

1888.

NEW ZEALAND.

G O L D F I E L D S.

Presented to both Houses of the General Assembly by Command of His Excellency.

WARDENS' AND WATER-RACE REPORTS.

AUCKLAND GOLDFIELDS.

No. 1.

Mr. Warden NORTHCROFT to the UNDER-SECRETARY of MINES.

SIR,—

Warden's Office, Thames, 10th May, 1888.

I have the honour to forward herewith statistical returns for the Hauraki Mining District for the year ended 31st March last, together with a general report on the district. The latter is not as complete as I could wish, for owing to the recency of my appointment, and to the large increase of work caused by new discoveries and the general belief in their richness, and to the renewed interest taken in the field by capitalists, I have not been able to inspect the whole of the district as closely as I intended. I am glad, however, to be able to report that the depression which has for the past few years been so severely felt shows evident signs of removal. No material improvement in the production of gold has yet actually occurred, but there are strong indications that a revival in the mining industry is approaching, and a more hopeful tone prevails throughout the district than has existed for some years past. The chief causes that may be assigned for this improvement are the prospect of the establishment, in the near future, of improved and suitable processes for the extraction of gold and silver from the ore, and the introduction of English and Australian capital for the working and development of newly-discovered reefs containing complex and refractory ores, and of large areas of land, which, though believed to contain reefs of a payable character, have for years remained totally, or only partially, worked, because their development entailed the expenditure of large sums of money which could not be obtained in the district. Attention having been directed outside the colony to the existence of the auriferous and argentiferous deposits of this peninsula, I have no doubt that a further acquaintance with its mineral resources will prove that there exists a favourable field for the investment of capital; and the companies already formed are, I think, only the precursors of many others which will find profitable employment in the district.

At Coromandel, the Kapanga and Coromandel Companies, referred to in last year's report, have been energetically working their holdings, and the Kapanga Company have met with the most encouraging results. During the past twelve months 1,507 tons of quartz have been crushed for a return of 3,135oz. of gold, and there is every probability of a prosperous future. The success of this venture has given a fresh impulse to mining in the district, and created a strong feeling of confidence in its ultimate prosperity. A detailed account of the various mines at work will be found later on.

At the Thames (proper) there is very little change to notice during the past year. Work in the older mines is still being carried on to a great extent by tributers, and the return of gold is much the same as for last year. The Cambria, Saxon, Waiotahi, and Prince Imperial Mines still continue to employ a large number of men each. The result of the year's operations, with respect to the first three, have been fairly successful. The Caledonian, New Manukau, Alburnia, and Kurunui (Nos. 1, 2, and 3 have each been worked for payable returns, but the only companies that have paid dividends during the year were the Cambria, Saxon, and Waiotahi. With respect to the mines in the immediate vicinity of Grahamstown, as was pointed out in last year's report, much, if not the greater part, of the land has been worked out in the upper levels, and any further development of these mines must be in the direction of deeper sinking. This, with the question of drainage, in addition to the ordinary difficulty attending undertakings of this nature, will require the expenditure of capital which the present owners do not appear either able or willing to expend. That gold exists at greater depths, and would eventually repay the outlay necessary to obtain it, is a conviction entertained by all who have had practical experience in the mines referred to; and it is sincerely to be desired that the assistance of English capitalists, now being sought with the object of working the deeper levels, will be successful. That these mines, under the present system, may continue for years to yield small returns of gold is highly probable, but to secure a revival of their former

prosperity many of the smaller holdings will have to amalgamate and become the property of few strong companies who can command sufficient means to undertake the sinking of large and expensive shafts and the erection of pumping and other necessary machinery, and to carry out on a general and comprehensive system operations of magnitude, at great expense. That this will be the fate of the older mines in the district, if prosperous mining is to continue, seems inevitable. Much of the ground which, under the ownership of small companies and individual miners, has yielded profitable employment for years is now practically worked out in the most easily-accessible portions, and will require for its future development the expenditure of capital beyond the means of the present proprietors.

At Waiomo the favourable anticipations of last year have not yet been realised. Considerable delay took place in the erection of the battery and the completion of the roads from the mines. When these were completed a long period of dry weather so reduced the supply of water as to render it impossible to carry on crushing until quite recently. The result of the quartz so far treated is at the rate of about 1½oz. to the ton, and, though not as high as anticipated, is payable. The progress of the district has, for want of facilities for crushing, been seriously retarded, the only quartz yet treated being for the Paroquet Company—the proprietors of the battery. Many miners have left the locality, being attracted to the new finds at Marototo, Mata, and elsewhere. During the year twelve new licensed holdings have been granted, comprising an area of 131 acres.

In August of last year a discovery of a rich reef was made at Marototo, near Hikutaia, by Richard McBrinn. After some delays, through litigation and other causes, a license was granted for thirty acres of land, and a company was formed to work it. Sufficient was done on the ground to prove the payable nature of the find, some of the quartz treated yielding, by assay tests, extraordinarily rich results, and by practical treatment of several small parcels at the rate of 41oz. of gold and 600oz. silver to the ton. This company has lately disposed of their property to a syndicate in Sydney, New South Wales, and a company has been formed for the purpose of working the ground. Operations have already been begun, and several tons of ore have been exported for the purpose of ascertaining the most suitable process to be adopted for its treatment. The land has been marked off on all sides of the Prospectors' claim for a considerable distance, and, besides that taken up as ordinary claims under miners' rights, thirty-three licensed holdings, comprising an area of 495 acres of land, have been, up to the 31st March, marked out and applied for.* Not much work has yet been done in the district, except on the Prospectors', or Marototo licensed holding, and on a few of the smaller claims, but from trials made from several reefs in different parts of the district, it appears that a valuable discovery has been made, and that when proper machinery is introduced for dealing with the ore, Marototo will become an important portion of the Hauraki Mining District.

At Whangamata, on the East Coast, about nine miles north-eastward from Marototo, a quartz-reef of about 3ft. in width, yielding satisfactory tests, was discovered by McWilliams and party, and a prospecting claim was granted by the Warden, for which a license has recently been issued, the property having been acquired by the Goldwater Gold-mining Company. Eleven licensed holdings have been marked out and applied for, comprising an area of 156 acres. There are no quartz-crushing batteries or any appliances for treating the ore nearer than the Thames, some thirty miles distant over a rugged range of mountains; and, until machinery is erected in the vicinity, no substantial returns can be expected, although, when a good road is completed to the coast, the better class of ore could be shipped for treatment elsewhere. In the meantime, prospecting is being carried on, and trials of small parcels of stone from time to time have been very promising. From the Goldwater Mine 11cwt., treated at Fraser's Reduction Works, Auckland, yielded 14ozs. of gold (bullion). A few tons of ore from this mine have been sent to Adelaide for treatment. As this ore contains a large percentage of sulphide of silver it cannot be profitably treated by any of the processes at present in use in this district.

At the Mata Creek, situated near the coast, about fifteen miles northward from Grahamstown, several claims have been marked out and five licensed holdings applied for. Crushings of small parcels of quartz from the Gentle Annie and Mata claims have resulted very satisfactorily, and steps are being taken to erect a quartz-crushing machine on the Mata Creek. A discovery has recently been made of a gold bearing reef on the Waiwawa Creek, some miles inland from the settlement at the head of Te Puru creek, on the track to Mercury Bay, in a portion of the district hitherto unprospected, and several miles distant from any existing workings. The discovery is very recent, and beyond the fact that a small quantity of quartz treated in Auckland proves the reef to contain gold in payable quantities, nothing is yet known.

At Puriri, about nine miles southward from Grahamstown, work has been resumed after an interval of some twelve or fourteen years. A discovery was made by Bedford and party of a payable reef in the Puriri Creek which led to other claims being marked out. In one of these, taken up by a party of ten Maoris, the proprietors took out about 28cwt. of quartz from the face of an old abandoned drive which was crushed for the excellent return of 10½oz. of gold. Several claims have been marked out and a small battery has been erected by Bedford and party. A machine site and two water-races have also been applied for by other parties in this locality, and two licensed holdings of thirty acres each have been applied for, and there seems every possibility of payable returns being obtained during the next year from these claims, which have remained unworked and abandoned for many years past.

In the Karangahake District, Ohinemuri, very little progress has been made during the past year. Railey's battery, which it was hoped would deal satisfactorily with the ores of the district, proved ineffective and too expensive, and comparatively little work has been carried on in the mines.

* Since the 31st March thirty-two licensed holdings, comprising an area of 792 acres, have been marked out and applied for, making a total area to date of 1,287 acres applied for in sixty-five holdings.

Quite recently, owing to late discoveries, and to the probability of English capital being introduced for the working of some of the mines, interest in this portion of the district is reviving, and several new licensed holdings have recently been applied for. At Waihi the Waihi Gold-mining Company, formed in England for the purchase and working of the Union and Rosemont Companies' holdings, have started vigorously to work to put up pumping-machinery and erect works for the reduction of the complex ores which abound in the district. At the Tui mine, Te Aroha, operations will shortly be resumed on a comprehensive scale, the property having been acquired by an English company. A discovery of a rich lode of lead-ore has recently been made in this mine, which will add materially to its value, and will, it is hoped, to a great extent, obviate the use of metallic lead in smelting—an item which, in the treatment of ores by the La Monte process, proved a very expensive one. The New Find Mine, at Waiorongomai, Te Aroha, has been acquired by Mr. W. R. Wilson, of Melbourne, who has since disposed of it to a company formed in Melbourne, who have started energetically to work and develop the property. They intend to add to their already extensive battery such improvements as experience proves to be most suitable for the reduction of the ores of the district.

Altogether the outlook for the future is most encouraging, and, as a consequence of the revived confidence in the prosperity of the district, prospecting is being carried on throughout the peninsula with vigour, and several new finds have already been reported from various localities. The want of roads and tracks to connect these new discoveries with the townships is much felt. The district is mountainous, and heavily timbered. The fact of payable quartz being found at so many different and widely-separated points seems to indicate that the whole of the Hauraki Peninsula is more or less rich in gold and silver lodes, and the energy with which prospecting has after so many years been resumed, will, I am convinced, lead to important discoveries.

In dealing with the present condition and future prospects of this district the question of proper appliances and processes for treating the various ores found in it becomes a most important consideration. That the future prosperity of these goldfields will depend largely on the means afforded for the reduction of our ores is beyond doubt. That a great loss has been sustained for many years by the inadequate machinery employed for this purpose has been abundantly proved by repeated assays from ores from all parts of the district, and a practical demonstration of the truth of these tests was afforded by the La Monte furnace during the short time it was in operation, where quartz, which would not pay to treat by the usual battery process, yielded from £10 to £80 per ton. This furnace, though it did not prove a success in economically dealing with the refractory ores of this district, produced at least one beneficial result. It drew forcible attention to the waste that had been going on for years, and the possibility of adapting a process by which the productiveness of the district might be almost indefinitely enlarged, and led the way to the newer processes which are now being introduced. Efforts have been made to establish a trade in the exportation of ores, principally to Freiburg, in Germany, and several parcels have been purchased at very satisfactory prices and exported, but owing to the cost of carriage, freight, and other charges, only ore of the better class can be thus dealt with at a profit, and the project so far has not been to any extent successful. The desideratum appears to be the erection of suitable machinery in convenient localities, at which the ore could be taken by the miners and disposed of for cash. The realisation of such a system appears to be within a reasonable distance of fulfilment. Attention has been for some time directed to the selection or invention of some system by which the successful treatment of the different ores of the district could be effected. Inquiries have been instituted in the principal mining districts of the world, and already these investigations have borne fruit, and there will shortly be in operation four or five systems which have elsewhere proved successful. The Askham-Molloy process, the machinery for which is now completed, has been introduced by a local company, who have acquired from the inventors the right to its use in their reduction works. They have purchased the Herald battery, on the Thames foreshore, and have now completed the necessary alterations and additions, and the system will receive a practical trial in a short time. The principle of the treatment consists in the application of electricity, by which the inactivity of the mercury, technically known as "sickening," caused by the presence of base minerals, is obviated, and the amalgamation of the quicksilver with the gold is allowed to operate to its fullest extent. One of the other processes I refer to is the Newberry-Vautin process, negotiations for the right to use which, and for the erection of the necessary machinery, have been completed. The building and machinery erected by the La Monte Furnace Company have been purchased, and the necessary alterations and additions will shortly be undertaken. This system, it is confidently expected, will successfully deal with ores containing gold and silver in the metallic form, as also in chemical combinations. Besides these processes, the Waihi Company, at Waihi, will shortly be engaged in the erection of machinery for the treatment of the complex ores found in their mines by a system which has been decided on as being the most likely to deal successfully with them. The Mount Aroha Company (late New Find), at Te Aroha, are about to improve their machinery by the addition of appliances which experience has elsewhere shown to have been successful with quartz such as is found in their property. In addition to these, Mr. Alexander Parkes, of London, a gentleman of long and varied experience as a metallurgist and mineralogist, is about to introduce a system of his own invention, which it is confidently anticipated will deal successfully with the most refractory ores to be found here. Earnest attention having now been directed to the subject, and the benefit likely to accrue to this district and to the colony at large being recognised, it is to be hoped that the next twelve months will see this most difficult and vexatious problem finally solved. This, with the introduction of foreign capital for the development of the mines, will, it is expected, give a great impetus to mining, and restore confidence and hope in the future of the district. These expectations cannot, however, find fulfilment for many months. Expensive machinery has to be erected, roads and tramways made, shafts sunk, and tunnels driven, and a large amount of what miners term "dead work" has to be undertaken before any return can be hoped for from the outlay of capital; but, in the meantime, these preparatory

works will give employment to many men, and will, I trust, to some extent, prevent the exodus of our miners, which I regret to say has been going on during the past year. The depression existing here, and the hope held out to them of profitable employment in the more prosperous gold- and silver-mining districts of the Australian Colonies, has induced many of our best and most intelligent miners and artisans to leave these shores to seek their fortunes elsewhere.

