examinations and reports of various localities throughout the country, in the interest of private holders. Attached to this Report will be found an interesting paper by him upon the mineral resources of the Colony.

The Inspector of Mines.

Two Diamond Drills, the property of the Government, each in charge of a skilled foreman, have been kept constantly at work throughout the year, prospecting for Coal principally, in various parts of the Colony. The details of the work done are annexed.

Diamond drills.

The various provisions of these Acts are fairly complied with. The "No Liability" system is that now generally adopted. The past year has been one of great activity in the direction of Company forming, no less than eighty-five Mining Companies having been incorporated during that period.

The Mining Companies Acts.

It is gratifying to be able to record that, in at least one instance, the wisdom of Parliament in setting aside a sum of money to be expended on the £1 for £1 principle in aid of deep sinking operations, has been productive of good results. The West New Chum Company, for their mine at Lefroy, obtained a grant of £1500, by means of which they have been enabled to sink their main shaft a further depth of 206 feet, and to extend their drives and crosscuts 315 feet, with highly satisfactory results; and there is every prospect of their again picking up the extraordinarily rich run of gold which existed at the shallower levels of this line of reef. The mine is now paying its way. There is little doubt that, but for the timely assistance afforded by this vote, the very existence of Lefroy as a mining centre would have been a thing of the past. Another Company, "The Moonlight," at Beaconsfield, is utilising the vote in deepening their shaft, in the hope of picking up the Tasmania Reef. So far, their operations have not been attended with success. It is to be regretted that the other Companies which so eagerly sought to obtain grants have not yet seen fit to take any step towards making use of them.

Deep-sinking vote.

During last Session the sum of £3000 was voted for this purpose, of which amount the sum of £1750 has been allotted, upon the recommendation of a Board consisting of the Secretary of Mines, the Inspector of Mines, and the Commissioner of the division affected. The grants were made to Companies and individuals upon the £1 for £1 principle in every case, in aid of prospecting operations in deep ground for sub-basaltic and deep deposits of tin and gold. Time has not yet sufficed to prove the wisdom of this vote; but it is, without doubt, if judiciously expended, a most valuable aid to legitimate prospecting.

Aid to mining.

Under the Act of last Session the Government purchased from the Mount Cameron Hydraulic Tin Mining Company their rights and interests in 12½ miles of constructed main race and 9 miles of branches, and are now engaged in constructing some 5½ miles and 15 miles of southern and northern extensions respectively, to convey the water from the Mussel Roe River, through the country on the eastern bank of the Ringarooma River, for the purpose of serving a wide extent of stanniferous country hitherto unworkable for lack of water. A Board, consisting of the Secretary of Mines, the Inspector of Mines, the Commissioner of the District, with two practical nominee members, has, under the Act, the management and control of the race. They have held meetings, framed regulations, and thoroughly repaired the constructed portion of the race. Under the advice of the Board, some delay has taken place in commencing the completion of the race, in order that a thorough examination of the country may be first made so as to ensure the all-important points, that the greatest command of country and the best head attainable may be secured. The delay and cost involved in this examination will assuredly be amply justified by the result. The earnestness with which the benefits likely to accrue from the construction of this work has for years past been pressed upon Parliament by those competent to express an opinion, gives good ground for the belief that this first venture in the direction of a national water scheme will prove a success. Ere many months elapse it is expected that the whole race will be in full working order.

Mount Cameron Water-race.

REPORTS OF COMMISSIONERS.

Mr. Commissioner Glover, in charge of this division, reports :—

"The only events worthy of special mention which have occurred in my division during the last twelve months, beyond the increased impulse observable in mining enterprise, have been the discovery of Gold near Middlesex Plains, about midway between Mount Claude and Middlesex Plains, resulting in the granting of two alluvial reward claims and a reward lease for quartz. Several leases in the same locality have also been applied for.

Northern and Southern Division.

Middlesex Plains.

- Saxon's Creek. "At Saxon's Creek, about eight miles north-west from Beaconsfield, an old discovery of copper has been revived. The lodes are believed to be very extensive and rich, and a number of leases have been taken up with the intention of placing the enterprise before English capitalists as soon as preliminary arrangements are completed. Many persons are engaged in exploring the region for further discoveries. A discovery of gold in the iron-ore at Ilfracombe has also been made, and is likely to lead to the establishment of what may prove to be an important industry. An analysis of this ore made in Melbourne gave about one ounce to the ton, and also resulted in the discovery of a mineral said to be valuable as being highly adapted for the manufacture of paints.
- Ilfracombe.
- Beaconsfield. "At Beaconsfield, besides the two long established gold-producing mines, a marked revival has taken place in the renewed operations on four leased sections adjoining the Tasmania Mine, which had for several years remained dormant for want of capital. This having now at length been supplied, the holders are proceeding with all due energy with mining work, but sufficient time for any decided result has not yet elapsed. The Sydney capitalists who last year engaged in the development of the Ophir alluvial deep lead are still vigorously engaged in that enterprise, and have very nearly completed the erection of the necessary powerful machinery, their underground work having been impeded by the water, which is a constant source of obstruction to deep sinking at Beaconsfield. It is very generally expected that a very rich lead of gold will be struck on this property before the end of the ensuing summer, which with other mines on the same lead now awaiting results, will afford a very considerable accession to the gold production of the country. The other alluvial mine on the same lead, on which a large amount of work has been done in the past, known as the "Denmark," seems to be languishing for want of capital, although the sum of £300 was awarded to it from the Parliamentary grant in aid to mining, under certain conditions of previous expenditure by the company. The gold derived from Beaconsfield during the past twelve months has been 28,000 ounces, value £103,717, about 450 ounces being alluvial gold. The average number of men employed for the last twelve months was 300.
- Lefroy. "At Lefroy mining operations have been principally confined to the three long established mines. The "New Native Youth" claim, which had for several years remained dormant, has resumed work in the lower levels, and this work is still in progress. The "City of Launceston," in the hands of tributors still continues to pay the holders a highly satisfactory and steady yield of half an ounce to the ton, in easily worked country. The West New Chum is still vigorously prosecuting its work, the yield of gold defraying its expenditure whilst prospecting at the deep levels. The yield of gold from Lefroy for the past twelve months has been 1985 ounces, value £7379. The average number of men employed has been 90.
- Lisle. "The gold-field of Lisle has presented nothing remarkable during the year, being simply an alluvial field, with very little prospecting or exploration proceeding upon it, a great proportion of its work being devoted to partially worked-out and abandoned ground. The estimated yield by this field for the past year has been about 1360 ounces, value £5172; the average number of men employed for the same time being 61.
- Diamond drills. "The diamond drills have been in continuous operation throughout the year. The operations of No. 1 drill have been carried on in boring for coal at Mount Malcolm, Killymoon, and Seymour, in which several seams of coal have been struck; at this last, work is still in progress. No. 2 drill has been employed boring horizontally for tin at Mount Bischoff, and, subsequently, at the Old Beach for coal, and has now been removed to Campania to bore for coal. The details of the work of the drills are set forth in a separate form. During the year there have been 126 prospectors' protection orders for gold issued."
- North-Eastern Division. Mr. Commissioner O'Reilly thus writes:—
- Mount Victoria. "The state of gold-mining in this district has not materially improved since my last report, the amount of work done being very limited, and the quantity of gold won showing a marked falling off. "At Mount Victoria three claims are now being worked, the number of men employed being 21. The quantity of gold produced during the past year was 405 ounces, against 786 ounces the previous year. Crushing operations had to be discontinued for four months through scarcity of water, which, in some measure, accounts for the large decrease in the yields.
- Waterhouse. "At Waterhouse active operations are still being carried on by the Waterhouse Pyrites Gold Mining Company; and, so far as I can learn, with encouraging prospects. "But little attention has been given to gold-mining in this district during the past year. The very high prices ruling for tin ore has caused more attraction towards the tin-mining industry. "During the past year considerable progress has been made in the working and development of many of the tin claims, notwithstanding the serious drawbacks through the diminished water supply during the recent drought, which caused several of the large producing claims to suspend mining operations for three or four months. The very high prices ruling for tin ore during the greater part of the year have caused a more than usual activity to prevail in the production of ore when water was available, and also a large extent of costly preparatory, or 'dead work,' in the building of dams and in the cutting of water-races, &c. Notwithstanding the disappointments and difficulties that have had to be contended with in conducting mining operations, the returns of yields of tin ore are, on the whole, very satisfactory.

"The Upper Ringarooma and Cascade mining localities have not exhibited any marked progress during the past year. Had the high price of tin continued during the winter months, I have no doubt that many claims would be worked, that, at present prices, would not pay to mine, owing to the deposits of tin not being sufficiently rich. Upper Ringarooma.