The Mining Inspector, Mr. Wilson, having reported to you fully as to the work done on the different mines on the Te Aroha, Thames, and Ohinemuri goldfields, I have not thought it necessary to give a detailed report on these, but, as I am not aware that he has had opportunity to report on the mines of the Coromandel portion of the district (having only lately been appointed), I subjoin an account of the year's work:—

Kauri Block.—On this block is situated the property of the Coromandel Gold Company, one of the English companies mentioned above, who finding the old company's (Union Beach) pumping-machinery inadequate, have erected a 40in. cylinder Cornish-beam pumping-engine, with 10-ton boiler, 12in. column and fittings complete. An engine-house has been built, the foundations being laid in concrete and masonry from the bed-rock below high-water mark. Upwards of 50,000ft. of heart of kauri bed-logs have been used in this work, and the machinery in all weighs over 80 tons. This engine-house, together with boiler and coal-sheds, being erected below high-water mark, are docked by means of a 2ft. masonry wall, faced outside with clay. It is expected that this machinery will be started in three weeks from date. The length of the stroke in shaft will be 9ft. From the shaft, known as Union Beach, it is proposed to work flat rods to the old Palmerston shaft, which is to be sunk 100ft. below the 180ft. level in the old Union Beach, at which depth it is calculated the reef will be cut; the whole of this 100ft. will be virgin ground, which, with the present appliances, can be rapidly opened up, and should the new ground pay half as well as that already worked by the former owners the venture will prove a great success. Adjoining this property is the Just in Time claim, to work which a company, called the Colville Gold-mining Company, has been floated in London, but upon what terms the local promoters have not been yet informed, as letters containing particulars have not yet had time to reach here since the formation of the company. To seaward of the Coromandel Company's mine is situated a claim known as the Coromandel Mint. The owners make fair wages by stripping the surface and crushing about 1ft. of wash-dirt taken from that distance above the bed-rock. They have also discovered two gold-bearing leaders, which seem likely to be valuable. In the Ruby claim, also in this block, a little work has been done, and the prospects are considered by the owners sufficiently good to warrant them in applying for a license to be known as the Neptune. A piece of private property adjoining this block has been lately purchased by a Sydney syndicate for a large sum, the former owner having reserved to himself the right to the surface for grazing purposes. Miners are already at work on this property, intending to cut the New Just in Time, old Union Beach, and Kapanga reefs.

Kapanga Block.—The principal mine in this block is Kapanga Gold-mining Company's property, now so energetically and successfully worked by the English company of that name. During the year the main shaft, now known as Larnarch's, has been sunk 57ft., and over 1,500ft. of driving has been done on the various reefs and branches. The machinery is kept in good order, the shafts and other workings are constantly dry, and since the adjustment of the old and the addition of new appliances no hitch has occurred to hinder operations. Ten heads of stampers are crushing about 220 tons of quartz per four weeks, and when the developments now in progress are completed this output will be largely increased. From the runs of gold above the 420ft. level on the Kapanga reef, and from the 300ft. level on Scotty's reef, 1,507 tons of quartz has been raised, and crushed with good results. The sinking of the main shaft is at present suspended to admit of opening-out north and south on the Kapanga reef at the 500ft. level, at which depth the reef is as well defined, as large, and as assuring for large deposits of gold as at any part of the mine. So soon as the opening-out mentioned above, together with the necessary pit work is done, sinking below the 500ft. level will be carried on with vigour. The outlook and actual results in this mine are really first-class, and must be very encouraging to the English owners of this property. Three new holdings of thirty acres each, all adjoining the Kapanga Mine, have lately been marked out, and licenses applied for in all three cases. One is for the company, the other two are local enterprises. No work has been done as yet by the present owners, but the surface has been worked with excellent results in times gone by in all three of the properties, notably the Corby (now Scotty's,) which adjoins the Kapanga Mine on its north-east boundary. The South Kapanga claim, situated in the neighbourhood, was vigorously worked for some months during the year, but the flow of water proving too great for their machinery to cope with, operations ceased pending the erection of a more powerful pumping-plant. Adjoining the Kapanga Mine, on its eastern boundary, is situated the Conquering Hero claim, a mine which has been worked off and on with varying results since the opening of the field. This property is to be worked by the Colville Company, mentioned in the former portion of this report, which refers to the Just in Time claim.

Tokatea Block.—In the Tokatea Mine, from which claim this block takes its name, very little work has been done by the company proper, most of the operations being carried on by parties of tributers, but with excellent results, 26 tons of quartz being crushed, yielding 1,027oz. of gold, thus averaging nearly 40oz. to the ton. It may be mentioned here that low-grade quartz is never saved by tributers in this portion of the district. The Waipawa (formerly Harbour View) claim has also been worked by tributers with good results; and the same may be said of the Rob Roy and adjoining claim. Situated at the Tokatea Saddle is a claim called the Bachelors', so named, after its owners. This mine has been worked continuously for some years, and has paid its proprietors fairly well during the whole time. Last year 7 tons of ore were crushed for a return of 253oz. of gold. Royal Oak: This company has been continuing their low-level, while most of the surface has been in the hands of tributers, who have obtained good returns: 14 tons of quartz from this mine yielded 717oz. of retorted gold. Gem (formerly Bismarck): This claim has been worked by its owners and appears likely to again come to the front as a gold-producer. The old Masonic

ground is again reoccupied with very good prospects. On the whole, the Tokatea portion of the district has done very well, the yield of gold being above the average of the last few years.

Tiki.—Nothing very important has been done in this district during the past year, but there are decided signs of improvement. Several new claims have been taken up, and the old mines appear to be reviving, perhaps the best in that respect being the Maribel, which, after years of prospecting, has lately cut a reef which is likely to pay handsomely, as between 20 and 30 tons of good quartz are to hand ready for crushing. The old Native chief ground has been re-occupied, and two or three other parties are also working in that neighbourhood. *Vaughans*: This claim is now in the hands of tributers, who are not at present making much headway. A crushing in the early part of the year yielded 123oz. 14dwt. of gold. *Nelson*: The reefs in this ground are large and well defined. The main reef is from 2ft. to 4ft. in thickness, but of rather low grade. The country is excellent for working, and there are signs of improvement as the reef gets opened out. *Castle Rock*: This claim has a very rich leader, which has been followed down through several levels, giving excellent returns. The proprietor is now putting in a new low-level, which will tap the reef at a great depth. This level has been rather a formidable undertaking; but the country has been good, and the manager expects to cut the shot of gold in about two months from date.

Manaia.—This portion of the district is again coming into prominence. A number of miners have lately gone there intending to thoroughly prospect the ground. Gold can be found over a very wide area, and some small but rich patches have been found, but it is difficult to trace the gold to its source. The Jubilee claim has turned out fairly well, 25 tons of ore being crushed for a return of 198oz. retorted gold. The Star of Auckland, adjoining the Jubilee, has lately cut the same leader, and has a ton of crushing-stuff in hand, which is estimated to yield 36oz. The Victoria claim also bids fair to do well, having a good reef in hand, from which several crushings, yielding from 20oz. to 40z. to the ton were taken, but the leader having to be sunk upon, operations had to be stopped, owing to the influx of water.

I have, &c.,

H. W. NORTHCROFT, Warden.

The Under-Secretary, Mines Department, Wellington.

No. 2.

Mr. Inspector WILSON to the UNDER-SECRETARY of MINES.

SIR,—

Inspector of Mines' Office, 4th May, 1888.

I have the honour to forward the following report on mining in the Coromandel District for the year ending the 31st March last:—

Tokatea Mine.—This mine has been worked during the year entirely by tributers, whose operations have been chiefly confined to the surface portions near the top of the range. The leaders, as a rule, are very small, and only when gold is freely seen is the quartz saved for crushing. Twenty-six tons of quartz and specimens have been crushed for a return of 1,027oz. of gold, or at the rate of 47oz. per ton. The mine is in charge of Mr. John Benney, and an average of twenty men have been employed during the year.

Queen of the North Extended Mine.—The operations in this mine have been confined to those portions lying near the surface, the low-level works having been suspended for a time. Three tons of quartz have been crushed for a yield of 15oz. 17dwt. of gold, and two tons of quartz are stored at the mine, which are estimated to be worth 100oz. of gold. Mr. Carlo Blasch is the manager, and nine men have been employed working on tribute.

Bachelors' Mine.—This mine is situated on the Tokatea Range, and is owned and worked by Mr. C. H. Bennett. Two men have been employed during the year, and 7 tons 5cwt. of quartz have been crushed for 253oz. of gold. The whole of the quartz was taken from small veins.

Rob Roy Mine.—This mine, which is also on the Tokatea Range, is owned by Mr. John Mayn. Two men have been employed on tribute working on small quartz-veins, and 18 tons of quartz were crushed for 211oz. 14dwt. of gold.

Royal Oak Mine.—This mine has again yielded rich returns of gold. The low-level worked by the company, who employed four men, has produced 316oz. of gold from 2 tons 8cwt. of quartz, and the upper portions of the mine, which have been worked by tributers (six men being employed), have yielded 401oz. of gold from 11 tons 12cwt. of quartz. Mr. Peter Reid is the mine manager.

Young American Mine.—This mine, which is owned and worked by Mr. John Kennedy, is situated near the Gem claim on the Tokatea Range. Three men are employed working on small leaders: 6 tons 15cwt. of quartz yielded 120oz. 6dwt. of gold.

Gem Mine.—This claim was formerly known as the Bismarck, from which large quantities of gold were produced, and is now worked by Dunn and party on tribute. Work is confined to a small reef at the "Siege Level." Five tons of quartz yielded 128oz. 12dwt. of gold.

Kaipawa Mine.—This claim was formerly known as the Harbour View, and has been worked entirely by tributers, who have crushed 15 tons of quartz for a return of 186oz. of gold. Operations were chiefly on No. 1 and No. 2. Leaders, towards the surface, where the veins did not exceed 3in. in thickness. Mr. P. J. Tienny is the manager of the mine, and ten men are employed.

Several other claims are worked on the Tokatea Range, viz., the Golden Crown, which produced 25oz. 4dwt.; Sterling Castle, 29oz. 10dwt.; Kennedy Bay View, 13oz. 17dwt.; Earl, 29oz. 10dwt.; City of Glasgow, 65oz. 8dwt. from 5½ tons of quartz; and the Sunrise, 8oz. 12dwt. of gold. The Success claim, near the old Success Mine, yielded 15oz. 11dwt. from 8 tons of quartz. At Waikoromiko, McGregor's claim yielded 13oz. 18dwt. from 74lb. of quartz; and small prospectings from Cabbage Bay District amounted to 10oz. 12dwt. of gold. The Taumatawahine Block (private land) is owned by English capitalists, who are having the land on the line of the Success reef prospected, but there does not appear to be any discovery of value made as yet.

MANAIA DISTRICT.

The Jubilee claim yielded 198oz. of gold from 25 tons of quartz, and sundry prospectings from the locality amounted to 5oz. 17dwt. of gold. The Premier Mine, which is situated on private property near the beach, yielded 105oz. of gold from 3 tons 10cwt. of quartz.

Kapanga Mine.—This mine is owned and worked by the Kapanga Gold-mining Company (Limited) which is an English company. The workings are from a shaft (known as Larnach's shaft). The shaft has been sunk a distance of 57ft. during the year, and is now 500ft. in depth. A level has been opened called the 500ft. level, and 184ft. driven to the southward and 37ft. to the northward on the Kapanga reef. A cross-cut has also been driven at this level to Scotty's reef, a distance of 110ft. From the runs of gold above the 420ft. on the Kapanga reef, and above the 300ft. level on Scotty's reef, 1,734 tons of quartz have been raised, yielding 3,334oz. 17dwt. of melted gold, worth £2 18s. 4d. per ounce. The total amount of sinking and driving, &c., done during the year was 1,781ft., viz., sinking Larnach's shaft, 57ft.; clearing and retimbering levels, 338ft.; winze sunk, 16ft.; rises put up, 204ft.; cross-cut drives, 223ft.; and driven on reefs and leaders, 943ft. The number of trucks of mullock (exclusive of what has been packed in the ground worked) which has been raised from the shaft amounts to 15,000, each truck holding one-third of a ton. The quartz has all been crushed at the company's battery, situated adjacent to the shaft-mouth, and it is anticipated that the output for the next year will be largely increased. The reefs at the 500ft. level are quite as well defined, as large, and may be deemed to be as assuring for large deposits of gold as at any point in the mine. A rise is being put up on the Kapanga reef from the 500ft. level, and when communication is effected with the 420ft. level a thoroughfare will be established, giving access to the low-level from the surface independent of the main-shaft. The sinking of the shaft has been suspended for the past four months, but now that drives have been opened at the 500ft. level, sinking operations will be resumed in the coming spring, and in the meantime the necessary pit-work will be got ready. The shaft and pumping-gear are in good order; the mine is well ventilated, and all the drives, winzes, passes, and other workings, are well secured by timber, of which there is a large stock in readiness when required at all the different levels. A commodious changing- and drying-house has been erected convenient to the shaft, which will accommodate 100 men, if required. The number of men employed has averaged seventy during the year. The winding-gear is not at present used for raising and lowering men from the shaft, good ladder-ways being provided in the shaft for a travelling-road, and no winding is allowed whilst men are ascending or descending. The future prospects of this mine are most encouraging, and an increased yield of gold may be anticipated. Very great credit is due to Mr. Francis Hodge, the manager, for the thoroughly efficient manner in which the mine has been worked and managed.

Coromandel Gold Company's Mine.—This mine comprised the Anglo-New Zealand (or old Union Beach) and Telephone licensed holdings and Blagrove's freehold. The mine was drained to the 180ft. level of the Union Beach shaft, and various works undertaken to prospect several places in the mine on that and other levels alone. The total amount of driving, sinking, &c., during the year was 1,050ft., viz., winzes sunk, 130ft.; rises put up, 63ft.; driving on reefs and branches, 60ft.; cross-cut drives, 184ft.; and sinking in the main Palmerston shaft, 72ft. This shaft is 12ft. by 6ft. in the clear inside of the timber. The Palmerston shaft, which is situated at some distance from the Union Beach shaft, is now down 50ft. below the 180ft. level, and is at present comparatively dry. It is intended to pump the water from this shaft up to the 180ft. level, and from thence the water will be raised to the surface in the Union Beach shaft. From the Union Beach shaft flat rods at the surface will be used to work the Palmerston shaft-pump; this connection will be ready by the time the Palmerston shaft is sunk 100ft. below the 180ft. level. This shaft being in the country rock, and as the reef is not expected to be cut before 100ft. is reached, the pumps will not be required until the reef is cut. As this block of 100ft. will be entirely virgin ground and situated under the runs of gold worked in the Black reef and Union Beach reefs, there is every prospect of a continuation of the rich runs of gold worked above being discovered. As the old pumping-engine was inadequate to drain the mine, a 40in. cylinder Cornish-beam pumping-engine, with 9ft. stoke and 12in. pumps, with all appliances, have been sent from England and are now erected; the pumps are already in position and are worked by the old engine, and the erection of the new engine being almost completed, connection will be made with the pumps in a very short time. The old pumping-engine will be used for winding. The foundations of the pumping-engine are of a most substantial character. The whole of the buildings for the engine and boilers being reclaimed land on the foreshore, and docked with a 2ft. mason wall faced outside with clay; 960 cubic yards have been excavated for that purpose; 1,194 cubic yards have been excavated around the collar of the Palmerston shaft for fixing bobs, &c.; and 289 yards for the same purpose around the Union Beach shaft. The works are, therefore, in a forward state, and the whole will shortly be in full working order. Fifty-five men are employed. The whole of the works are under the charge of Mr. Francis Hodge, the manager.

Coromandel Mint.—This claim is on the foreshore opposite the Coromandel Gold Company's mine. Twenty tons of quartz and wash recovered below high-water mark were crushed for a yield of 11oz. 1dwt. of gold.

MATAWAI DISTRICT.

Castle Rock Mine.—This mine has been worked by the owner, Mr. Vizard, for the past ten years, and the runs of gold are evidently going downwards; a low-level cross-cut has been driven about 350ft. to cut the reef 85ft. below the last worked level, and as rich gold was found where an attempt was made to sink a winze, there is every probability that gold may be found when the reef is cut and driven on at the low-level. This reef is highly mineralised, and will probably require special treatment. Nine tons 15cwt. of quartz yielded 49oz. 13dwt. of gold.

Matawai Claim (late Vaughan's).—In this mine 50ft. have been driven on the reef in the low-

level, and about 90ft. on the reef in the upper-level, but there does not appear to be very much gold found; 99 tons from the levels near the surface were crushed for a yield of 123oz. 14dwt. of gold.

Nelson Claim.—Fifty-five tons of quartz from a reef 9in. to 2ft. in thickness were crushed for 72oz. 14dwt. of gold.

Maribel Mine, on Moore's private land, is worked by two men; 20 tons of quartz yielded 49oz. of gold.

McDonald's Mine.—About 500ft. of cross-cut driving has been done, but the reef has not yet been found.

Eleven new licensed holdings, of an area of 246 acres, and one special claim of 100 acres have been lately applied for. The future prospects of Coromandel are, on the whole, most encouraging. The vigorous manner in which the Kapanga Company and the Coromandel Gold Company (Limited) are carrying on work in their mines, and the success which has attended the operations of the Kapanga Company, have created increased confidence in the district. The Colville syndicate, in London, are about to place on the English market the Colonial, Conquering Hero, and Just in Time Mines, each to be a separate mining company. A portion of the estate of the late Mr. Williamson, which extends from Preece's Point to the top of the range, and consists of 800 acres of land, has been sold to an English company, who propose to commence extensive mining operations at Preece's Point. Vizard's Castle Rock Mine, at Matawai, is also under offer to an English syndicate. Lynch's paddock, containing forty acres, near the township of Coromandel, has also been disposed of to Australian capitalists, who intend to commence mining operations shortly. The Colonial Company has been formed to work the large reef at the Tokatea Range, which has scarcely been yet prospected. The general rich returns from tributers and others, in all parts of the district, show that there are still rich leaders to be found when a systematic method of searching for them is adopted.

I have, &c.,

GEO. WILSON, Inspector of Mines.

The Under-Secretary, Mines Department, Wellington.

No. 3.

Mr. Inspector WILSON to the UNDER-SECRETARY of MINES.

SIR,—

Inspector of Mines' Office, Thames, 18th April, 1888.

I have the honour to forward the following report on mines in the Hauraki District for the year ended 31st March, 1888.

THAMES DISTRICT.

Saxon Mine.—This mine has been successfully worked during the year. No. 4 Level was connected with the winze from No. 3 Level, and the blocks of reef opened up have yielded a large quantity of quartz. The reef, which is about 2ft. in thickness, has been driven on at No. 4 Level for about 500ft., up to the boundary of the Trenton ground, and this block has been payable for nearly all that distance. A winze is now being sunk below No. 4 Level, and the show of gold is richer than was found in the block now being stoped out. The total quantity of quartz crushed was 5,089 tons for a yield of 4,497oz. melted gold. 1,100ft. of driving has been done, 210ft. of sinking in winzes, and 2,368 fathoms of reef stoped out. There is every prospect of a continuation of good returns from this mine. Mr. F. James is the manager, and sixty men are employed.

New Prince Imperial Mine.—There has been a considerable falling-off in the returns from this mine. The main drive at No. 2 Level has been extended eastward for a distance of 370ft., and two blocks, each 100ft. by 70ft., have been stoped out on the reef. A new reef in the hanging-wall of No. 1 Reef is also being worked at No. 2 Level. 80ft. have been driven on this reef, and the manager anticipates payable results when the reef comes to be stoped, as there is a large block of virgin ground to work on. The old drive, which about seventeen years ago was put in on the course of No. 1 Reef at No. 1 Level, has been reopened and timbered for a distance of 300ft., and a cross-cut 70ft. in length driven to connect with the stopes carried up from No. 2 Level. Good ventilation was thus obtained, and the drive extended 150ft. on the reef, and stopes carried up for 35ft. The quantity of quartz crushed by the company was 525 tons, for a yield of 659oz. 7dwt., and for tributers, 754 tons, for 546oz. 13dwt.; total, 1,279 tons quartz for 1,206oz. melted gold. Mr. George S. Clarke is the manager, and forty men are employed, including battery-hands and tributers.

Trenton Mine.—The south cross-cut at the Cambria No. 4 Level was extended 160ft. into the Trenton ground, but the rock being of a hard nature, and not favourable for gold, it was deemed advisable to discontinue this drive. Arrangements were then entered into with the Saxon Company to extend their drive on the reef for a distance of 250ft., and afterwards to drive on the reef in the Trenton ground, and to work this portion of the mine from the Saxon shaft. The cost of haulage was, however, so great that the work was abandoned after 175ft. had been driven on the reef and 141 fathoms stoped out. About 130 tons of quartz were crushed for a yield of 104oz. 1dwt. melted gold. The company have now determined to sink the shaft on their own ground, and the engine lately used at the Moanataiari Extended shaft is to be erected to take the place of the small engine formerly in use. The Trenton Mine lies on the line of several rich reefs, and there is every prospect of making a valuable discovery if the company are successful in extending the low-level cross-cut through the ground. Mr. James Coutts is the manager, and twelve men have been employed.

Deep Level Cross.—This mine has not been worked at the low-levels, and, with the exception of three parties of tributers who are working in Tookey's section of the mine, there are no works in progress. Eighty-six tons of quartz were crushed for a return of 152oz. 1dwt. of melted gold. An endeavour is being made to float a company on the English market, it being impossible to work the mine without greater capital than the present company can command. Mr. James Coutts is the manager, and ten tributers are employed.

Waiotahi Mine.—Operations in this mine have been confined to working on the reefs and leaders above No. 4 Level. 1,000ft. of driving has been done, and the same number of fathoms stoped on the various reefs and leaders. 2,497 tons of quartz have been crushed, yielding 3,203oz. of melted gold. Mr. James E. Smith is the manager, and from forty to fifty men are employed.

New Manukau Mine.—This mine, which adjoins the Waiotahi Mine, is also in charge of Mr. J. E. Smith. The workings are of the same class as in the Waiotahi Mine. 300ft. of driving has been done, 200 fathoms of reef stoped out, and 400 tons of quartz crushed for a return of 640oz. of melted gold. Twelve men are employed.

Old Caledonian Mine.—This mine now comprises the ground formerly known as the Golden Crown and Caledonian mines. 909 tons of quartz have been crushed by the company for a return of 380oz. 5dwt. of gold. Tributers in the Golden Crown section crushed 117 tons for 258oz. 1dwt. of gold, and in the Caledonian section 522 tons for 828oz. 14dwt. of gold; total, 1,548 tons for 1,467oz. of gold. Mr. T. A. Dunlop is the manager. Thirty-six men are employed.

Moanataiari Mine.—The workings by the company have been driving on the low-level towards the Cambria Mine for a distance of 160ft, and 80ft. of a rise was also made and 20ft. of sinking done from this drive. A level was also driven on Williams's leader for 100ft., and a winze sunk 50ft. Tribute parties have been employed in various parts of the mine, 130 men being employed in this manner, and twenty men on wages. Total amount of quartz crushed, 1,301 tons, for a yield of 3,900oz. 11dwt. of gold. Mr. Thomas Radford is the manager. This mine has been offered to an English company, the present proprietors being unable, for want of capital, to continue deep-level prospecting. The directors of the company have received advices from London that the property has been floated on the London market with a capital of £75,000, of which £25,000 is to be devoted to work the mine and to pay off existing liabilities.

Don Pedro Mine.—Several tribute parties have been working in this mine from time to time, and 38 tons of quartz were crushed for 37oz. 16dwt. of gold.

Kuranui No. 1 Mine (Turtle's).—About 350 tons of quartz crushed yielded 580oz. 5dwt. of gold.

Kuranui No. 2 Mine (Comer's).—This mine is the property of Mr. Robert Comer, and is worked by tributers. The workings are confined to leaders, chiefly over the Moanataiari tunnel level. 1,634 tons of quartz were crushed for a return of 1,530oz. 10dwt. of gold. Fifty men are employed.

Kuranui No. 3 Mine (Hicks's).—This mine was owned by Mr. Thomas Hicks, and was worked by tributers, who worked on the leaders over the tunnel level. About 600 tons of quartz were crushed for a return of 440oz. of gold. About twenty men were employed. This mine has lately been purchased by Mr. Peter Hansen, who has also acquired the Kuranui battery, and intends to crush a large quantity of mullock and stringers from the old Shotover ground.

Reuben Parr Mine.—Ten men have been employed on tribute, and 180 tons of quartz were crushed for 200oz. of gold.

Pinafore Mine.—A considerable amount of work has been done in this ground. The owners crushed 56 tons of quartz for 59oz. 3dwt. of gold, and tributers crushed 6 tons for 5oz. 2dwt. of gold. Eleven men are employed, and Mr. D. E. O'Sullivan is the manager.

New Alburnia Mine.—Work in this mine has been confined to the upper portions from the Whau Level to the surface, a depth of 300ft.; 600ft. of driving has been done on the various reefs, and 200ft. of sinking winzes; 150ft. of cross-cut drives have been put in, and 685 fathoms of reef stoped out; 887 tons of quartz were crushed, yielding 1,597oz. 6dwt. of gold. This mine is well opened up, and the prospects of the company are very encouraging. The reef now being worked turns out occasional patches of specimens, and there is a considerable extent of ground to be worked upon it and other reefs between the battery-level and the surfaces. The company are endeavouring to get the co-operation of the adjoining mines to carry on prospecting operations at the lower-levels, which are kept open, iron tramways being laid for a distance of 2,600ft. Twenty-five men are employed, and Mr. William McKenzie is the manager.

Coliban Mine.—Seventy tons of quartz have been crushed for 57oz. of gold. About 300ft. of driving has been done on the reef, which is 18in. in thickness. The surrounding rock is very hard. The future prospects are, however, encouraging. Four men are employed, and Mr. J. R. Hunter is the manager.

Cambria Mine.—The chief operations in this mine were driving the south cross-cut at No. 4 Level 367ft. to the Trenton boundary. No quartz of any consequence was cut, although the country is not altogether unfavourable for reefs to exist. The drives at No. 2 Level on the hanging-wall leader were extended 80ft. to the eastward and 50ft. to the westward. In the eastern drive payable quartz was followed 93ft., and in the western drive payable quartz was also followed for 200ft., and the block stoped out for 60ft. over the drive. Nos. 1 and 2 Leaders, on the foot-wall side of this hanging-wall leader, were also worked on. A winze was sunk on No. 1 Leader towards No. 3 Level, and a cross-cut was put in at No. 3 Level to meet the winze. In driving this cross-cut four leaders were cut, all of them gold-bearing. A large amount of stoping has been done on Nos. 1, 4, 5, 6, and 7 Leaders at this level, the quartz from which was payable. Stoping was also carried on on the main reef at this level, and a winze sunk for 34ft. A cross-cut to meet this winze is being put in at No. 4 Level, and is now in 285ft. There is every probability that a considerable amount of payable quartz will be obtained in working all these leaders at No. 3 Level, and in the blocks of ground between Nos. 3 and 4 Levels. The country has the same characteristics as in the Waiotahi Mine, where the small leaders and veins are so successfully worked. Of quartz, 6,562 tons yielded 3,810oz. 5dwt., and 2,134lb. of specimens yielded 2,509oz. of gold. A parcel of tailings, 259½ tons, were also treated for 242oz. of gold. Total, 6,661oz. 17dwt. of gold. Sixty men are employed, and Mr. H. W. Moore is the manager.