"In the Branhholm locality considerable enterprise has been exhibited in carrying out mining operations on the claims that had been previously worked, and also in effecting preparatory work and prospecting in new ground, with reasonable promise of future success. A portion of the Branhholm estate, adjoining the 'Arba' Association's claim, has been let for mining purposes; and active mining operations will, I understand, be soon commenced. The increase of the mining population in this locality has led to a number of residence areas being taken up and occupied in the Town Reserve. 74 Europeans and 62 Chinese are employed in this locality,—the former principally on wages, and the latter at tribute work. Branhholm.

"With the exception of the North Brothers' Home, all the claims at Brothers' Home are now being actively worked with satisfactory yields, the output for the last quarter being 80 tons, against 46 tons for the corresponding period in the previous year. The Brothers' Home No. 1 Co.'s claim, as also the Triangle, are now being worked by underground 'drives,' or mining, not, as formerly, by hydraulic sluicing. The yields from the Messrs. Krushka's claim show a small falling-off from the corresponding quarter last year, and during the last two years have not been so heavy as in 1885. The Briseis Tin Mining Co. have not yet quite completed the very extensive easement works undertaken a few years ago to open out the mine, but it is reported that this will be completed in a short time, so as to enable active mining operations to be carried on. Mining operations at the North Brothers' Home Co.'s claim have been suspended for the last five or six months, beyond a few men employed in prospecting the ground. 155 European miners and 4 Chinese have been employed during the past three months, and 80 tons of tin ore raised. Brothers' Home.

"Since my last report the claims in the vicinity of Moorina have been steadily worked, and have produced profitable returns. A number of claims at Main Creek, on which mining operations have been for some time suspended, are now being worked. Moorina.

"At the Wyniford River the marked progress referred to in my last annual report continues, enlarged areas being brought under mining operations, with increased production of tin ore. The Argus Tin Mining Co.'s claim still produces the large yields referred to in previous mining reports, and now employ 55 European miners, with 20 Chinese tributers; the yield of tin for the last quarter being 74 tons. A number of new claims have been partly opened during the past year, with encouraging prospects; and, on the whole, the state of the mining industry in this locality appears satisfactory and promising for the future. Wyniford River.

"164 tons of ore have been raised in this locality during the past three months; 74 Europeans and 167 Chinese being employed.

"But little progress could be made with mining operations in the Mount Cameron locality during the summer and autumn months, owing to the scarcity of water, the principal supply available being obtained from the Esk Tin Mining and Hydraulic Sluicing Co.'s works, being raised by pumping from the Ringarooma River. On several claims a considerable amount of preparatory work has been done in the way of building dams and providing storage for water supply during the rainy seasons. Mount Cameron.

"I cannot report any marked improvement in the prospects of the five claims in the Scottsdale District. Enterprise has been exhibited in opening up some few mineral sections near Mount Stronach and providing a water supply, but sufficient time has not yet elapsed to judge fairly of the prospects. Scottsdale.

"The total output of tin ore from the North-Eastern District for the year ending the 30th June last amounted to 1854 tons 8 cwt. 3 qrs., there being a decrease of 28 tons 18 cwt. 1 qr. as compared with the previous twelve months. The shipping agent at Boobyalla has informed me that he had 20 tons of tin ore in store not included in the above quantity, and which he was unable to ship previous to the 30th June, so that the output for the past year might be fairly stated as 1874 tons. For year ending 30th June, 1887, 1883 tons 7 cwt. were shipped from Boobyalla and Bridport. Taking into consideration the continued drought during the summer and autumn months of the past year, the above compares very favourably with previous years, and may be looked upon as very satisfactory. Tin ore shipped.

"The very high prices ruling for tin ore during the greater part of the past year has tended to cause a very marked increase in the number of mineral applications received, with enlarged extent of area, over previous years. From 1st July, 1887, to 30th June, 1888, 565 applications for leases have been received for mineral lands in the North-Eastern District, amounting to 11,441 acres. Of the above, 81 applications were withdrawn, leaving 484 applications, embracing 10,331 acres, to be dealt with by the Mines Department. Of these, 381 applications were made by Europeans, aggregate area being 8141 acres, and 103 applications, embracing 2190 acres, by Chinese. Mineral applications.

"There have been 76 applications received for water rights during the past year, representing 328 sluice-heads of water. Water rights.

"The average number of men employed at the mines was as follows:—Europeans, 416; Chinese, 648.

"There has been a considerable increase in the number of mining disputes and complaints requiring to be dealt with in Courts of Mines during the last twelve months. The scarcity of water during the dry season caused a considerable amount of litigation between claimholders, and there is now a great deal of trouble arising from the flow and deposit of sludge and tailings, &c.

"The steady and progressive state of mining throughout this district has, on the whole, I feel happy to state, borne out my statements in previous Reports with regard to its satisfactory condition and future successful development."

Eastern Mining Division.
Gold.
Tin.

Mr. Commissioner Dawson reports in favourable terms of the mining interest in his division. As to gold-mining, he writes that a considerable amount of prospecting is being done at Mathinna, Mangana, and the Scamander, with promising results. Tin-mining has been vigorously pursued during the year, several discoveries made, and several companies have commenced lode-mining; of which he says, "I expect to be able to say something definite in my next quarterly Report."

Silver.

At the Scamander Company's mine, the permanent shaft is being put down, huts erected, and altogether matters are in a progressive state. On the northern side of the Scamander also prospecting is going on, and a rich discovery is reported at Rex's Hill, near Avoca.

Coal.

The Mount Nicholas and Cornwall mines are in active operation.

North-Western Division.
Gold.

In charge of Mr. Commissioner Crowther, who reports as follows:—

"At the Pieman River there are only two parties working for gold, and the results, owing to the great difficulty of obtaining provisions, will soon cause them to leave the place.

"At Brown's Plains prospecting is being carried on with very fair results.

"At Long Plains parties are prospecting with very encouraging results.

"At the Specimen Reef Gold Mining Company's property the erection of the machinery is being slowly proceeded with, and I anticipate that fully three months will elapse before they commence crushing.

Silver.

"At the Heazlewood Company's Silver-Lead mine prospecting is being actively carried on, and a tunnel is now being put in to prove the lode at a depth. This property at present gives every appearance of permanency.

"At the Heazlewood Extended Silver-Lead Company's property a tunnel is also being put in to cut the lode at a depth, and the indications already met with show every sign of being permanent.

"At the various other sections in the vicinity of the Heazlewood prospecting is being carried on, but sufficient work has not been done to call for any special remarks.

"The want of a road to the Heazlewood is very badly felt, and I cannot too strongly urge the same upon the attention of the authorities.

Tin.

"On the Magnet Range parties are prospecting for a deep lead of tin, and every indication is met with to lead to the opinion that one exists.

"At Mount Ramsay prospecting for tin is being carried on, but the results already met with, coupled with the fact of the great fall in the price of tin, have led to one or two of the claims being abandoned; but some of the claims worked on the co-operative principle are holding their own well, and give every hope of leading to something better when opened out more."

Western Mining Division.

This division has only recently been placed under the charge of a resident Commissioner—a boon which is much appreciated by the mining community. The Commissioner resides at Strahan, the seaport of the district. Although but a short time in the district, he speaks in a most sanguine manner of its mineral wealth, the development of which, he states, is in his opinion only retarded by the fearful condition of the roads and tracks, and consequent high price of provisions. The density of the forests and rugged nature of the country, coupled with the humidity of the climate, add most materially to the difficulties of the prospector; but these latter difficulties can and will be overcome so soon as tracks are formed and rivers bridged, but not till then.

Mr. Commissioner Powell writes:—

"The mining industry, in all its branches, shows decided and steady improvement in this district. The only portion from which I have not received encouraging accounts is the Pieman, and the real cause of this is the extreme difficulty in obtaining provisions. Prospectors seem confident that good payable gold is to be got in the direction of Mount Murchison and the Mackintosh River, but under present conditions the enormous labour and expense of packing provisions prevents prospecting. With a punt established on the Pieman, a road direct to Zeehan (which I believe is quite practicable), and the tramway from Zeehan to Strahan, then present difficulties to a very great extent would be removed, and profitable employment to a large number of miners be given.

Tin.

"Tin mining is steadily progressing. The Mount Granville claim promises to be a valuable one, and having now found tin deposits under the basalt, is most satisfactory. Upon reliable authority I am informed that there are strong indications of valuable deposits of tin all along the line from Mount Granville to Mount Agnew. As in the case of the Pieman, so in this portion of the district,

its development is kept back by the great want of regular supplies of the common necessities of life ; therefore, should the tramway be carried to Mount Zeehan, I look for speedy returns in the shape of the rapid development of the mineral resources.

"The Silver discoveries at Mount Zeehan are, unquestionably, most valuable ; of the quantity Silver of mineral there can be no doubt, and before long a sufficient amount of it will be sent away for treatment to place beyond a doubt its real value.

"The Gold discoveries are also arriving at a point long desired : machinery is now at Strahan Gold awaiting fine weather, and an opportunity to be removed to the Macquarie Harbour Company's claim and the Princess Company's claim.