The Lincoln Castle, Dixon's No. 1, West Coast, Little Maggie, Fame and Fortune, Dryden's, Curtis's, Fearnought, and other claims in Moanataiari and Waiotahi Districts have been worked with moderate results.

Collarbone Creek.

Peploe and party, Brownlee and party, and others occasionally work in this district, but the returns of gold are not of any great importance.

Karaka Creek.

City of Manchester Mine.—This mine is owned by Messrs. Scott and Taylor, who have for the past twelve years been in receipt of excellent returns. The reef is about 15in. in thickness, and has been worked block after block in a systematic manner. On the reef, 70ft. have been driven, and a winze sunk 25ft. A considerable amount of stoping has also been done, and 228 tons of quartz have been crushed, which yielded 536oz. of gold.

City of Adelaide Mine.—This mine, which adjoins the City of Manchester, is worked by the shareholders. The reef resembles that described in the City of Manchester. Three hundred tons of quartz were crushed for a return of 412oz. of gold. Six men are employed, and Mr. Andrew Hart is the manager.

Lone Hand Mine.—Mr. Thomas Barclay is the owner and manager. The workings, which were chiefly on small leaders, are now nearly exhausted towards the surface, and a low-level tunnel to open up another block is being put in. This level has been driven 675ft., and a winze sunk 86ft. to meet it. The reef is about 1ft. to 2ft. in thickness, but nearly all the gold comes from six or eight leaders on the eastern wall of the reef. These vary from 1in. to 4in. in thickness, and rich patches of specimens are found where black flinty seams cross these leaders. Twenty-five tons of general quartz and 115lb. of specimens have been crushed for a return of 136oz. of gold. An average of twelve men are employed.

Hokianga Mine.—This mine is worked and owned by Jenkins and party, and has been worked for several years with steady returns. The gold is chiefly found at the junction of black seams with small leaders. Twenty-five tons of quartz and 406lb. of picked stone yielded 286oz. 7dwt. of gold. Three men are employed.

Claremont Mine.—This mine is also worked on the junctions of flinty seams with small leaders. Eighty-six pounds of picked stone yielded 50oz. 17dwt. of gold. Two men are employed.

Auckland Mine.—One hundred and fourteen tons of quartz were crushed for a yield of 305oz. 2dwt. of gold. Six men are employed.

Enterprise Mine.—On the reefs, 130ft. were driven, and 35ft. of a winze sunk. Twelve tons of quartz were crushed by the shareholders for a return of 35oz. of gold, and by tributers 27 tons for 44oz. 6dwt. of gold. Four shareholders and five tributers were employed. Mr. J. G. Vivian is the manager.

North Star Mine.—This mine is situated in the Te Papa Gully. It has been worked entirely by tributers, and 460ft. has been driven on the reef, which is only 5in. in thickness. Two winzes, of 50ft. each, were sunk, and 390 fathoms of reef stoped out. There were 378 tons of quartz crushed for a yield of 664oz. of gold. The run of gold is very good at the low-level, but until a lower-level is driven the reef cannot be worked on account of the large quantity of water. Sixteen men were employed. Mr. R. Harvie is the manager.

OTANUI DISTRICT.

Eureka Mine.—The works in this mine have been sinking a winze on No. 1 Reef for 38ft. and another winze on No. 2 Reef for 22ft. Stoping has been done from both winzes, the reefs being about 4ft. in thickness. There were 555 tons of quartz crushed for a yield of 352oz. 18dwt. of gold. Six men have been employed on tribute. Mr. John Wilcox is the manager.

PURIRI DISTRICT.

Surprise Claim.—Gold was found in this claim about six months ago in a leader 8in. in thickness. The first discovery was made in a creek about a mile and a quarter from the flat. About 200ft. of driving has been done in the claim at several places. The principal drive is on the leader which runs about 20° east of north. One ton of quartz crushed yielded 3oz. of gold. A battery of six stampers has been purchased and erected within 3 chains from the low-level. The shareholders are in good hopes that this claim will prove payable when they get it in working order.

Ngawhakapoupou Claim.—This claim is situated further up the range from the Surprise claim. A reef about 1ft. in thickness was discovered in an old shaft, and 28cwt. of quartz crushed for a yield of 10oz. 7dwt. of gold. A low-level has been driven a distance of 150ft. Several tons of wash mixed with clay taken from a small creek were also crushed for a return of 12dwt. per ton. This claim is worked by a party of ten Maoris.

Other claims have been taken up in this locality, and it is probable that further discoveries may be made, as during the early days of mining at the Thames this district was rushed and several of the claims gave very good returns, but Puriri was afterwards deserted in consequence of greater attractions at the Thames.

TAIRUA DISTRICT.

Decide Claim.—This claim is owned and worked by Mr. Finlay McLiver, who also owns a crushing-machine. Several other parties also have been working in old ground in this locality, and the total quantity of quartz crushed in the district was 365 tons for a yield of 254oz. 2dwt. of gold.

WHANGAMATA DISTRICT.

Goldwater Mine.—This mine is situated on a hill about six miles up a creek which falls into Whangamata Harbour. Gold was found in a blow of quartz cropping out near the top of the spur. A drive was put in on the western side of the hill, and the reef cut about 40ft. below the outcrop. The reef was driven on for 30ft. to the northward and a winze sunk 8ft. At the end of this drive

the reef is about 3ft. in thickness, and the richest quartz is on the foot-wall, but it is sometimes distributed through the whole of the reef. Gold is seen freely in the quartz, and also sulphides of silver: 11cwt. of quartz treated at Fraser and Sons reduction works, Auckland, in November last, yielded 14oz. of retorted gold (bullion). Five men are employed. Mr. James Thomas is manager.

Just in Time Mine.—The reef in this mine is on a different line, and situated to the westward of the Goldwater line of reef; it is about 24ft. in thickness, and about 3ft. of rubbly quartz on the hanging-wall side gives dish prospects worth about $\frac{1}{2}$ oz. of gold per ton. The reef has been traced about half a mile to the northward, and for a mile in a southerly direction. The average thickness of the reef is 5ft., and gold is found along the line at different places.

The land on both lines of reef in this district has been taken up under licensed holdings, but no great amount of work has yet been done to prove the value of the reefs. A road from the Goldwater Mine to Whangamata Harbour, a distance of six miles, is being made by the Thames County Council, out of grant from Government. This road will enable the miners to forward parcels of quartz to Auckland or to the Thames by sea, and also can be used in transporting machinery to the locality of the mines.

Tararu Creek.

Norfolk Mine.—Ten tons of quartz from this mine yielded 45oz. of gold, and a similar parcel is ready to be sent to the crushing-mill. The reef which was formerly known as the Yankee Doodle reef, runs parallel to the old California reef, which formerly yielded a large quantity of gold; a winze is being sunk on the reef to be used as a pass to convey the quartz down to the road. At present the owner, Mr. John Bice, is making a road in order to get quartz to the battery.

About three hundred acres have lately been taken up as licensed holdings, but mining operations are not yet commenced. Several reefs in Tararu District contain silver ore, and the land has been occupied in anticipation that the ore can be treated successfully by the improved processes that are now being adopted at the Thames.

WAIOMO DISTRICT.

Paroquet Mine.—A considerable amount of work has been done in connection with this mine. A battery of twenty stampers has been erected about a mile from the mine, and a sledge-road made to the battery from the mine; 386ft. of driving and 120ft. of winzes sunk to open up the reef, which is about 5ft. in thickness; 70 fathoms of reef have been stoped out, and 250 tons of quartz are stacked at the mine and at the battery. Sixty tons of quartz have been crushed for a return of 270oz. of amalgam, which is calculated to yield one-third gold. The blanket washings and tailings have been forwarded to the Thames for treatment in the Molloy pans, erected at the Herald battery. The chief difficulty that has now to be got over is the transport of quartz from the mine to the battery, as sledging for such a distance is too expensive. Twenty men have been employed, and Mr. James G. Wilson is the manager.

Ostrich Mine.—A low level is being driven to cut the Paroquet reef.

Appeal Mine.—A trial crushing sent to the Thames was satisfactory, and work is being done to open up the reef.

Golden Gem.—This mine is situated near the Paroquet battery. Two levels are driven on the reef and connected by a winze. They are also erecting shoots to connect with the battery. About twenty tons of quartz are ready for crushing.

Golden Point.—A tunnel 130ft. has been driven, but the reef is not yet cut.

Golden Drop.—A large reef has been found, and a considerable amount of work done on it. About fifteen tons of quartz are ready to be sent to the battery.

Mata Creek.

Whitley's Claim.—Gold was found in this claim at the surface in a leader averaging 6in. in thickness. A winze was sunk 30ft., and a drive was made for 50ft. on the leader from the bottom of the winze. Two tons of quartz crushed yielded 16 oz. of gold. A low-level is now being driven through soft country, which will cut the reef about 70ft. below the winze.

Birch and Party's Claim.—This claim is near Whitley's, and a reef is found which promises to become valuable. Three tons of quartz crushed yielded over 2oz. of gold per ton. A considerable area of ground has been occupied in this locality, and Birch and party are in treaty for the erection of a battery.

Tapu Creek.

The claims in this locality have not produced much gold, but there appears to be a revival in the district, and mining matters are more hopeful in the near future.

ACCIDENTS.

Two fatal accidents occurred during the year. A miner named Frank Kneebone was killed at the Kapanga Mine, Coromandel, on the 19th November last. The accident happened through a truck falling down the shaft, a depth of 300ft., and killing him instantaneously. The other accident occurred in the Saxon Mine, at the Thames, on the 28th November last. A miner named Richard Boden was employed in the stopes, and a fall of rock from a soapy head crushed him to the floor, and life was extinct when he was uncovered.

GENERAL REMARKS.

The large amount of prospecting in the outlying districts and the improved methods of treating the ore now being introduced will tend to keep up the returns of gold, and a successful future may be anticipated.

The return of gold obtained shows that there has been an increase of 3,075oz. 17dwt. 16gr. over the returns for last year.

I have, &c.,

GEO. WILSON, Inspector of Mines.

The Under-Secretary, Mines Department, Wellington.

COMPARATIVE RETURN of the Quantity of QUARTZ crushed and GOLD obtained in the HAURAKI MINING DISTRICT for the Years ended 31st March, 1888, and 31st March, 1887.

Name of Sub-district.	Year ended 31st March, 1888.			Year ended 31st March, 1887.			Increase.	Decrease.
	Quartz.	Tailings.	Gold.	Quartz.	Tailings.	Gold.	Gold.	Gold.
	Tns. cwt. lb.	Tns. cwt.	Oz. dwt. gr.	Tns. cwt. lb.	Tns. cwt. lb.	Oz. dwt. gr.	Oz. dwt. gr.	Oz. dwt. gr.
Coromandel ..	1,923 0 0	..	6,773 11 12	287 6 80	17 10 0	4,169 15 20	2,603 15 16	..
Thames ..	25,797 13 42	7,021 13	35,948 14 18	28,223 7 22	6,603 4 24	38,141 15 11	212 13 12	..
Ohinemuri ..	2,165 7 12	223 0	3,405 14 (	4,723 0 0	..	3,658 7 12	..	740 11 12
Te Aroha ..	5,722 0 0	1,444 0	2,917 16 (	..	..	..	..	..
Totals ..	35,608 0 54	8,688 13	49,045 16 1	33,233 13 10	6,620 14 24	45,969 18 9	3,816 9 4	740 11 12

N.B.—The above returns shows the amount of melted gold. The increase in the yield of gold last year was 3,075oz. 17dwt. 16gr.

No. 4.

Mr. Inspector WILSON to the UNDER-SECRETARY of MINES.

REPORT ON TE AROHA AND OHINEMURI DISTRICTS.

SIR,—

Warden's Office, Te Aroha, 4th April, 1888.

I have the honour to forward the following report on mines in the Te Aroha and Ohinemuri Districts for the year ending the 31st March, 1888.

The returns of gold from Te Aroha District again show a decrease. The New Find Mine, which was the best producer, does not appear to have been so successfully worked, the low-level works being for a time suspended, consequent on the want of funds required to complete the cross-cut tunnel. The runs of gold have therefore not been worked on, but operations were confined to those portions of the reef in the upper-levels which had been left near the principal shots of gold. The other mines, at Waiorongomai, have either been abandoned or not worked in a vigorous manner, and their returns are in consequence unimportant.

The Tui Creek Mines, which contain reefs rich in silver and other metals, are not yet worked to advantage, as no suitable method of treating the complex ores which these reefs contain has yet been adopted, and, until lately, capitalists have been chary of investing money for their development.