"The Mount Lyell Company have also completed arrangements for machinery, and it will be landed at Strahan direct from Melbourne in a short time.

"The Princess Company have just finished carting 50 tons of stone to the King River Company's claim to be crushed."

Appended to this Report will be found some remarks by the Mining Geologist, relating to the past and present state of the mineral and metalliferous resources of the Colony, and their future prospects ; also some Statistical Returns, and details of the work done by the Diamond Drills, all of which will doubtless be read with care by those interested in the welfare of the Colony.

I have the honor to be,
Sir,

Your very obedient Servant,

F. BELSTEAD, *Secretary of Mines.*

The Honorable the Minister of Lands and Works.

REMARKS relating to the past and present state of the Mineral and Metalliferous Resources of the Colony and their future prospects.

It is not many years since Tasmania became a country which exhibited solid proofs of mineral wealth ; and without producing statistics as to the yields and outputs of metals and minerals, I would, in the following, specially refer to the ever extending experience I have had under the auspices of the Government for the last seven years. During all that period the various mining regions have slowly (owing to the want of sufficient capital, or a largely increased number of miners,) but surely expanded with substantial prospects that augur well for the future. Though not distinguished by the occurrence of any great mineral discovery or any notable event, the past year has, nevertheless, been one of a very satisfactory nature in our mining history, and the commencement of 1888 has been heralded by the distinctly decisive development of a silver-lead district on the West Coast, which has attracted much outside capital, and will probably be opened by a tramway.

As in the past, a great deal of preliminary expenditure continues to be made throughout our mineral fields. This gradually begins to tell upon the yields and output, so that it may be predicted that it will lead up to a more or less rapid enlargement according to the capital employed in future.

Tin mining still keeps in the foremost rank, and now that many of the older alluvial deposits have been deprived of their contents, it is still very satisfactory to find that in several rivers their old (pliocene) gravel beds are supplying the place of the former, and promise to do so for years to come. Our stanniferous lodes are not yet receiving much attention owing to the want of capital ; the same may be said of the tin-bearing porphyries, but, in one instance, local capital has been subscribed in sufficient amount to do that which English investors decline to do.

Gold mining is still yielding well in the older mines, and Government aid to deep sinking has led to the successful development, at deep levels, of at least one mine, and others promise to follow suit.

Coal is next in importance ; and the output of two mines, in the east, has reached already such dimensions as were not at all anticipated by colonists a couple of years ago. The diamond drill is for this kind of mining the safest prospector, and it is very satisfactory to state that other or even better discoveries have already been made.

From actual and personal observation I know, and I am continuously receiving favourable reports from all parts (old and new) showing our prospectors are continually adding to our information, of the great and diversified character of our mineral resources; and there is, consequently, stable evidence of the solid growth of every branch of mining.

The great variety of our mineral products, although utilised to a fractional extent only, deserves the recognition of European mining capitalists, hailing from localities where mining has reached so great a depth as to render investment exceedingly hazardous as against ours, so near the surface, and where the topographical formation of the country is in many instances so very favourable to very economical mining, and aided by a full supply of timber and excessive water power.

As found in other mining countries, our principal metalliferous deposits are located within zones of particular kinds of rocks, and consequently appear in the form of "belts;" in this manner have we tin ore (and their alluvials); gold, ditto; coal, iron, silver, silver-lead, copper, and others not yet sufficiently tested.

Before going any further, I may take occasion to refer to a matter of the greatest consequence to the progress of mining in this Colony, and that is, how to explain the ill success attending late efforts to obtain, like other Colonies have done by hundreds of thousands of pounds, the assistance of British capitalists, to aid our, in many respects, equally as good if not better developed and undeveloped mines. Having been employed by the Mines Department to report for owners after careful examination upon most of these mines, their non-success in London or elsewhere occasioned considerable disappointment to those interested, as well as to myself. When, however, it became known that the delegates sent Home had from two mines to upwards of a dozen each to dispose of, this extraordinary supply of unknown mining stocks could have had but the result it had; of these delegates, most of them had but a very superficial knowledge of our mineral deposits, and could only support their assertions as to their value by the production of such reports as had been furnished to them by the vendors. One *practical* man went Home to dispose of two mines and succeeded in both cases in obtaining a working capital to open these mines, with promise of value should the mine turn out as reported. This fact is very suggestive.

During the year 1887, in pursuance of instructions received from the head of the Mines Department, I visited, examined, and reported as Mining Geologist (and in connection as Inspector of Mines), upon the under-mentioned mines, mineral and metalliferous districts; viz.:—*

<i>Locality.</i>	<i>Mine.</i>	<i>Description of Mining.</i>
Beaconsfield.	Lefroy.....	Gold.
"	Blyth's Freehold.....	Gold.
"	Denmark.....	Gold.
Ben Lomond.	Storey's Creek	Tin.
"	Ben Lomond.....	Tin.
"	Republic	Tin.
"	Gipps' Creek	Tin.
Brothers' Home.	Ringarooma Valley.....	Tin.
"	Arba	Tin.
"	North Brothers' Home.....	Tin.
"	Briseis	Tin.
Mount Claude.	Mount Claude and vicinity	Gold, Tin, Copper, and other minerals.
St. Mary's.	Harefield	Coal.
"	Cardiff	Coal.
Lefroy	West New Chum	Gold.
Mount Bischoff.	Mount Bischoff	Tin.
Back Creek.	Back Creek Deep Leads	Gold.
Blue Tier.	Full Moon.....	Tin.
Ringarooma.	Nugget	Tin.
Mussel Roe.	.....	Tin.
Frome River.	Cream Creek.....	Tin.

As the above-mentioned mines or mineral districts have been publicly reported upon by the Mines Department, it is submitted that, in the first place, the new discoveries should be succinctly described, to be followed with a reference to the older and productive mines.

It is likewise proposed to draw attention to the great loss sustained by the Colony through the indiscriminate export of raw or crude minerals and metals, which, by a little enterprise, might be converted into more extensive sources of wealth, the materials for which we possess in abundance, and by the utilisation of which population would be attracted and remunerative employment afforded.

* Several of the above districts were visited, as occasion required, several times during the year.

New Discoveries.

According to the above list, I find that the Storey's Creek Tin Mining Company, Mount Ben Lomond, made rather an important discovery, which is of great geological value as well, and possesses, besides, a far-reaching scientific interest. The Company in question are mining both lodes and alluvial, which latter had, to all appearance, been exhausted, inasmuch as miners had found the tin gravel resting upon a brown and firm clay. It may be stated that the scene of operations occurs at 3200 feet above sea level, the basaltic crags above this plateau rising some 1800 feet higher, and the volcanic rocks are at about 1600 feet below their summit, underlaid by a seam of coal.

The clay referred to was found to contain pebbles of round gravel, inducing miners to sink through same, and discovering at a depth of not exceeding 20 feet a stratum of true pliocene gravel, having all the lithological characteristics of that geological era. It was the more valuable because this gravel gave from a few ounces to nearly two pounds of very pure ore to the pan, in which fine crystals of "amber tin" were found frequently; the extent appears large, and will take considerable time to exhaust.

Bearing in mind that this "ancient river" gravel occurs, it leads to speculations of the very small extent Tasmania must, at remote periods, have occupied—a few basaltic crags here and there. A further and very interesting fact exists in the geological evidence adduced, that a system of rivers occurred at an altitude fully 3000 feet above the present drainage of the country.

The Full Moon Tin Mining Company* have also worked, with marked success, both the alluvial and lodes some time ago. On change of proprietary, accidentally a very rich discovery of tin ore was made quite in another direction from the older workings. So far as examinations would permit, it appears that a somewhat porphyritic dyke traversed by quartz veins vertically segregates the adjacent coarse granites. It is quite distinct from the surrounding country rocks, and so far a considerable area has been exposed to view, all of which is more or less rich in tin ore of a medium sized grain, though at or near quartz veins the ores become much coarser. This discovery has not so far been utilised to the extent the very good prospects warrant.

The Ringarooma Valley † has now proved a continuation of the Arba Deep Tin Ore Lead, and English capital is now employed to develop this proved rich gravel deposit.

The Republic Tin Mining Company, Mount Ben Lomond, having discovered one of the richest tin ore lodes in the Colony, are actively following same on the underlay, and ample capital has been subscribed for its proper development, success will, in all probability, be achieved, inasmuch as some of the ore has given as high as 30 per cent. of pure ore per ton after crushing with an inferior dressing plant.

The Gipps' Creek Company, of the same locality, have a somewhat similar lode to the former, only it occurs in a dyke of friable whitish porphyry, and though about as rich, is much wider and more easily worked, their lode being about three feet as against one foot for the former.

The Briseis Tin Mining Company, after spending nearly £15,000 in the construction of a large double tunnel, have at last broken into the Krushka Brothers' lead of tin gravel, which is still rich, and are now preparing, after years of hard and expensive work, to work this gravel deposit on a large scale.