New Find Mine.—The low-level, which had to be driven a further distance of 95ft. to cut the reef 100ft. below the runs of gold at No. 2 Level, was not completed, as the New Find Company had exhausted their funds. The quartz worked was therefore from portions of blocks left between No. 2 Level and the surface, from which 5,056 trucks of quartz were taken, yielding 2,690oz. of gold. A drive to cut the reef at the northern end of the mine has reached a distance of 110ft.; this drive is 65ft. deeper than the low-level mentioned above, and, when the reef is cut, there will be 165ft. of backs to be stoped out on the runs of gold. A fresh discovery, which appears to be of importance, has been made, and gives promise of a great addition to future yields from the mine. A portion of the main reef only has been taken out and sent to the battery; the other part, which was highly mineralised, being left standing, as only very poor prospects of gold could be found in it. The attention of the manager was, however, attracted to that portion of the reef in consequence of indications of carbonate of copper being discovered. Several holes were bored into this quartz and tests made, showing that what was previously considered worthless was worth from £3 9s. to £4 8s. per ton, the reef containing gold, silver, and copper. This mine has lately become the property of Mr. W. R. Wilson, who has already let contracts to carry on the drive where operations were suspended by the former proprietors, also the drive at the northern end, as well as to sink two winzes from No. 2 Level. Work is also proceeding vigorously in breaking out quartz from the mineralised reef, which yielded rich assay tests.

Colonist Mine.—No new works have been commenced during the year, but 170 trucks of quartz have been broken out, the yield from which was 50oz. 15dwt. gold.

May Queen Mine.—The low-level has been carried on for about 50ft., and 142 tons of quartz have been crushed for a yield of 39oz. 15dwt. of gold.

Waiorongomai Mine.—A portion of this mine has been worked by tributers, who crushed twenty-three trucks of quartz for a return of 12oz. 10dwt. of gold. The licensed holdings, containing eighteen acres, held by the company, have been forfeited and re-entered.

Silver King Mine.—Three trucks of quartz yielded 14oz. 6dwt. of gold. Fifteen acres of additional ground has been taken up, and a low-level is now being driven to cut the reef, which is from 6ft. to 16ft. in thickness, and from which rich assays have been made, showing that gold, silver, and copper are contained in the quartz in payable quantities. This reef has been traced 1,100ft., and in many places gives valuable assays.

Aroonia Claim (One Man's Ground).—A small crushing of about one ton of quartz yielded 16oz. 4dwt. of gold.

Success Claim.—A crushing of twenty-five tons from a small reef yielded about $\frac{1}{2}$ oz. to the ton.

Gordon Claim.—Ten tons of quartz yielded 6oz. 15dw. of gold.

Firth's special claim of 140 acres has been protected for twelve months, and Ferguson's special claim of 160 acres has also been protected, in both cases with a view to placing those mines in the English market.

The Battery Company erected at Waiorongomai a White-Howell revolving-furnace, 24ft. long and 52in. in diameter, capable of roasting twenty tons per day. Salt at the rate of $\frac{1}{4}$ per cent. to 10 per cent. is used in roasting, also lime at the rate of 5lb. to 15lb. per ton. An average of 78 per cent. of the assay of the tailings roasted has been saved by amalgamation in berdans. This company purchased the New Find and Canadian licensed holdings, and obtained a lease of the tramway from the Piako County Council for ten years, at a rental of £100 per annum.

During the month of March, the Battery Company (Messrs. Firth and Clarke) disposed of all their property, including Firth's special claim, the New Find, Canadian, May Queen, and Galena licensed holdings; also the battery, tailings, plant, furnace, water-rights, &c., to Mr. W. R. Wilson, one of the proprietors of the famous Broken Hill Mine in New South Wales. Mr. Wilson has also purchased the Silver King Mine from the owners. The price paid for these properties was £29,000 cash, and £20,000 paid-up shares. It is the intention of Mr. Wilson to expend a sum of £20,000 in prospecting and opening up the mines, also to further extend the Wairakau water-race, and erect a wet-jacket smelting-furnace to treat refractory ores. Forty tons of quartz from the New Find and ten tons from the Silver King are to be forwarded to Adelaide for treatment at the Adelaide smelting works, in order that the necessary fluxes may be ascertained.

TUI DISTRICT.

Champion Lode Mine.—The reef has been driven on for 50ft. in No. 2 licensed holding, where it is 12ft. in thickness, and a large quantity of quartz broken out at the surface. A low-levels cross-cut has been driven 150ft., and the reef intersected, showing rich silver ores, also large quantities of galena, one of the bands or seams of which is about 2ft. in thickness, and other smaller seams, in all, about 4ft. The reef does not appear to be cut through, although 12ft. have been driven across it. Mr. Cornes informs me that this galena assays 70 per cent. of lead and from 7oz. to 17oz. of silver per ton. Three other reefs in this mine also give prospects of silver and gold. About five or six hundred tons of quartz from the workings are broken out ready for treatment when a suitable method is discovered. The 150 tons of ore which were sent to England were treated at different places with varied success. The owners of the mine have made arrangements with a Mr. Parkes (who is now on his way from England to New Zealand) to inspect the mine for the purpose of examining the different reefs, and adopting a process of smelting the ore, he having treated portions of the ore sent to England successfully by smelting.

Ruakaka Licensed Holding (30 acres).—Two reefs, one about 21in., and the other about 5ft. in thickness, have been discovered, and assays showing silver and gold in payable quantities, worth from £6 to £20 per ton, have been made. There is not much work done, the reef having been only lately discovered.

Earl of Aberdeen Licensed Holding (20 acres).—A large reef, apparently a continuation of the Champion lode, crops out through the ground, and fair prospects of silver and gold got by assay tests.

May Bell Mine (6 acres).—Mr. Edward Cameron, the owner of this mine, has extended the low-level drive to 110ft. The drive is through hard rock, and has cost about £1 15s. per foot. There has not been a reef found, although it was the opinion of Mr. Cameron that he would cut quartz before reaching the distance driven. A parcel of five tons of quartz, from surface-boulders, was sent to Freiburg for treatment, but the return is not yet to hand. Another lot of $4\frac{1}{2}$ tons has been sent to the Adelaide Company's smelting works, at Adelaide, estimated to be worth from £20 to £30 per ton.

Six special claims, comprising 184 acres, and six licensed holdings, comprising 150 acres, have recently been marked out and applied for in this district.

There appears to be several lines of reef running nearly in the same direction as the Champion Lode, lying between that reef and Te Aroha Mountain. The general run of these reefs is north-east, and as the main reef at Waiorongomai runs nearly north, there is every probability that the Tui reefs may be traced to join the Waiorongomai main reef. Two special claims of fifty acres each have been applied for on the line of the Waiorongomai reefs, and when the surveys are completed, these two portions of the district will be connected. The junction of the Tui and Waiorongomai reefs will occur in the Mangakino Valley, to the eastward of the main range from Te Aroha Mountain to Karangahake. Prospecting tracks are very much required to open up this valley and the eastern slope of the main range. There is also a belt of country between the Tui Mines and Waihi, which should be opened up by tracks, as those reefs appear to run in the direction of Waihi.

The future prospects of this district have greatly improved during the past three months. The discovery of rich ore in that portion of the New Find reef, which hitherto has been deemed worthless, and left standing in the mine, has added to the value of that portion of the field. The rich prospects obtained from the reef in the Silver King Mine also lead to the belief that when suitable methods of treating the ores are discovered this mine will be profitably worked.

At the Tui Creek fresh discoveries of rich silver ore have been made, showing that there are several reefs which bid fair to become payable when that district is opened up by roads or tramways, and the ores can be successfully treated.

As mentioned in my last report, the development of the mining resources of the district is impossible without large expenditure of capital, and every encouragement for its investment should be given. Messrs. Firth and Clarke have disposed of all their mining property to a gentleman

who has means of ascertaining the best methods for treatment of our ores, and when the smelting-furnace is erected the whole of the district will be benefited, as different kinds of ore may be treated. A great impetus to mining will be given, and a large tract of country will be prospected, when a market can be had for all classes of ores at the furnace at Waiorongomai. Mr. Ferguson is at present in England in treaty with capitalists to form a company to work his special claim and battery. The Champion Lode Company, who hold the mine where the first discovery was made at Tui Creek, have all but completed arrangements for an English company to take over the mine and erect a reduction plant for extracting the different metals. The Ruakaka is also under offer to a Sydney company to take over and work the mine, and the attention of other mining investors is being directed to the district.

Applications have been made for special claims and licensed holdings of an aggregate area of 635 acres.

The average number of miners employed in the district for the past year has been seventy-six, but this number will be largely augmented in consequence of the new works being commenced by Mr. Wilson, and also to prospect the new ground taken up.

The mines in the district are all worked through tunnels; the rock is generally of a hard nature, and the workings easily secured.

The deposit of gold-bearing rock on Waitoa, discovered by Mr. J. B. Smith, turned out to be very poor. Mr. Smith sold 1,000 acres of the land to a Christchurch company, who erected a pan and settler for treating the stuff. The results were almost nil, and work has been suspended. The rich prospects first found appear to have been fraudulently added to the stuff previous to assay.

The population in the Te Aroha District has slightly decreased during the year, being now about 1,100.

The hot springs, which are under the control of a Domain Board, are a source of attraction to the district. Three large and commodious hotels in Te Aroha Township are frequently crowded in the summer months by visitors from England, America, the Australian Colonies, and from all parts of New Zealand. The hot baths are deservedly popular, especially on account of their curative properties in cases of rheumatism and other complaints. About twenty-seven thousand baths were used during the year.

Accidents.

Two accidents occurred during the year. A man named Edwin Hadfield had his leg broken by a rock falling from an open face cutting in the New Find Mine; the other, which was a fatal accident, occurred in the smithy, at the Colonist Mine. George Reed, who had charge of the mine, was injured by the explosion of nitro-glycerine which had been carelessly thrown into the cooling-tub. Three men were in the smithy at the time, one escaped unhurt, another, who was tempering a pick, was wounded in the thigh, but the third man, Reed, was severely wounded by splinters of the staves of the tub, and succumbed to the shock on the third day from the accident.

OHINEMURI DISTRICT.

The returns also from Ohinemuri District have fallen off considerably. Railey's battery, at Karangahake, failed to give satisfaction, more especially with respect to the charges made for crushing and treatment of ores; and, prior to the construction of the tramway to connect with the road, most of the mines suspended work.

At Owaharoa and Waitekauri the few men employed have been fairly successful.

At Waihi, with the exception of three or four tribute parties in the Martha and a few men employed in the Silverton, no working has been done on the reefs.

The discovery of rich silver ore at Marototo, about eight miles from Hikutaia, has given a great impetus to prospecting and mining in that portion of this district, and capitalists have invested in the purchase of several of the mines.

KARANGAHAKE DISTRICT.

Woodstock Mine.—Heitman's Tribute (five men employed): To cut the reef, which is 6ft. thick, 80ft. have been driven through hard rock. The reef has been driven on for 60ft., and stoping has been carried up for 90ft. on a shot of gold 20ft. wide. There have been 312 tons of quartz crushed for a yield of 532oz. of gold.

Kenilworth Mine.—Moore's Tribute (four men employed): A drive has been put in for 90ft. on the reef, which is 3ft. thick, and a winze sunk to Woodstock low-level, 50ft. Thirty-five fathoms of reef have been stoped. Twenty-five tons of ore sold to Phillips and Son for £23 per ton, and 5 tons sold to Mr. D. R. Gellion for £16 per ton, both parcels for export to Europe. There were also 11½ tons sold to Mr. W. Littlejohn for chemical treatment at the Ivanhoe battery. The metal contained in the ore is chiefly silver. Shepherd's Tribute (two men employed) have six tons of quartz stacked, estimated to be worth 4oz. of gold per ton, value £2 14s. per ounce.

Monastery Mine.—Four men employed. On a large reef, 9ft. in thickness (3ft. 6in. of which is saved for crushing), 80ft. have been driven. A winze 82ft. has been sunk. Seventy tons have been crushed for a return of 160oz. of bullion.

Ivanhoe.—Several parties of tributers worked on blocks near the surface. About one hundred tons were crushed for a return of 152oz. of gold. The company not being in a position to work the mine, the land was forfeited.

Mammoth Special Claim.—This claim was taken up to be worked by an English company. They have expended a considerable amount in putting in drives and prospecting the ground; but, as no well-defined reef was found, operations have been suspended.

Diamond Mine.—Three men have been employed in this mine, and 60ft. of driving has been done on a reef 6in. in thickness. Forty tons of quartz were crushed, for a return of 139oz. of gold, worth £1 2s. 6d. per ounce.

Imperial Mine.—Three men have been employed in this mine. The low-level has been driven 40ft. on a reef 3ft. thick, and a winze is being sunk from the upper level. Thirty tons of quartz are stacked; one ton crushed yielded about 2oz. to the ton.

Crown Mine.—Two men have been employed, 150ft. of driving has been done, and about twenty fathoms stoped from a reef 3ft. in thickness. Twenty-two tons of ore have been sent to Glasgow, Scotland, for treatment, the return from which is not yet to hand.

Several other mines have been occasionally worked, but no great amount of prospecting has been done in the district during the year. About forty-five miners have been employed.

OWHAROA DISTRICT.

Smile of Fortune Mine.—Farmers' Tribute: A drive was put in for 60ft. near the surface, and a body of crushing-stuff was cut about 6ft. in width. This can scarcely be termed a reef, as it is only a mass of mullock mixed with stringers of quartz. About 90ft. has been driven on the course of this body, and a block of ground stoped out towards the surface. A winze has been sunk for 50ft., carrying good crushing-stuff, and continued in blank ground for another 30ft. to the No. 1 Level. A large block of ground is now open for stoping. There have been 200 tons of stuff crushed for a return of 340oz. of gold.

Me and Rowe Mine.—A considerable amount of driving has been done on a large body of crushing-stuff, and about 60 tons crushed for a yield of 7oz. 10dwt. of gold. About 500yds. of tramway have been constructed to connect with the battery, but, so far, nothing payable has been found. About twelve miners have been employed during the year in this district.

WAITEKAURI DISTRICT.

Waitekauri Mine.—Hollis and party have worked the mine and battery on tribute. No new ground has been opened up. The crushings have been taken chiefly from the old workings near the surface. There have been 956 tons of quartz crushed for a yield of 288oz. of gold.

Eclipse Claim.—From a small leader 914lb. of quartz have been crushed for a return of 22oz. 10dwt. of gold.

Star of Hope Claim.—From this claim 10½ tons of quartz yielded 26oz. 10dwt. of gold.

Mangakara Mine.—Snelgar's Tribute: About 150 tons of quartz from different reefs yielded 25oz. 9dwt. of gold.

Welcome Mine.—Birney and party have constructed about 12 chains of a tramway to connect with the Mangakara tramway. They have worked a reef from 3ft. to 4ft. in thickness, and 65 tons crushed have yielded 38oz. of gold. Thirty tons of quartz are stacked ready for the battery.

Young New Zealand Mine.—Mason's Tribute: About 3½ tons of quartz from a small leader yielded 20oz. 10dwt. of gold.

Jubilee Special Claim.—Mr. E. K. Cooper, the owner of this claim, has had a parcel of 10 tons of quartz forwarded to England for treatment. It is his intention to offer the claim to an English company.

About sixteen miners have been employed in this district during the year.

WAIHI DISTRICT.

Martha Mine.—The surface portions of the mine have been worked by tributers. The reef at the low-level is 30ft. in thickness, but only 7ft. or 8ft. of quartz has been saved for crushing. There have been 1,414 tons of quartz crushed for a yield of 534oz. 15dwt. of gold.

Silverton.—The winze sunk on the reef is 60ft. in depth, and the reef is about 12ft. in thickness. About 5ft. of the reef has been saved for crushing. Ninety-seven tons have been crushed for a yield of 198oz. 6dwt. There is too much water to admit of further working this reef from the winze without the aid of machinery. The mine is now under offer to a Sydney company, and it is expected that the offer will be accepted. If such is the case machinery is to be erected to work the mine below water-level.

Union Mine.—Operations in this mine have been confined to sinking a shaft on the flat near the line of reef. This shaft has been sunk by hand to a depth of 130ft. The shaft was opened at 115ft. from the surface, and a drive put in to cut the reef. A reef 1ft. in thickness was cut 64ft. from the shaft, and the main reef at 78ft. When this reef was cut it was found to be impossible to bale out the water by hand, and all work was suspended. Mr. Walker, the manager, proceeded to England, and was successful in negotiating the sale of the mine to the Union Gold-mining Company. Mr. Walker lately returned to New Zealand, and is now busy transporting to Waihi extensive machinery to work the mine and for the treatment of the ores. The method to be adopted for the treatment of the quartz is—first to be roasted in a kiln, next to be put through a stone-breaker, thence to a globe-crusher; the fine crushed ore will then be amalgamated and chemically treated in pans and settlers. This method, it appears, has been adopted as the most suitable after carefully experimenting in America and England with ores taken from the mine for that purpose. The pumping-machinery from the Dart Mine at the Thames has been purchased, and is being conveyed to Waihi to be used for draining the mine, which will, together with the other machinery, be worked by steam-power in the first instance; but the company having, however, acquired a valuable water-right, it is intended that water-power shall in time be adopted. The Rosemont and Winner licensed holdings have been purchased by the company, and the whole area is to be worked as one mine on a very extensive scale. About sixty men are employed on works connected with the mine and plant.

About twenty miners have, on the average, been employed in this district during the year.

HIKUTAIA DISTRICT.

A discovery of rich silver ore was made in this district last year on the northern watershed of the dividing-range between Hikutaia and Waitekauri. Mr. Richard McBrinn, an experienced prospector, followed up the traces of gold for about three miles on the Marototo Creek, a branch of the Hikutaia River. On reaching a branch creek (afterwards named McBinn's Creek) he continued to trace the gold for about two miles up this creek, and finally discovered the Marototo reef a quarter of a mile up a branch leading into McBrinn's Creek. This reef has been traced for about two miles, chiefly to the southward. A number of claims and licensed holdings have been taken up on the line of reef.

Marototo Mine (licensed holding, 30 acres).—At the place where the reef was first discovered a drive has been put in for 90ft. and a winze sunk 45ft. A portion of the reef has been stoped out over the drive, and about thirty-five tons of ore broken out. Thirty tons were purchased by Mr. H. C. Wick for £420, sundry small lots realised £10, and $1\frac{1}{2}$ tons sent to Sydney were worth £380. The proportion of gold and silver in this last parcel was 41oz. of gold and 600oz. of silver per ton. The reef has also been opened and driven on about 80ft. in a spur opposite where the first discovery was made, and the manager, Mr. J. H. Moore, informs me "that grand stuff has been carried all the way." The portion of the reef which contains the rich quartz is about 2ft. in thickness, and of a rubbly nature; the remainder consists of hard quartz; the reef is from 6ft. to 8ft. in thickness. The mine has been purchased by a Sydney company, and steps are being taken to ascertain the best process of treating the quartz. The return already received and the appearance of the reef promise that this mine is to become a very valuable property when a plant for the reduction and treatment of the quartz is obtained and erected convenient to the mine.

Goldworthy's Claim.—This claim lies to the southward of Marototo; a reef 7ft. wide has been driven on for 30ft.; the quartz appears to be of low grade, but free milling ore.

Kowhai Claim (ten men's ground).—This claim lies about a mile to the southward of the Marototo. A large reef, 10ft. in thickness, was discovered near a small creek. A drive on the reef has been put in for 60ft. to the northward, and another 70ft. to the southward. About 3ft. of loose quartz in the middle of the reef yields the best prospects. A second level, about 40ft. deeper, has been opened; the reef was cut after 75ft. of a cross-cut had been driven; 50ft. of driving has been done to the northward, and the same distance to the southward on the reef, which, in this low-level, is split into two branches, each about 5ft. through. The reef has also been cut about one hundred yards south from the low-level, and also at the southern boundary of the claim, where it is 15ft. in thickness. This claim has been disposed of to Christchurch capitalists, who agree to erect machinery for the treatment of the quartz and retain a certain number of shares in a company to be formed; the remainder of the shares to be divided amongst the original shareholders; no money to be paid for the mine. The reef, as opened, will produce a large quantity of free milling ore, and the gold appears to be of a character which will be easily saved by amalgamation.

Tawa Claim (three men's ground).—The reef in this claim, which adjoins the Kowhai, has been driven on 60ft., and is about 20ft. thick, a portion of which is of the same character as found in the Kowhai claim.

Arizona Claim (six men's ground).—This claim adjoins the southern end of the Tawa. A cross-cut has been put in for a 100ft. and the reef cut 6ft. in thickness. The quartz resembles that found in the Kowhai, but yields a better prospect. On the reef 75ft. have been driven. There are 90ft. of backs over this level. A ton of quartz was crushed and yielded about 1oz. 8dwt. of gold. The owners of this claim are in treaty with capitalists to erect machinery to crush the quartz.

About thirty miners have been employed in this district since the discovery was made. A publican's license has been granted for a house situated at the junction of McBrinn's Creek with the Marototo; this house is about eight miles from the main road at Hikutaia, the most of the distance being only a bush track, which must be greatly improved before machinery can be conveyed to the mines. The reef, which was discovered about two years ago at Parakawai, has been again taken up and a licensed holding applied for. There has been very little work done other than testing quartz and surface prospecting.

The future outlook for mining in Ohinemuri County and Te Aroha is very promising; one of the chief difficulties encountered, viz., the treatment of the ores, is in a fair way of being overcome. The extensive machinery, with the latest improvements, which the Union Gold-mining Company are erecting at Waihi, is deemed by experts to be adapted for the silver ores found at Karangahake, Waihi, and Marototo, whilst for the treatment of complex ores such as are found at Tui Creek, and Waiorongomai, the water-jacket smelting-furnace will be resorted to in addition to milling and chemical treatment; again, at the Thames, the Molloy-pan and the Newberry-Vautin process are each about to receive a fair trial; the School of Mines testing-plant will also soon be erected. The treatment of all ores in a manner such as science has pointed out appears now to be only a matter of time; true, disappointments will happen in some instances, as the vexed problem of extracting the highest percentage of gold and silver from different kinds of ore is not to be solved without experience in the practical part of the work. This matter is now taken up by men who are not likely to be daunted by first failure, and one need not hesitate in asserting that the difficulty experienced in the treatment of ores will soon be a thing of the past. Another difficulty which has to be mastered is to provide for the cheapest manner of transporting the ores from those mines which are at present almost inaccessible to places where machinery is erected for their treatment.

At Waihi the country is of such a nature that roads can easily be made fit for any traffic. At Waiorongomai a splendid tramway is convenient to the whole line of reef; but at Tui Creek, Karangahake, and Marototo, where the country is broken and rugged, and where roads could only be made at very great expense, the question of transport of ores is a most serious one, and the adoption of wire tramways would appear to be the most economical and effectual way to overcome this difficulty. The formation of roads and tracks is of the utmost importance in opening up the country

for the prospector, and should be one of the first considerations of the local bodies having control of the goldfields revenue.

I have, &c.,
GEO. WILSON, Inspector of Mines.

The Under-Secretary, Mines Department, Wellington.

RETURN of QUARTZ CRUSHED and GOLD OBTAINED in the TE AROHA and OHINEMURI DISTRICTS, for the Year ended 31st March, 1888.

Sub-district.	Quartz.			Tailings treated.			Gold.		
	Tons	cwt.	lb.	Tons	cwt.	lb.	Oz.	dwt.	gr.
Karangahake	622	17	0	18	0	0	1,628	8	0
Owharoa	193	10	0	14	0	0	427	19	0
Te Aroha	5,722	0	0	1,444	0	0	2,917	16	0
Waihi	1,284	0	0	130	0	0	883	16	0
Waitekauri	1,065	0	12	61	0	0	465	11	0
	7,887	7	12	1,667	0	0	6,323	10	0

MARLBOROUGH GOLDFIELDS.

No. 5.

Mr. Warden ALLEN to the UNDER-SECRETARY of MINES.

Blenheim, 30th April, 1888.

SIR,—

I have the honour to report as follows *re* the Goldfields under my charge.

Queen Charlotte Sound District.—A company has been formed to work the claims originally held by the Ravenscliff Company. As they have scarcely commenced work, there is nothing to report.

Pelorus and Wairau District.—My report of last year will unfortunately answer for this year ; very little doing, nothing worthy of report. One or two companies have been formed for working river claims. I do not think there is any decrease in population of this goldfield. My returns have been forwarded to you as usual.

I have, &c.,
J. ALLEN, Warden.

The Under Secretary, Mines Department, Wellington.

NELSON GOLDFIELDS.

No. 6.

Mr. Warden GIBBS to the UNDER-SECRETARY of MINES.

Warden's Office, Collingwood, 4th April, 1888.

SIR,—

I have the honour herewith to transmit the usual returns for the Collingwood and Takaka portion of the Karamea Mining District for the year ending 31st March, 1888.

I have also to report that there is little alteration in the actual state of mining matters since my last report. The old localities still support a fair number of miners, who are, in most cases making fair wages. There is little or no increase in the number of claim-holders, but some little increase in the number of those working for wages, consequent on the active prosecution of the preliminary works of the Red Hill Gold-mining Company, such as the construction of a capacious water-race and fluming some four miles long, constructed to carry some ten or twelve heads of water ; the erection of an extensive plant for crushing and extracting the gold from the stone, which, it is said, will save a much larger proportion of gold than any other process previously in use.

During the last two months some little activity has been shown in the pegging-out and application for licensed holdings for quartz claims and a small alluvial rush to the quartz-ranges. Of the value of these I cannot at present venture to report further than that the prospects are said to be very good.

In the Takaka there is a small increase in the number of men employed in gold-mining, chiefly by reason of unemployed mill-hands and small settlers taking to that employment temporarily.

The road works, to which I referred to in my last report as likely to open up new mining country, not having been completed, such localities are still inaccessible.

Minerals other than Gold and Silver.—Out of the many hundred acres held under mineral leases in this district none have been either worked or prospected during the last year.

Coals.—The above remarks apply also to the large blocks held under coal leases. With the exception of the old mine, known as the Wallsend, none have been worked, and with one exception

(that of Marshall's) none have been even prospected during the year. The above-named Wallsend Mine keeps up a steady output, employing some twenty men on the works.

West Wanganui.—At this place (now private property) there has been little done for some time. There is, however, some movement in that direction.

I have, &c.,

WM. GIBBS, Warden.

The Under-Secretary, Mines Department, Wellington.

No. 7.

Mr. Warden CURTIS to the UNDER-SECRETARY of MINES.

SIR,—

Warden's Office, Nelson, 6th April, 1888.

I have the honour to forward herewith the various forms with which you furnished me, filled up with the required information relative to the Karamea Goldfield District. I can only report that nothing worthy of notice has occurred in the district under my charge during the year ending on the 31st of March last.

I have, &c.,

OSWALD CURTIS, Warden.

The Under-Secretary, Mines Department, Wellington.

No. 8.

Mr. Warden BIRD to the UNDER-SECRETARY of MINES.

SIR,—

Warden's Office, Westport, 22nd May, 1888.

I have the honour to forward herewith the statistical returns for the year ended 31st March, 1888, and also to report generally on the Karamea District for the same period.