The Brothers' Home No. 1 have, in sinking their main shaft, a deposit of rich tin ore, and have satisfactorily proved the existence of a much more extensive area of a similar description than was generally anticipated. Having erected pumping, winding, and ore-dressing machinery driven by two of Pelton's pressure water-wheels, their weekly output bids fair to increase rapidly in proportion to the number of miners employed.

The West New Chum Gold Mining Company, Lefroy, after having availed themselves of the Government Aid to Deep Sinking under Act 49 Victoria, No. 51, have succeeded in discovering the lode again at much deeper levels; and it is a very satisfactory fact that this Company would have long since succumbed, inasmuch as calls could not be collected any longer had they not obtained this Government aid. The lode averages from eight inches to 1 foot, and of the tons crushed a fair remunerative yield has been obtained. As the lode extends along its strike for considerable distances, and no less than three levels are opened for its rapid working, it appears only a question of an increased number of men to raise more quartz for crushing in order to reward shareholders for their perseverance under adverse circumstances by a division of profits.

The Mount Claude Mineral District, possessing rich and permanent silver-lead lodes, bids fair to become an important centre of mining operations. The variety of minerals and ores found within a circumscribed area, but which since has been extended to creeks taking their rise in the

* Blue Tier, East Coast.

† In the Brothers' Home District.

Cradle Mountains, is unique in mineral countries. Thus we have here the following:—Silver-lead; gold, in a ferruginous mass of ore; gold, again, (though not yet sufficiently tested) in a pyritous quartz-vein; copper-pyrites in a plutonic dyke traversing metamorphic schists, and composed chiefly of dark green beautifully crystallised garnets (grossularite). Tin ores, as found within the joints of a peculiar metamorphic schist, which exhibits a slightly conglomeratic composition, and this has been mistaken for porphyry or the Mount Bischoff eurite; the ore occurs in small crystals, but on pounding the rock most encouraging results are obtained, showing that there must be a more permanent and regular deposit near, from which these rocks have so richly been impregnated. Higher up the River Forth gold has been obtained in a vein producing that peculiar "wire gold" of miners, representing oblong four-sided prisms, with end planes terminating in a point. Another quartz vein, auriferous, it is reported, has been found where the track to Middlesex Plains crosses the Forth River, and in some of the creeks descending from the Cradle Mountains coarse, flat, alluvial gold has been found for some time past in payable quantities. This is a region which will, in all probability, not only connect with Hampshire Hills, Mount Bischoff, Long Plains, and some of the Western mineral deposits, and the indications are such that, if tracks were provided for the use of the prospector, tangible results would follow by rich and permanent discoveries.

Over three years ago I examined a number of silver-lead lodes discovered near Mount Zeehan, and was satisfied that by the expenditure of money for prospecting purposes satisfactory proofs would follow of their permanency. Early in 1888 I revisited the ground at the express desire of the Mines Department, and found that developments of a most satisfactory character had taken place in the discovery of several more and very rich lodes of very pure silver-lead ore, and that, owing to the characteristic outcroppings of iron ores, were the sure indications of galena beneath. I estimated then that an area extending three miles from north to south, two miles east by west, contained the central deposits. Since then, however, the lodes have been found outside that area, and a very considerable addition has been and is even now making to the region, which promises to be one of the most important in the Colonies, if not elsewhere. Not only is the ore occurring in massive and regularly defined lodes from 1 to 8 feet in width, but the ore, besides the ordinary galenites of a good percentage of both lead and silver, is, in many of the lodes, largely impregnated with "tetrahedrite" or "fahl" ore, which has had a very beneficial effect upon the silver contents per ton: assays have been made reaching over 210 ozs. of silver and up to 75 per cent. of lead per ton. When means for cheap and rapid traffic have been added, and the mines are in full swing, I have not the slightest doubt of this newly discovered silver-lead field exercising an immediately beneficial influence upon that part of Tasmania, and likewise upon the Colony at large.

The older and productive mines of the Colony still maintain their high position, the high price of metallic tin having not only enhanced the value of this class of mines and added to the increase of dividends, but, likewise, many concerns were revived after having been almost abandoned, as the low price of metal would not be remunerative to holders. Since then quotations have again receded, so that only the richer mines can expect to be kept going at present. There appears to be no real necessity to say that the Mount Bischoff T.M. Company is still pouring out its undiminished wealth, because the fact is patent to all who read their periodical reports, and, so far as the "ore in sight" is concerned, there seems to be scarcely any sensible diminution, and it will yet take years to remove and manipulate the celebrated "Red face."

The Argus Company, Ringarooma River, has likewise been a profitable concern, and is likely to continue to remain so for some time to come.

The Krushka Brothers, Ringarooma, appear as nearing their boundary: still there is yet a large quantity of both rich and remunerative gravel to be dealt with before their most prosperous career is finally ended.

There are several tin mines which pay their way, but of whose actual output it is impossible to obtain any clue.

Of the gold mines, the Tasmanian G.M. Company, Beaconsfield, besides having all along paid very handsome dividends, has experienced a complete change in constitution, scope of operations, and other important matters. This has been brought about by the amalgamation of the adjacent mines, viz., the Florence Nightingale, Lefroy, and Dally's United G.M. Companies, on mutually agreed upon terms. The new proprietary appears to get on well, and confidence is shown in the substantial rise in the united stock, while the yields, as obtained by an augmented crushing power, remain in a very satisfactory position. A large mine like that could easily employ from 150 to 200 heads to crush from a lode of such an extent, width, and depth. As regards the latter, it is most satisfactory to note that the lode at the deeper levels is, if anything, richer than above, and that it seems, in its much more mineralised state, to increase also in width, both which circumstances must be regarded as highly satisfactory to the gold-mining interest in the Colony.

It is respectfully submitted that consideration is needed upon the subject of the export of metals in their unmanufactured state from the Colony, and this with a view of participating in the near future in such profits as others obtain from such metals by manufacturing same to supply an ever-increasing demand.

Of course I know that, as at present, we can only deal with tin, but at the same time the silver-lead fields at the West Coast will also export their "bullion," and, of course, cannot accept anything except the bare value as per assay.

In the first place, metallic tin is all exported, and sold at quotations received from London, whence it is distributed throughout the world to manufacturers, who manipulate it in such ways as to serve purposes of trade, each manipulation carrying a profit. Of the many uses tin is required for, the following will show that if we accept a profit averaging (say) £30 to £35 per ton after paying for raising, freight, smelting, &c., the manufacturers will nearly get as much profit, because they use lesser quantities, but the articles they manufacture fetch very high prices, with corresponding profits.

Tin is used as follows:—

Bronze consists of	90 parts copper,	12 ditto tin.
Gun-metal	" 90	" 10 ditto.
Bell-metal	" 75	" 22 ditto.
Solder	" 2 parts tin,	1 of lead.
Spelter	" 8 bismuth,	5 lead, 3 tin.

Then it is used for colours, protecting ironwork, and last, but not least, for tin plates—a most important article in commerce.

The tin in commerce is likewise much adulterated, and consequently preserves are destroyed, thus leading to extra quantities being required.

It is held that Tasmania, as the principal producer of *pure tin*, could very profitably engage in all the above manufactures, and reap the benefit of all the manipulations required by the trade, whilst building up a manufacturing industry in which many people could be profitably employed, our population increased, and form the nucleus of the manufactures above mentioned, the profits of which are now obtained by others outside the Colony.

The same would apply to the silver-lead mining industry about to be inaugurated at the West Coast, and the several other localities where these ores have been discovered.

G. THUREAU, *F.G.S., Mining Geologist.*

F. BELSTEAD, *Esq., Secretary for Mines, Hobart.*

APPENDIX A.
DIAMOND DRILLS.

Statement of Work done.

<i>Year.</i>	<i>Locality.</i>	<i>Direction of Bore.</i>	<i>No. of Bores.</i>	<i>Total Distance bored.</i>	<i>Average Cost per foot, exclusive of Labour and Fuel.</i>
No. 1 DRILL.					
				feet.	s. d.
1882-3	Back Creek—For Gold.....	Vertical	7	1330	10 9
1883...	Lefroy—For Gold.....	Ditto	4	1011	5 3
1884...	Tarleton—For Coal.....	Ditto	1	401	5 6
1886...	Longford—For Coal.....	Ditto	2	1585	4 0½
1886-7	Harefield Estate—For Coal.....	Ditto	1	725	6 5
1887...	Cardiff Claim, Mt. Malcolm—For Coal.....	Ditto	1	562	17 11¾*
1888...	Killymoon Estate—For Coal.....	Ditto	1	504	4 7¾*
1888...	Seymour—For Coal (in progress).....	Ditto	2	478	10 4 about*
	TOTAL.....	...	19	6596	
No. 2 DRILL.					
1882...	Beaconsfield—For Gold.....	Horizontal, underground	1	68	No record.
1883...	Mangana—For Gold.....	Ditto	1	546	15 1
1884...	Guy Fawkes Gully, near Hobart—For Coal	Vertical	1	612	5 6
1885...	Malahide Estate, Fingal—For Gold.....	Ditto	5	1397	5 6
1886...	Carr Villa, near Launceston—For Coal.....	Ditto	1	571	5 4
1886-7	Waratah—Mt. Bischoff Alluvial T.M. Co.—For Tin.....	Ditto	7	1548	6 1½
	Waratah—Mt. Bischoff T.M. Co.—For Tin	Ditto	7	841	11 8
1887...	Ditto—Ditto.....	Horizontal, underground	1	53	7 8
1888...	Old Beach—For Coal.....	Vertical	1	593	10 9 about*
	TOTAL.....	...	25	6229	

* Inclusive of Labour and Fuel.

Aggregate number of bores..... 44
Total distance bored..... 12,825 ft.

W. H. GLOVER, *Commissioner of Gold Fields.*

Launceston, 30th June, 1888.

DIAMOND DRILL, No. 1.

*REPORT of Strata passed through in boring for Coal at MOUNT
MALCOLM—CARDIFF COAL MINING COMPANY.*

Commenced, 29th June, 1887 ; completed, 23rd November, 1887.

BORE HOLE.	STRATA.	FT.	IN.
	Surface Shaft	12	6
	Greenstone Boulders	3	6
	Sandy Clay and Stones	17	4
	Boulders and Sandstone Drift	23	4
	Decomposed Sandstone and Clay	16	5
	Greenstone Boulders, Clay, and Drift	13	0
	Drift and Stones	29	9
	Grey and Black Shale.....	0	8
	Coal, inferior	0	6
	Mottled Shales and Fireclay	11	3
	Hard Sandstone with Coal stains	47	0
	Sandstone and Shale	71	0
	Coal, inferior	0	10
	Conglomerate Shales and Sandstone	2	6
	Sandstone	50	8
	Bands of Coal, Shale and Fireclay	14	5
	Sandstone	45	2
	Sandstone and Shale	20	4
	Coal, good	1	4
	Blue and Black Shale.....	3	9
	Coal, with numerous Bands.....	3	3
	Blue and Black Shale.....	41	3

DIAMOND DRILL, No. 1—*continued.*

BORE HOLE.	STRATA.	FT. IN.
	Sandstone.....	33 6
	Shale and Sandstone	30 6
	Shale and Fireclay	0 9
	Coal	0 5
	Fireclay	0 4
	Shale	8 0
	Sandstone	12 9
	Shale, Fireclay and Sandstone	26 9
	Sandstone	1 0
	Blue and Mottled Clay	2 6
	Hard Band	0 1
	Clean Coal	4 11½
	Coal and Bands	1 0
	Coal	1 11
	Coal and Bands	0 5
	Blue and Dark Shales	7 0
	TOTAL.....	561 7½

DIAMOND DRILL, No. 1.

*REPORT of Strata passed through in boring for Coal at the
KILLYMOON ESTATE.*

Commenced 3rd January, 1888; completed 16th March, 1888.

BORE HOLE.	STRATA.	FT. IN.
	Surface Shaft	12 6
	Surface Soil and Drift.....	27 3
	Shale showing Fossils	23 0
	Hard Shale	57 3
	Conglomerate	4 0
	Hard Limestone	132 11
	Mud Shale, with seams of Carbonate of Lime.....	18 1
	Hard Mud Shale.....	7 1
	Mud Shale and Conglomerate	16 3
	Hard Mud Shale.....	43 8
	Sandstone with Coal stains	8 0
	Sandstone and Conglomerate	39 6
	Sandstone with Coal stains	25 0
	Sandstone, Shale, and Conglomerate.....	19 2
	Conglomerate	32 4
	Black Shale	2 3
	Conglomerate	32 0
	Very hard Rock	4 3
	TOTAL	504 6

DIAMOND DRILL, No. 1.

REPORT of Strata passed through in boring for Coal at SEYMOUR.

Commenced 7th April, 1888; completed 27th April, 1888.

No. 1.

BORE HOLE.	STRATA.	FT. IN.
	Surface Shaft	5 2
	Yellow and Grey Sandstone	14 6
	Dark Shale	3 1
	Bastard Fireclay	3 4
	Coal and bands	4 9
	Bastard Fireclay with bands of Coal and Shale	19 7
	Black Clod	5 2
	Sandstone and Blue Post	24 11
	Hard Sandstone	2 0
	Blue Shale with streaks of Coal and bands	14 5
	Black Clod	5 1
	Shale	3 9
	Sandstone	32 8
	Coal	0 2
	Sandstone	5 9 $\frac{1}{2}$
	Coal	1 5
	Band	0 1 $\frac{1}{2}$
	Coal	1 6 $\frac{1}{2}$
	Shale and Sandstone	13 4
	Coal	0 3
	Shale	3 9
	Coal	0 2 $\frac{1}{2}$
	Black Clod and Shale	3 0
	Coal	1 0 $\frac{1}{2}$
	Hard Floor	0 5
	TOTAL.....	169 5 $\frac{1}{2}$

DIAMOND DRILL, No. 1.

REPORT of Strata passed through in boring for Coal at SEYMOUR.

Commenced 7th May, 1888; completed 15th June, 1888.

No. 2.

BORE HOLE.	STRATA.	FT. IN.
	Surface Shaft	4 6
	Sandstone with Coal Stains	31 5
	Shale	1 0
	Fine Grain Sandstone.....	15 0
	Sandstone and Conglomerate of hard Shale and Sandstone.....	19 6
	Sandstone.....	25 10
	Dark Shale	3 7
	Thin seams of Coal with numerous bands.....	6 3
	Floor	2 8
	Shale with thin seams of Coal	21 4
	Blue Post and Sandstone	31 5
	Sandy Shale.....	1 6
	Coal	0 4
	Sandstone and Shale	10 0
	Coal	0 1
	Band	0 2
	Coal	0 1½
	Black Shale with two thin seams of Coal.....	5 6
	Sandstone.....	31 8
	Hard dark Shale	8 6
	Shale and Sandstone with thin streaks of Coal.....	42 8
	Gray and dark Sandstone	8 2
	Bastard Fireclay	0 11
	Sandstone.....	2 4
	Coal	0 2
	Sandstone.....	2 10
	Coal	0 2
	Sandstone and dark Shale	18 8
	Mud Shale with pebbles.....	12 10
	TOTAL.....	308 1½

DIAMOND DRILL, No. 2.

*REPORT of Strata passed through in boring for Tin at WARATAH,
Mount Bischoff Tin Mining Company.*

Commenced 29th June, 1887; completed 3rd August, 1887.

No. 5.

BORE HOLE.	STRATA.	FT. IN.
	Surface Shaft	6 6
	Yellow and Brown Clay, and rotten Porphyry, carrying Pyrites and a little Tin	15 0
	Brown Clay and Stones charged with Pyrites and a little Tin	14 10
	Brown Clay and Stones	2 6
	Hard Conglomerate.....	25 7
	Soft Conglomerate	13 5
	Hard Conglomerate.....	39 6
	Porphyry	7 0
	Hard Conglomerate.....	15 2
	Pyrites.....	1 0
	Hard Porphyry	1 0
	Very hard Rock	0 4
	Very hard Porphyry	0 7
	TOTAL	142 5

DIAMOND DRILL, No. 2.

*REPORT of Strata passed through in boring for Tin at WARATAH,
Mount Bischoff Tin Mining Company.*

Commenced 10th August, 1887; completed 6th September, 1887.

No. 6.

BORE HOLE.	STRATA.	FT. IN.
	Surface shaft	6 6
	Surface wash, heavily charged with pyrites	48 9
	Hard conglomerate	16 5
	Blue wash	2 1
	Blue wash, heavily charged with pyrites	5 10
	Conglomerate	22 8
	TOTAL.....	102 3

DIAMOND DRILL, No. 2.

*REPORT of Strata passed through in boring for Tin at WARATAH,
Mount Bischoff Tin Mining Company.*

Commenced 19th September, 1887; completed 21st October, 1887.

No. 7.

BORE HOLE.	STRATA.	FT. IN.
	Surface Shaft.....	36 0
	Surface Wash.....	35 10
	Large Boulder Wash.....	33 4
	Loose Stones.....	4 6
	Clay and Stones.....	19 4
	Conglomerate.....	6 3
	Clay and Stones.....	6 2
	Soft Conglomerate.....	7 0
	Hard Conglomerate.....	1 2
	TOTAL.....	149 7

DIAMOND DRILL, No. 2.

*REPORT of Strata passed through in boring for Tin at WARATAH,
Mount Bischoff Tin Mining Company, Horizontal Bore.*

Commenced 16th November, 1887; completed 30th November, 1887.