Owing to recent extension of the district under my jurisdiction my time has been so much taken up in travelling and holding Courts that I have not hitherto had time to furnish the customary annual report upon mining matters. Since my last report two additional Courts—Ahaura and Owen—have been placed under my charge. The former is seventy-eight miles from Westport, and is visited monthly, whilst Owen, at which a quarterly sitting of the Warden's Court is held, is eighty-four miles distant from Westport in an opposite direction. With roads as bad as they have been of late the travelling involved in working this district is a serious tax upon one's time and energy, and consequently office-work has frequently been attended to at nights, after a long and exhausting day in the saddle over wretched roads.

WESTPORT.

Mining matters have been quiet here during the last twelve months, chiefly owing to the unprofitable results attending the quartz-crushing operations at Seatonville. A small rush took place at Mokihinui last December, but none of the claim-holders have been able to bottom their shafts yet, owing to the wetness of the ground and want of adequate appliances for disposing of the water. Several small finds of gold in the high country behind Denniston have occurred during the past twelve months, and, although they have been mere patches lasting only a few weeks each, they have nevertheless proved highly acceptable to the lucky discoverers. No doubt a more extensive field will be discovered in this locality sooner or later; judging from the good patches which are found there from time to time it should be rich in gold. In the year under review thirty-six applications for special claims and licensed holdings were received at Westport. Thirty-two were granted and two gold-mining leases were cancelled. Most of the special claims recently taken up are to be worked by dredges, and some of the holders have already made arrangements for providing the necessary machinery, whilst others are awaiting the result of dredging operations to be commenced shortly at Hokitika and Five-mile Beach before committing themselves to a heavy expenditure for machinery and appliances. Several areas have been taken up along the course and the bed of the Buller River, which it is also intended to work by dredging. It is well known that considerable quantities of gold exist in the bed of the river, but no satisfactory method of getting it out has yet been adopted. Should the dredging system succeed a vast field will be opened up for remunerative labour.

The Great Republic Quartz-mining Company has been industriously engaged in opening up their mine. Dividends have been few and far between, but a great deal of useful work has been done, and is still being done, towards the systematic and economical development of the company's property. I believe one dividend of 6d. per scrip has been paid during the year. Twenty men are now employed by the company, and the directors and manager feel satisfied that before long there will be no difficulty in keeping up a continuous supply of stone at the battery.

Denniston Quartz-mining Company.—This company has been formed for the purpose of prospecting ground situate near Denniston, Mount Rochfort. A shaft has been sunk over 100ft., intersecting several well-defined gold-bearing leaders, some at almost the bottom of the shaft. Cross-drives are shortly to be put in, when it is expected a reef will be found. Three men are employed.

Fairdown Gold-mining Company.—Owing to the numerous interruptions to work, such as shortness of water, &c., this company has done but little work of late. The operations at present being carried on are the construction of new tables and formation of a tail-race, which will be completed in about a month. The prospects of the claim are good, as the adjoining property, the Wareatea, has been prospected and found to contain highly payable ground. Mr. J. Guthrie, an experienced black-sand miner, is now in charge of the Fairdown Company's claim.

General.—The number of miners' rights issued during the year is 358, as against 228 for the preceding year; and 214 applications were dealt with, the number in the previous year being 55. The population of the district continues to increase steadily, but there is not a corresponding increase in the number engaged in gold-mining pursuits. The yield of gold last year is not up to the average of recent years, but the activity now shown in opening new claims points to the probability of an increased yield in the immediate future. The Westport Harbour works have been pushed on with considerable vigour, and the results attained are eminently satisfactory, vessels carrying 900 tons of coal having crossed the bar on several occasions recently. The quantity of gold exported from Westport during the year was 8,782oz. 4dw. 14gr., the value of which was £35,131 8s.

Lyell Sub-district.

There is, unfortunately, very little change in the prospects of this district to report on.

The United Alpine Company continued operations in their mine, working from their No. 6 Level up to about March last, and at the same time proceeded with the driving of their No. 7 Level. They have lately let the last-mentioned level by contract, and have also let two other portions of their mine to two different parties on tribute. Operations are being carried out in the same manner at the United Italy and Tyrconnell Company's Mines, both having been let to tributers.

At the Maruia claim work is still being steadily pursued.

The Lyell Creek Company are still driving their low-level tunnel, and appear to be as sanguine as ever in the belief that they will intercept the same line of reef as that which exists in the United Alpine Company's ground. This tunnel has now been driven a distance of 2,500ft.

The mining operations at the Owen reefs did not give very satisfactory results, as the yield of gold obtained from the various mines tested did not in any case approach the estimate; but I am pleased to be able to state there seems to be a reaction taking place there, for it has been discovered that silver exists in large quantities. Ten leases have already been applied for, with the expressed intention of working them for a return of silver.

A small alluvial rush has recently taken place in the vicinity of Murchison, and is paying very good wages to those who are already on the ground. It is estimated that there are about 170 men there at the present time.

Very few changes have taken place in any other portions of the district since the last report was sent in, and, taken altogether, its condition is nearly as prosperous.

Charleston Sub-district.

There has been but very little change in mining matters in this portion of the district since my last report. Some applications for special claims on the Totara and Ohini Rivers have been made, and several fresh claims have been applied for on the Nine-mile Beach. It is reported good prospects have been obtained at the Four-mile, but nothing is known as yet as to the genuineness of the finds. The population remains about the same, and the yield of gold gives fair wages to those employed.

I have nothing further of any great importance to add; but I may state that taking into consideration mining matters generally, I have every reason to believe that the quantity of gold to be obtained during the next two or three years will at least equal, if not exceed, that of the like period in the past, and I believe, on the whole, the populations of the districts under my charge is steadily increasing, and the increase will be permanent.

The Under-Secretary, Mines Department, Wellington.

I have, &c.,

FRANK BIRD, Warden.

No. 9.

Mr. Warden BIRD to the UNDER-SECRETARY of MINES.

SIR,—

Warden's Office, Reefton, 2nd May, 1888.

I have the honour to forward to you herewith the statistical returns for the year ended 31st March last, and to report generally upon this portion of the district under my charge.

The result of the past year's operations have not been so successful as they promised to be at the date of my last report, the calls being heavier, and the yield and dividends smaller. The latter is attributable, in a great measure, to the falling-off in the yield of gold from the Keep It Dark Mine, which for years has declared dividends with great regularity. The calls have been heavier, in consequence of a number of companies having to do a large amount of dead-work. These works however, are nearing completion, and the companies will therefore shortly reap the fruits of their labours. The success of the Globe Mine drew attention to that portion of the district, and a fair amount of prospecting was done, resulting in discoveries being made in Merrijigs and Big River Districts, more particularly referred to in the report on the different mines.

The calls for the year amounted to £30,432 5s. 10d. and the dividends to £17,550, the dividends being less than the calls by £12,882 5s. 10d. The quantity of quartz crushed was 24,403 tons, from which 16,775oz. of gold were obtained, the value of the gold being £66,030 11s. 5d. The yield of alluvial gold is slightly in excess of that for the previous year, being 3,819oz., of the value of £14,511 10s. 6d. Since the district was opened, up to the 31st March last, 405,956 tons of quartz have been put through the batteries, from which 324,233oz. of gold have been obtained, the value being £1,257,740, out of which amount £422,844 has been distributed in dividends. The total yield of alluvial gold is 91,815oz., valued at £333,741. This gives a grand total of 416,048oz. of gold, of a value of £1,591,481. The following table will give the calls made in the different

companies during the year, together with the dividends declared, the quantity of stone crushed, its yield and value during same period.

Name of Company.	Calls made.			Dividends declared.	Stone crushed.	Yield.	Value.		
	£	s.	d.	£	Tons.	Oz.	£	s.	d.
Keep It Dark Quartz-mining ...	...	...	...	3,000	7,517	2,379	9,512	0	0
Globe Gold-mining ...	...	...	...	11,250	7,400	5,360	21,172	0	0
Rainy Creek Extended Quartz-mining ...	400	0	0	...	...	...	...	...	...
Eureka Extended Quartz-mining ...	2,100	0	0	...	...	...	...	...	...
General Gordon Gold-mining ...	450	0	0	...	...	...	...	...	...
Wealth of Nations Extended Quartz-mining ...	1,625	0	0	...	Tailings	207	808	3	10
Piery Cross Extended Quartz-mining ...	1,200	0	0	...	1,264	1,267	4,995	5	3
Dauntless Extended Gold-mining ...	300	0	0	...	...	...	...	...	...
Golden Point Gold-mining ...	250	0	0	...	...	...	...	...	...
United Devonshire Gold-mining ...	500	0	0	...	...	...	...	...	...
No. 2 South Keep It Dark Quartz-mining...	1,300	0	0	...	...	...	...	...	...
Sir Francis Drake Gold-mining ...	1,250	0	0	...	...	...	...	...	...
Scotia Gold-mining ...	100	0	0	...	...	...	...	...	...
Fraternal Gold-mining ...	300	0	0	...	...	...	...	...	...
Just in Time Gold-mining (registered) ...	583	6	8	2,100	1,835	2,170	8,579	1	1
Inkerman Quartz-mining ...	1,416	13	4	...	...	...	...	...	...
Inangahua Low Level Tunnel Gold-mining	500	0	0	...	...	...	...	...	...
South Hopeful Quartz-mining ...	866	13	4	...	...	...	...	...	...
Caledonian Extended Quartz-mining ...	250	0	0	...	...	...	...	...	...
Walhalla Extended Quartz-mining ...	...	...	...	...	238	354	1,396	5	3
Prince of Wales Gold-mining ...	100	0	0	...	...	...	...	...	...
Inglewood Extended Quartz-mining ...	1,700	0	0	...	...	...	...	...	...
Reform Gold-mining ...	400	0	0	...	270	149	570	8	6
Chicago Gold-mining ...	500	0	0	...	...	...	...	...	...
Argosy Gold-mining ...	625	0	0	...	...	...	...	...	...
Empress Gold-mining ...	350	0	0	...	...	...	...	...	...
Britannia Extended Gold-mining ...	104	3	4	...	...	...	...	...	...
Welcome Gold-mining ...	...	...	...	...	1,075	1,551	6,175	13	0
Hopeful Extended Gold-mining ...	103	2	6	...	100	175	451	16	0
Specimen Hill United Gold-mining ...	1,166	13	4	...	298	199	769	12	0
Phoenix Extended Quartz-mining ...	566	13	4	...	...	...	...	...	...
Big River Extended Gold-mining ...	1,200	0	0	...	510	645	2,529	16	0
Progress Gold-mining ...	300	0	0	1,200	2,380	1,467	5,769	0	0
Lone Star Gold-mining...	1,100	0	0	...	...	...	...	...	...
Multum in Parvo Gold-mining ...	50	0	0	...	...	...	...	...	...
Golconda Gold-mining ...	200	0	0	...	...	...	...	...	...
South Wealth of Nations Quartz-mining ...	1,000	0	0	...	...	...	...	...	...
Pandora Gold-mining ...	1,000	0	0	...	370	372	1,458	10	0
Lord Edward Gold-mining ...	200	0	0	...	...	...	...	...	...
Mount Morgan Gold-mining ...	100	0	0	...	...	...	...	...	...
Nil Desperandum Quartz-mining ...	1,725	0	0	...	922	270	1,034	14	7
Bannockburn Quartz-mining ...	250	0	0	...	...	...	...	...	...
London Gold-mining ...	250	0	0	...	...	...	...	...	...
Happy Valley Gold-mining ...	300	0	0	...	...	...	...	...	...
Homeward Bound Extended Gold-mining...	1,900	0	0	...	...	...	...	...	...
Venus Extended Gold-mining ...	1,500	0	0	...	224	210	808	5	11
Gallant Gold-mining ...	150	0	0	...	...	...	...	...	...
North Venus Quartz-mining ...	200	0	0	...	...	...	...	...	...
	30,432	5	10	17,550	24,403	16,775	66,030	11	5
Alluvial Gold ...	...	...	...	...	...	3,819	14,511	10	6
						20,594	80,542	1	11

DEVIL'S CREEK.

Globe.—At the date of my last report this company had just commenced crushing from the block of stone discovered some six months previously, and continued crushing until Christmas last. The hopes of success then entertained have been fairly well realised, the company having, during the nine months they were crushing, put through 7,400 tons of stone, the yield from which was 5,360oz. of gold of a value of £21,172, out of which dividends to the extent of £11,250 were declared, being at the rate of 6s. 3d. per scrip. A winze was sunk on the reef from No. 1 Level to a depth of 98ft., the stone to all appearances being fully equal in quality to that obtained from No. 1 Level. At the bottom of the winze the reef showed a thickness of 11ft. without any sign of the hanging-wall. A main shaft has been sunk to a depth of 270ft. from the surface, or 135ft. below No. 1 Level, which it is estimated will give 145ft. of backs. A chamber has been cut out from the shaft, at a depth of 120ft. from No. 1 Level, and the reef has been struck 14ft. from the shaft, and it shows

splendid gold. Everything is in good working order, and the battery should be crushing in a month's time, and it is confidently expected it will have a prosperous career, good stone showing throughout the mine. It is estimated there will be fully two years' work on this level.

Progress.—This claim, at the end of March, 1887, had been crushing for about a month, and had declared dividends to the extent of £1,200. Since that date crushing was continued for a considerable time, at first with success, giving further dividends to the amount of £1,200; but afterwards, on rising on the stone, it was found that, as it neared the surface, it became blocky and of poorer quality, and finally crushing operations were suspended. A winze was sunk on stone—showing very good gold the whole distance—to a depth of 86ft., the stone averaging about 9ft. A new level is now being driven from the battery. This tunnel will be 1,200ft. in length, of which 700ft. have now been driven. It is estimated this will give 240ft. of backs. Recently, in prospecting west from the old workings, a body of stone about 17ft. in thickness was met with—portions of this reef show very fair stone, and it has now been driven on 70ft. A crushing from a portion of the reef has been taken out, and has yielded a good return. This mine, when properly opened up, should take a prominent place.