BORE HOLE.	STRATA.	FT. IN.
	Hard blue Slate.....	12 6
	Very hard blue Schist rock.....	6 7
	Porphyry leader carrying Tin.....	0 0 $\frac{1}{8}$
	Very hard Schist rock.....	33 11
	TOTAL.....	53 0 $\frac{1}{8}$

DIAMOND DRILL, No. 2.
*REPORT of Strata passed through in boring for Coal at OLD
BEACH, Compton Coal Mining Company.*
Commenced 27th February, 1888; completed 8th May, 1888.

BORE HOLE.	STRATA.	FT.	IN.
	Surface Shaft	6	6
	Brown Sandstone	26	1
	Grey Sandstone with Coal stains	17	6
	Grey Sandstone	12	0
	Conglomerate	1	2
	Grey Sandstone	34	1
	Hard Greenstone.....	28	3
	Fireclay and Black Clod.....	7	1
	Soapstone.....	5	0
	Coal with Band	0	4
	Black Clod	2	5
	Soapstone with streaks of Coal	28	3
	Sandstone	2	6
	Soapstone.....	8	9
	Mudstone	2	5
	Coal	2	0
	Band	0	0½
	Coal	2	2½
	Mudstone.....	12	9
	Black Clod and Mudstone	13	4
	Sandstone	0	6
	Mudstone.....	3	6
	Conglomerate and Black Clod	1	8
	Dark Sandstone with Coal streaks.....	37	0
	Black Clod	9	0
	Grey Sandstone with Coal streaks	18	2
	Black Clod	4	3
	Dark Sandstone with Black Clod and Coal stains ...	16	3
	Coal	1	0
	Sandstone intermixed with Coal stains and Vegeta- tion	77	9

DIAMOND DRILL, No. 2—continued.

BORE HOLE.	STRATA.	FT. IN.
	Black Clod with Coal streaks	13 2
	Black Clod and Sandstone with Coal streaks.....	41 0
	Grey Sandstone with Coal streaks	51 9
	Grey Clod with Coal streaks	1 8
	Coal	0 6
	Black Clod with Sandstone intermixed	33 4
	Coal	0 0½
	Black Clod and Sandstone with Coal streaks.....	28 10
	Black Clod	6 0
	Dark Sandstone with Coal streaks	9 10
	Dark Sandstone intermixed with Black Clod and Coal streaks	24 11
	TOTAL	593 5½

No. 1.

COMPARATIVE Statement of Gold exported from Tasmania during the Years 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, and for first Half-year of 1888; compiled from Customs Returns only.

YEAR.	QUANTITY.	VALUE.
	ozs. dwts.	£
1880.....	52,595 0	201,297
1881.....	56,693 0	216,901
1882.....	49,122 6	187,337
1883.....	46,577 10	176,442
1884.....	42,339 19	160,404
1885.....	41,240 19	155,309
1886.....	27,757 0	104,402
1887.....	37,253 10	140,588
For first half-year of 1888.....	13,548 0	51,751

No. 2.

RETURN showing the Quantity of Gold obtained from Quartz during the Years 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, and for the first Half-year of 1888.

YEAR.	QUANTITY.	VALUE.
1880.....	34,345 ounces	£130,622
1881.....	45,776 "	174,956
1882.....	36,215 "	137,183
1883.....	36,672 "	138,060
1884.....	30,540 "	114,630
1885.....	33,266 "	124,234
1886.....	25,004 "	87,516
1887.....	33,427 "	123,453
For first half-year of 1888.....	12,322 "	44,965

No. 3.

COMPARATIVE Statement of Tin exported from Tasmania during the Years 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, and for the first Half-year of 1888; compiled from Customs Returns only.

YEAR.	TONS.	VALUE.
1880.....	3954	£341,736
1881.....	4124	375,775
1882.....	3670	361,046
1883.....	4122	376,446
1884.....	3707	301,423
1885.....	4242	357,587
1886.....	3776	363,364
1887.....	3607½	409,853
For first half-year of 1888.....	1711	231,374

No. 4.

RETURN of the Number and Area of Leases under "The Mineral Lands Act" and "The Gold Fields Regulation Act," in force on the 1st July, 1887, issued during the Year ending 30th June, 1888, cancelled during the Year ending 30th June, 1888, and remaining in force on 30th June, 1888.

Nature of Lease.	In force on 1st July, 1887.		Issued during Year ending 30th June, 1888.		Cancelled during Year ending 30th June, 1888.		In force on 30th June, 1888.	
	NO.	AREA.	NO.	AREA.	NO.	AREA.	NO.	AREA.
		A. R. P.		A. R. P.		A. R. P.		A. R. P.
Under "The Mineral Lands Act," for tin, &c., at a rental of 5s. an acre	656	22,892 0 0	387	12,222 0 0	86	2883 0 0	957	32,231 0 0
For coal and slate, at 2s. 6d. an acre rent.....	62	10,665 0 0	11	1529 0 0	32	6149 0 0	41	6045 0 0
Under "The Gold Fields Regulation Act," at a rental of 20s. an acre	149	1474 0 0	175	1698 0 0	39	360 0 0	285	2812 0 0
Water Rights and Mining Easements	107	773 sluice-heads	39	110 sluice-heads	6	31 sluice-heads	140	852 sluice-heads

In addition to the above, the following applications are in process of being dealt with :—

Under "The Mineral Lands Act," for Tin, No. 672, Area 188,885 acres.
 " " " for Silver, No. 411, Area 26,256 acres.
 " " " for Coal, No. 10, Area 835 acres.
 " " " for Water-rights, No. 155, comprising 566 Sluice-heads.
 Under "The Gold Fields Regulation Act," No. 160, Area 1559 acres.

REPORT of the INSPECTOR OF MINES for the Year 1887.

Inspector of Mines Office, Launceston, 24th July, 1888.

SIR,

I HAVE the honor to submit my Sixth Report as Inspector of Mines, from the 1st of January, to the 31st December, 1887, inclusive.

As a result of the administration of the two Regulation of Mines Acts of 1881 and of 1884 as one Act, the following will be found to contain all that is necessary, as explained by lists of accidents that have unfortunately occurred, also returns and tables specifying the various districts inspected from time to time.

It may be remarked, at this stage, that during this year a great reduction both in the number of fatal and non-fatal class of mining accidents has been recorded; viz., last year there were six fatal and thirty non-fatal accidents, as against four fatal and fifteen non-fatal mining accidents during 1887. This cannot but be accepted as a most satisfactory feature, as evidencing miners' exercising greater care in their hazardous work. Some cases of recklessly carrying on mining operations were noted, i.e., with Nos. 5, 13, and 14.

Rule XXI.—In accordance with the provisions of the Act 1881, twenty-four steam boilers were submitted to the usual hydraulic test, as well were their steam guages, safety valves, and other connections carefully examined. This shows a reduction of ten boilers upon the number tested last year, which was principally due to the great influx of water in the lower levels at Beaconsfield, rendering it quite impossible to stop pumping and winding for the purpose of these necessary tests.

These boilers were tested for the following proprietaries; viz.:—

	<i>Boilers.</i>	<i>Total.</i>
At Derby and Branhholm:		
The Briseis T. M. Co.	1	
The Arba T. M. Co.	1	
	—	2
At Beaconsfield:		
The Tasmanian G. M. Co. (Winding and Pumping)	2	
Ditto, (Battery)	3	
The Lefroy G. M. Co.	3	
The Florence Nightingale G. M. Co.	4	
The Denmark G. M. Co.	1	
	—	13
At Lefroy:		
The West New Chum G. M. Co.	3	
The Unity G. M. Co.	2	
The New Native Youth G. M. Co.	3	
	—	8
At Mangana:		
The Twilight G. M. Co.	1	
	—	1
TOTAL.....	...	24

Remarks.—At one boiler, on applying about 12 per cent. more cold water pressure than ordinary working pressure, the steampipe joint gave way, and, happily, the water was of a low temperature or else the men would have been severely scalded. This joint was immediately repaired. Another boiler also gave way at the same joint; and it was also repaired. At another the gland of the steampipe was in need of stronger packing. It appears as if some of these companies are so hard pushed for a little tin or gold that a thoroughly reliable test is very difficult to obtain. With another portable boiler, all the taps, valves, and joints were leaking much, and required immediate caulking.

In accordance with Section 2 of "The Regulation of Mines Amendment Act, 1884," the under-mentioned companies have, after some inexcusable delay, extending far into the year 1888, forwarded their respective underground plans of mines. As stated in former reports, the authorised surveyors—though a moiety of their fees is paid them by the State—do not evince that alacrity in their production, and, at the same time, some of these most important plans lack the required skill

necessary to convey to the public the leading features of our principal deep mines, and, therefore, need to be improved considerably before the Department discharges in future their claims for remuneration :—

1. The West New Chum G.M. Company, Registered, Lefroy.
2. The Stanhope T.M. Company, Limited, Waratah.
3. The Dally's United G.M. Company, Registered, Beaconsfield.
4. The Tasmania G.M. Company, Registered, ditto.
5. The Florence Nightingale G.M. Company, Registered, ditto.
6. The Lefroy G.M. & D. Company, Registered, ditto.
7. The Moonlight G.M. Company, Registered, ditto.
8. The Mount Bischoff T.M. Company, Registered, Waratah.
9. The West Bischoff T.M. Company, Registered, ditto.
10. The Mount Victoria G.M. Company, Registered, Alberton.
11. The Little Wonder G.M. Company, Registered, Beaconsfield
12. The Unity G.M. Company, Registered, Lefroy.

ACCIDENTS.

During the year 1887 the following fatal and non-fatal accidents have been recorded :—

Fatal Accidents from January to December inclusive.

Date of Accident.	Connective Number.	Description of Mining.	Locality.	Married.	Single.	Date of Death.	Age.	Names.
June 11th	1	Tin	Moorina	...	1	June 11th	28	George Pope.
June 13th	2	Tin	Branxholm	...	1	June 16th	39	Ah Loon.
October 3rd	3	Gold	Mount Victoria	...	1	October 3rd	40	John Killop.
November 17th	4	Tin	Moorina	...	...	November 17th	—	Maa An Goon.

Non-Fatal Accidents during the same period.

Date.	Connective Number.	Description of Mining.	Locality.	Married.	Single.	Age.	Names.
January 1st	1	Coal	New Town	...	...	...	Joseph Taylor.
January 8th	2	Tin	Mount Bischoff	...	1	16	Alexander Ryan.
January 31st	3	Tin	Moorina	1	...	...	Abel Maddox.
February 10th	4	Coal	Fingal	...	1	23	Arthur Goodliffe.
February 17th	5	Gold	Mangana	1	...	30	John Hall.
February 21st	6	Tin	Derby	1	...	...	John Crowther.
March 30th	7	Tin	Wyniford River	...	...	19	Ah Ching.
June 29th	8	Gold	Mangana	...	1	20	William Smith.
July 2nd	9	Gold	Ditto	1	...	24	Albert Smith.
July 16th	10	Tin	Moorina	...	1	45	Ah Hon.
August 3rd	11	Tin	Branxholm	1	...	53	Frank Galli.
September 4th	12	Tin	Derby	...	...	...	Richard Thomas.
September 23rd	13	Tin	Moorina	1	...	36	Ah Wah.
December 5th	14	Tin	Weldborough	...	1	22	George Wheeler.
December 16th	15	Gold	Beaconsfield	...	1	45	Richard Cox.

MEMO.—Total fatal accidents during the year, 4; total non-fatal accidents, 15; grand total of all mining accidents, 19.

Some of the more trivial accidents have been omitted from above list; also those that could not be brought strictly as caused in or about mines.

Particulars as to Fatal Accidents.

One miner excavated a chamber in a bank of gravel, overlaid by friable volcanic soil, and on the roof collapsing he was thrown into the tailrace, receiving severe internal injuries, from which he died two hours afterwards.—A Chinaman was covered by a fall of earth, whereby his ankle was badly broken; his mates preferred the services of a Chinese doctor, and the man died three days after.—A miner was driving an adit, the entrance of which had been opened by means of a long and deep open cutting; owing to wet weather, the ground became saturated, and the whole upper side of the cutting fell in, killing him on the spot, his mate narrowly escaping.—Another Chinaman was likewise killed by a fall of earth.

Particulars as to Non-fatal Accidents.

There were ten cases of accident from fall of earth or cemented gravel. One by the breaking of a rope which, from exposure to the weather, should not have been used at all. One through the overturning of a truck. Two from falling down a pass and a stope; the former by a miner incautiously entering an adit without any candle, and falling down an open pass. One, by the explosion of dynamite. This miner tried to soften charges of dynamite immersed in a small tin vessel hung into a larger bucket, both filled with water: somehow an explosion took place, probably through constantly using the same small vessel; some of the explosive had been liberated from the cartridges and oozed to the outside, where, in coming into contact with the much hotter sides of the bucket it exploded. Another explosion of blasting powder by a miner using a copper-headed tamping bar in ramming down an open charge of blasting powder. As many accidents have elsewhere taken place from similar causes, it will lead to prosecutions, unless the powder is first covered with a wad of paper or of old rope. One fall of coal occurred through pure carelessness: the miner "undercut" the lower portion of the seam up to a middle shale "parting;" he was told to "prop" the upper part of the seam above; he neglected to do this, and hence the accident. A gross case of negligence happened through two miners rearing two "legs" of a set of timber, and moving the legs without first securing the cap also placed in position, the latter fell. Another miner, standing too near an exploding charge, was hurt by the flying ore.

The appended Tables for this Report of 1887 give very full particulars of both kinds of accidents, which may shortly be classified as follows:—

By fall of earth, timber, or coal	12
By breaking of a rope	1
By overturning of a truck	1
By falling down workings	2
By explosion of dynamite and blasting powder	2
By quartz liberated after explosion	1
TOTAL.....	19

In order of their frequency in the various Mining Districts, they stand as follows:—

New Town.....	1
Mount Bischoff	2
Beaconsfield	1
Moorina	5
Fingal.....	1
Mangana.....	3
Brothers' Home.....	2
Winiford River	1
Branxholm	2
Mount Victoria	1
TOTAL.....	19

No prosecutions were undertaken this year against mining managers under any of the penalty sections of the Regulation of Mines Acts of 1881 and of 1884.

IMPROVEMENTS IN MINING APPLIANCES.

Crushing Quartz.

A comparison between the action and results achieved by the use of the ordinary stamps and by that of the modern rotary "pulverisers," may not be out of place in this Report. The employment of stamps in batteries, though greatly improved of late years, is as old as the hills—in fact, nature teaches it by one hard rock beating against another, thus disintegrating the ores or quartz introduced. Now, the question arises, Does this stamping liberate the rich or the worthless? If the rich, then its separation at that point is *immediately* necessary. This, the system of crushing in batteries cannot do; for when the quartz is fed into the battery, there it must remain until it and the gold contained is beaten by the stamp-heads to a pulp that will pass through the gratings.

By means of crushing thus, the heavier portions sink to the bottom and form a concreted bed of pebbles varying in size. Before dealing with the question as to the final discharge of these more valuable portions of the quartz thus subjected to continual pounding, we must consider the "*wear of gold.*" If a piece of gold is taken, say a nugget of ten pennyweights, and a *slight* rub is given it against a stone, the latter is not affected, but distinct marks of gold are visible on the stone. In crushing a ton of ore containing, say, one ounce and a-half of gold, we crush with it 64,000 times

its weight, and considerably over 300,000 times its bulk in quartz sand. This rubbing goes on for days, and as a matter of fact, the finer particles of sand—if assayed—which latter is in these Colonies altogether neglected, exhibit much more gold than the coarser pebbles. The power required for one stamp dropping 90 times per minute is over one horse-power, and does about one ton and a-half of quartz to the stamp.

Now, can there be a plan devised to obviate this great waste? The answer must be in the affirmative. I assume that, as in all well-constructed crushing plants, a rock or stonebreaker* is employed, and, consequently, the quartz is cracked or broken in its weakest place—where the gold or pyrites join the quartz or silica. This gold, and part of the sulphurets, are thereby liberated, when the *first stage* of the saving of the gold should be performed without delay. After their removal, the larger and harder quartz should be made to pass through other pulverizers until it (gold and pyrites) is freed from all vein matter. These, the more valuable parts of the quartz, should then be concentrated without further crushing, and the gold extracted in the best known manner, concluding with the chlorination process, which latter saves above 93 per cent. of gold as per assay value.

In this necessarily short paragraph the new methods, now followed in most gold-producing countries, is cursorily referred to. Of course its adoption would not only revolutionise our methods of crushing quartz, but would lead also to a totally different style of manufacture by our iron-founders. Now it is well known that the employment of crushing (stamp) batteries entails a very considerable loss of chilled and other iron; for instance, a heavy 50-head battery requires over 220 lbs. of iron per stamps, including shafting, &c. Ordinary batteries require renewing about once a month, each stamp crushing, say 50 tons; still, as this shows a loss of iron of nearly 5 lbs. per ton of rock crushed, this iron is scarcely perceivable in the tailings or their concentrations: where is it gone? Analytical metallurgists assert that the water discharging from batteries always contains gold and quicksilver. As each stamp requires something like 10 lbs. of water per minute, or 7 tons in 24 hours, a 5-head stamp 35 tons; so that it is reasonable to say that, besides the gold escaping in the tailings and slimes, or becoming attached to the inner parts of each battery, a quantity of 35 tons of water used in crushing must necessarily be credited with holding a very sensible percentage of fine gold.

The saving of gold from one ounce to two-ounce stone does vary here: it can be calculated to about 55 to 65 per cent.; formerly it used to be considerably less. This favourable result has been achieved by not allowing the batteries to produce so much "slime."

With the modern pulverisers, concentrators, and a more scientific general method, including chemical processes, the percentage of gold saved is much increased, as has been proved in British Columbia, India, Africa, and, more recently, in California; and the subject well deserves the serious attention of our mine-owners also, because the introduction of these pulverisers and concentrators would eminently improve our output of tin ores, which, with the ancient stamp-head battery, &c. not only caused a very serious loss of ore as slimes, but likewise led to the downfall or quasi-abandonment of most of our vein and lode tin mining districts,—Mount Heemskirk, Ben Lomond, Blue Tier, to wit.

I have the honor to be,
Sir,

Your very obedient Servant,

G. THUREAU, *F.G.S., Inspector of Mines.*

F. BELSTEAD, *Esq., Secretary for Mines, Hobart.*

* This machine is represented by the modern rotary pulveriser, and not by the ordinary stonebreaker with jaws.

APPENDIX A.

LIST of Accidents in the Mines of the Colony of Tasmania during the Year ended 31st December, 1887.

Gold District.	Mineral District.	Mine-owner.	Date of Accident.	Con- nective No.	Cause of Accident.	Killed.	Injured.	REMARKS.
								Name of Person Injured. Informant.
...	New Town, (Coal)	Joseph Taylor & Co., (partners William Pugh and Wm. Everett)	1 January	1	Breaking of rope	...	1	Joseph Taylor. Police Department. It appears from the information furnished by the Police, that this party of coal-miners were engaged in clearing out an old shaft for future operations; about 20 feet from the bottom it was found that a plank projected across it, and Taylor went down to get it out of the way. Fastening a rope to it (which it was ascertained afterwards had been exposed to the weather, and had been lying close to a "fire-pot") and getting the strain on it the rope broke, and Taylor fell to the bottom of the pit, sustaining a very severe shaking.
...	Mt. Bischoff, (Waratah)	Mount Bischoff Tin M. Co., Registered	8 January	2	Overturning of a truck	...	1	Alex. Ryan (16.) Mining Manager. By some means or other, a truck this lad was running turned over, drawing him with it, whereby his wrist was broken.
...	Moorina	Pioneer T. M. Co., Registered	14 January	3	Fall of earth	...	1	Abel Maddox (m.; 2 ch.) Jas. Harrison. This miner was working a short distance from and beneath an alluvial face 8 feet high, and vertical; owing to the wash being "cemented" no danger was apprehended, still, and quite unaccountably, about three tons fell and covered him up, causing a fracture of his thigh; he was conveyed to the Launceston Hospital.
...	Cornwall	Cornwall Coal M. Co., N. L., Fingal	10 February	4	Fall of coal	...	1	Arthur Goodliffe (29; s.) T. Astles, Colliery Manager This miner was working in a face winning coal, and as the seam is divided by a band of "shale" or "dirt," it is customary to take out the lower part first, then remove the shale and prop the upper part until all is clear; he was warned by miner Campbell to do so, but not heeding the caution, the coal fell, causing both his legs to be broken.
Mangana	...	Old Union G. M. Co., Registered	17 February	5	Cut by quartz	...	1	John Hall (30; m.) Chas. Lewis. This miner was cut in the eye, by a splinter of quartz, and, in all probability, he will lose the use of it.
...	Brothers' Home	Messrs. Krushka Bros.	21 February	6	Fall of earth	...	1	John Crowther (m.; 4 ch.) S. Diprose. Whilst trucking some wash-dirt and passing through a cutting, a piece of rock fell from the side, fracturing his leg against the truck wheel.
...	Wyniford River	Derry T. M. Co., Registered	30 March	7	Fall of earth	...	1	Ah Ching (19.) C. C. Lette. This man was internally injured by a fall of earth. No other particulars to hand.
...	Moorina	Zulu T. M. Co. (pri- vate)	11 June	8	Fall of earth	1	...	Geo. Pope (28; s.) John Beattie. He was a tributor on this claim, Main Creek, and was cutting a chamber beneath a bank of gravel overlaid by friable basaltic soil, when the roof came down, throwing him into the adjacent tail-race. He succumbed (two hours afterwards) to the result of internal injuries received. There appears to be no blame attached to anyone but himself.
...	Branxholm	Golden Age T. M. Co. (private)	13 June	9	Fall of earth	1	...	Ah Loon (39.) Rd. Walmsley. This recent arrival in the Colony was working a face of tin gravel 9 feet high only. A fall of earth took place, breaking his ankle badly. His mates preferred the services of a Chinese doctor, and Loon died on the 16th following. No inquest.
Mangana	...	Old Union G. M. Co., Registered	29 June	10	Falling down a "pass"	...	1	William Smith (20; s.) Chas. Lewis. This young man incautiously entered No. 2 adit at this mine, without any candle, and so walked into a "pass" which was always covered when they are not trucking any quartz into it, but at this time it was open for the purpose. He fell 50 feet; but after a short while recovered under a doctor's care.

<i>Gold District.</i>	<i>Mineral District.</i>	<i>Mine-owner.</i>	<i>Date of Accident.</i>	<i>Con- nective No.</i>	<i>Cause of Accident.</i>	<i>Killed.</i>	<i>Injured.</i>	<i>REMARKS.</i>	
								<i>Name of person injured.</i>	<i>Informant.</i>
Mangana	...	Old Union G. M. Co., Registered	2 July	11	Explosion of a charge of blasting powder	...	1	Albert Smith (24; m.)	Chas. Lewis.
...	Moorina	Bradshaw's Creek T. M. Co., (private)	16 July	12	Fall of earth	...	1	A. S. was charging a hole with B. powder rather rapidly, and pushing same down by means of a regulation copper-headed tamping bar. The powder ignited, burning his hands and face.	
...	Branxholm	Arba T. M. Co., (pri- vate)	3 August	13	Explosion of dynamite	...	1	Ah Hon (45.)	W. G. Pilbeam.
...	Brothers' Home	North Brothers' Home T. M. Co., Limited	4 September	14	Falling of a "cap piece"	...	1	In working at a face of tin gravel but 4 feet high, A. H. and his mate were struck by a falling lump of gravel, which caused A. H. to fall across the race-log, and the small bone of his left leg was thereby broken.	
...	Moorina	Dorset T. M. Co., Registered	23 September	15	Fall of earth	...	1	Frank Galli (53; m.)	W. Anderson.
Mt. Victoria	...	Mercury G. M. Co., Registered	3 October	16	Fall of earth	1	...	G. was acting as a braceman, and it was his duty to prepare dynamite charges for the sinking of a shaft. It was necessary to soften the explosive, by treating same in water in a bucket over a fire, and then, by immersing a smaller vessel also filled with water and with cartridges; in doing so an explosion took place, wounding G. severely in the arm. The mining manager reported that there was no explosion of the smaller vessel, and thinks that some of the dynamite may have leaked or oozed from the cartridges into the bucket previously, and thus have caused the accident. Pre- cautions have been taken to avoid other mishaps.	
...	Mt. Bischoff, Waratah	Mount Bischoff T. M. Co., Registered	10 October	17	Fall of earth	...	1	Richard Thomas.	W. J. Griffin.
...	Moorina, Main Creek	Maa An Goon owner	17 November	18	Fall of earth	1	...	He and another were engaged to "rear" a set of timber; having placed the "legs" they placed the "cap" on top, then moved the legs with- out securing the former, when it fell and broke Thomas's leg.	
...	Weldborough	Joker T. M. Associa- tion.	5 December	19	Fall of earth	...	1	Ah Wah.	W. G. Pilbeam.
Total number of mining accidents in 1887						4	15	Whilst working in an 8 feet deep cutting a bank gave way upon him, causing two ribs to be broken.	
Particulars of number of mining accidents since 1882, inclusive :								John M'Killop, (40)	Aug. Simpson.
In the year 1882						8	18	Was engaged at end of a long cutting in opening a tunnel entrance; late heavy rains had saturated the banks, one of which gave suddenly away, killing M'Killop instantly, his mate escaping just in time.	
Ditto 1883						4	35	Pat. Fogarty (28; s.)	H. W. F. Kayser.
Ditto 1884						5	36	Whilst working carelessly in a face a fall of earth occurred, by which his thigh was broken.	
Ditto 1885						2	21	Maa An Goon.	Police.
Ditto 1886						6	30	Was a Crown Lessee of mineral land at Main Creek; he lost his life by a fall of earth; the Coroner deemed an inquest unnecessary.	
Ditto 1887						4	15	George Wheeler (22.)	Police.
Grand Total for six years						29	155	A fall of earth overtook G. Wheeler, breaking his leg. No particulars obtainable.	

F. BELSTEAD, Esq., Secretary for Mines, Hobart.

Total of all kinds of accidents, 184.

WILLIAM THOMAS STRUTT,
GOVERNMENT PRINTER, TASMANIA.

G. THUREAU, F.G.S., Inspector of Mines.
Launceston Office, 31st December, 1887.