BIG RIVER DISTRICT.

Big River Company.—After many vexatious delays the erection of the battery was completed and crushing commenced. During the year 510 tons of stone were crushed for a yield of 645oz. of gold, which, although apparently a good return, did not leave a profit, the cost of raising the stone being heavy, owing to the small and broken nature of the reef. The affairs of the company looked anything but promising. A reef has very recently been discovered 400ft. to the west of the old reef running north and south with an easterly underlay. This reef, on the surface, is said to be from 20ft. to 30ft. wide, and of good quality. A crushing of 112lb. of stone yielded at the rate of over 5oz. to the ton. A winze will be sunk on the stone, and a level put in at 40ft. This will take about a month to complete, when a crushing will be taken out, and the value of the find proved. A winze is now being sunk on the old reef from the 120ft. level; this is to be carried down 150ft. In this winze, which is now down about 10ft., the stone is very good indeed. It is to be hoped that this new find will prove payable, as it will attract attention to a large tract of country almost untried.

MERRIJIG'S DISTRICT.

Sir Francis Drake Company.—This is a new claim. After some little prospecting the outcrop of a reef 5ft. thick was discovered. It has been traced on the surface some 250ft. In order to prove the reef a tunnel was driven to intersect it at a depth of 35ft. from the outcrop. This work was successfully carried out, and the stone at that depth was found to be 8ft. wide. A winze was then sunk on stone from this level to a depth of 60ft. Thus encouraged, the company opened a second level by a tunnel 260ft. in length, and struck the reef 55ft. vertically below the bottom of the winze, and, where struck, the stone showed a width of 9ft. The next work to be done is to put in an uprise from No. 2 Level to connect with the winze. The company being satisfied as to the permanent and payable character of the reef, have decided to erect a battery of fifteen heads, to be worked by steam. The machinery is now being conveyed to the machine-site, and under ordinary circumstances, it should be erected and crushing in three or four months.

Gallant.—This is situated north and adjoining the Sir Francis Drake. Stone varying from 2ft. to 8ft. has been traced on the surface nearly 1,000ft. A winze is now being sunk on the stone about 300ft. from the north boundary, and is now down 20ft. The stone shows good payable gold.

Happy Valley.—Work has been resumed and a winze sunk 60ft. on stone showing fair gold. This is supposed to be on the Sir Francis Drake line of reef.

The Merrijig, Hudson, Scotia, Exchange, and other companies in this locality are prospecting their claims, and gold-bearing stone has, I believe, been found in each, but no discovery of any importance has yet been made. Should the Sir Francis Drake prove a payable claim this portion of the district will attract attention, and will be an incentive to other companies to vigorously prospect their mines.

MURRAY CREEK DISTRICT.

Keep It Dark Company.—The reef was intersected in the No. 3 Level in July last, when the stone looked remarkably well; indeed, the first crushing of 300 tons from the level averaged 14dwts. to the ton. At intervals from that date crushings have been taken out from this block, which is of large dimensions, but have proved poor, sufficing only to pay working-expenses. The best portion of the lode, commonly called the north block, and from which good stone has always been obtained, was not found where expected on this level; it was, however, recently struck, and it is now confidently hoped that this grand old claim, which has declared dividends regularly for years, will, in a couple or three months, return again to a season of prosperity. Gold to the value of £189,976 has been obtained from the mine, out of which shareholders have received £90,083. The dividends declared during the year amounted to £3,000.

Nil Desperandum Company.—When I last wrote the company were taking out stone which they found on prospecting from the shaft near the old workings. The stone, however, was not payable, and consequently crushing was discontinued. Since then the main shaft has been sunk a depth of 100ft. below No. 5 Level. A cross-cut of about 40ft. was then put in from the bottom of the shaft to the line of reef, and where the track of a reef was found. This track, on being followed 70ft. north led to the discovery of stone. The reef, which averages about 3ft., and carrying fair gold, has been followed 90ft. A winze was sunk from No. 5 Level to a depth of 60ft. on good stone. A distance of 40ft. yet remains to be driven to reach the perpendicular of the winze, to connect with which an uprise of 40ft. will be put in. This should not take more than two months, when crushing will commence.

Pandora.—This company, in conjunction with the No. 2 South Keep It Dark and South Wealth of Nations Companies, erected winding-machinery, and sunk a main-shaft to a depth of 293ft.

Crushings were taken out, 370 tons yielding 372oz. of gold. The company is now prospecting at 280ft. level.

No. 2 South Keep It Dark.—Stone has been followed on the 280ft. level a distance of 50ft. The stone is about 3ft. wide and of good quality. Preparations are now being made to take out a crushing.

Venus.—The reef was struck in No. 3 Level after driving a distance of 850ft. The reef was then driven on for 110ft., and at 100ft. an uprise was started to connect with the winze, the intersection taking place 124ft. from the floor of No. 3 Level. The stone is of good quality, being estimated at an ounce per ton, and as it averages 2ft. in width, and there will be about 225ft. of backs on this level, the company should have continuous crushings with ten heads for a considerable time with profitable results. Crushing will commence in a fortnight.

Energy.—This is the old Energetic claim and was purchased by Mr. R. J. Tonks, of Grey-mouth, who has let the mine on tribute to a party of miners. It was the intention of the tributers to prospect for a rich body of stone, known as the "little reef," which was lost by the company. before starting on this work, however, they took out a crushing of 260 tons of quartz left by the old company as not payable. This has proved remunerative to the tributers, and they are now taking out another crushing of 200 tons from the same block.

Inglewood.—The low-level tunnel, taken in at a level with the battery, has been completed after driving 1,400ft., at a cost of £2,500. This will give 238ft. of perpendicular backs up to Phoenix and Inglewood joint level. The reef underlies to the west at an angle of 45°, thus giving about 357ft. of backs on the reef. The reef has recently been cut, and, at date, has been driven on 14ft., showing 3ft. of stone, estimated by the manager equal to an ounce per ton. In the upper-level a parallel reef existed 6ft. away from the reef now struck. This second reef is also shown as making in the lower-level. The mine requires ventilation by an uprise on the reef to the level above. This work will shortly be started, and, when completed, will enable the mine to be stoped. In the interval there will be small crushings.

BOATMAN'S.

Welcome.—The sinking of the main-shaft to a depth of 156ft. was completed early in June last. A cross-cut was then put in from the shaft to cut the line of reef. This cross-cut was driven 260ft. in length, at which point an uprise of 40ft. was constructed in order to connect with the winze, which had been sunk on stone 130ft. below No. 8 Level. Driving on the stone north and south was then commenced. The reef has been driven on south 120ft., the stone proving somewhat broken (averaging about 18in. in width), but it is of good quality. To the north the drive has been extended 80ft. on stone 2ft. wide, which is estimated will yield 2oz. to the ton. A second winze has been sunk from No. 8 Level 100ft. north of the winze previously mentioned. This winze has now been sunk, following stone, 60ft., and will be connected with the level now being extended north from the old winze, which will increase the ventilation and open up more ground on the reef. There are twelve faces of stone now being worked, and the mine is in good working order, and crushing will very shortly be recommenced. The prospects of the mine are much brighter at the present than they have been for a long time.

Specimen Hill.—A fair amount of work has been done in this claim during the year, but the crushings have not been very good, 298 tons of stone yielding only 199oz. of gold.

Eureka Company.—This company has done an enormous amount of work, and have spent on the mine and machinery £18,000. The incline tunnel has been driven 1,800ft., from the end of which a main level has been extended 660ft., making the total length of the tunnel 2,460ft. During the year the company has been vigorously at work endeavouring to pick up the underlie of the Welcome reef. Near the end of the tunnel a winze was sunk to a depth of 242ft., or to a total depth of 775ft. from the surface. A cross-cut was then put in, but without finding payable stone. A cross-cut was then driven about 300ft. from the foot of the incline, and from the end of this cross-cut an uprise has been constructed. The uprise is now up 46ft.

Homeward Bound.—This company is now sinking a main shaft from the Little Boatman's Creek Low-level Tunnel Company's tunnel, which has been driven 2000ft. Here the winding-machinery has been erected, the motive power for driving being compressed air. The machinery for supplying the compressed air is placed at the mouth of the tunnel. This machinery consists of engine and boiler and a National air-compressor. The shaft has now been sunk 300ft., and it is proposed to continue sinking until a depth of 600ft. is attained before opening a level on the line of the Welcome reef.

Fiery Cross.—The crushings were not so large or continuous as it was thought they would have been, some blank country being met with. Passing through this blank a reef was recently struck on the 450ft. level. The find is a most important one. Opinions vary as to this reef, some being of the opinion that it is the northern extension of the blocks in the Walhalla and Just in Time mines; others, again, believe it to be a continuation of the old El Dorado reef. There is an abundance of stone visible at both north and south ends of the mine. The newly-found stone is of good payable quality, and is, I believe, about 6ft. wide. The prospects of the company have not looked brighter for some time past.

Just in Time.—This company has been and still is employed opening up the south end of the mine. An intermediate level has been opened up 113ft. from the bottom of the main-shaft, and on the extension of this level two runs of stone were met with which are distinguished as the East and West reefs. The company, to work these bodies of stone from the bottom level, is now engaged driving the necessary tunnels, &c. Dividends to the extent of £2,100 have been paid during the year.

Hopeful Extended.—This mine has been idle for some time, owing to a dispute amongst the shareholders as to the best way of working the claim. It would seem that the reef now being

worked in the Fiery Cross will enter the Hopeful ground, but at such a depth as would make it a difficult and expensive undertaking to work from the Hopeful claim.

South Hopeful.—A few months ago a run of gold-bearing stone was struck, and this is now being worked. The stone at present is of small dimensions. A trial crushing of fifty tons will be commenced shortly.

Argus.—This is a new claim on the south side of Boatman's Creek, to the eastward of the Welcome line of reef. The reef is rather small, but is said to be of good quality. There will be a trial crushing of fifty tons shortly, and should this prove payable, the company contemplate erecting a small battery of their own.

General.—Work is being done in several other claims in different parts of the district, but they do not now call for particular notice. At the present time the district is certainly looking very well; indeed, better than it has done for years, as, judging from appearances, there is reasonable hope for improvement in the returns from the various mines in the different parts of the district. The Globe and Progress, in Devil's Creek; the Big River, in Big River District; the Sir Francis Drake, at Merrijigs; Keep It Dark, Nil Desperandum, and No. 2 South Keep it Dark, at Crushington; the Venus and Inglewood, in Murray Creek; the Welcome and Fiery Cross, at Boatman's, will all shortly be crushing. The district has to depend to a great extent upon its own resources, and the capital available being thus somewhat limited companies are not able to push ahead progressive works with that speed which would so greatly tend to success, and consequently the development of the district is slow. I have every confidence in the district, and feel sure that what is required to make it the principal mining centre in the colony is the introduction of capital, judicious expenditure, and careful and proper management. The district is a large one, and, although it has been opened for a number of years, it is not yet half prospected. In conclusion, I must thank managers of companies and others for ready and valuable information.

I have, &c.,

FRANK BIRD, Warden.

The Under-Secretary, Mines Department, Wellington.

No. 10.

Mr. Inspector Gow to the UNDER-SECRETARY of MINES.

SIR,—

Nelson Creek, 27th March, 1888.

I have the honour to make the following report on my inspection of quartz and other mines, up to dates mentioned, in the Westland Mining District, West Coast:—

REEFTON.

1. *Keep It Dark Quartz-mine.*—This mine is now being worked at a level 500ft. below the surface, where the reef is very thick and of poor quality. All the working faces are dry, well timbered, and well ventilated. No safety-catches attached to cages yet, which I brought under the notice of the manager. He stated, as an excuse, that the ropes were quite new. With this exception the general rules are well observed. On the 28th of October, while I was in the mine, a new block of stone was found, supposed to be the continuation of the north block from a higher level, but I have since learned that it is not the north block the manager was so anxiously looking for. I have no doubt this block of good stone will be found shortly and that it will contribute largely to the prosperity of the district.

2. *Nil Desperandum Quartz-mine.*—At the time of my visit, on the 28th October, sinking the shaft was being done by contract. There was no mine-manager in charge; no fencing round the shaft, which is sunk from a chamber at the end of a tunnel (from face of hill) 300ft. in length; no safety-catches attached to the cage; no signals in the shaft; no weekly record-book; no copy of the Act; and no plan of mine kept at the mine. On the 29th I wrote to the legal manager, requesting attention to the requisite parts of the Act.

3. *Pandora Quartz-mine.*—I visited this mine for the first time on the 23rd September, at which time the shaft was being sunk and was then down 170ft. Poppit-heads were up but not roofed in. A new portable-engine had then been up two weeks doing the winding. On the 6th February I again visited this mine, and learned from Mr. Edward Lawn, the mine manager, that the shaft was now down 296ft., and that at 280ft. a chamber was then being cut out and being timbered. At 286ft. deep the reef is 2½ft. thick, with a good show of gold. The work is being done by three shifts of six men each. There is a little water, which is lifted by a water-tank. This shaft, I am told, is intended to work three mines, viz., No. 2 Keep It Dark, Pandora, and South Wealth of Nations, the Pandora being the centre one. The reef is generally supposed to be a continuation of the old Keep It Dark or Nil Desperandum Mines. The stone coming out of these mines for a time is to be crushed at the Wealth of Nations battery, which is only a few hundred yards distant, and there being a good dray-road all the way to it. All the winding-gear, large buckets, &c., usually used in sinking shafts are still in use. Preparations are being made to use a cage, which I saw on the ground, without a safety-catch attached. I spoke to the manager of the necessity of complying with the Act.

4. *Big River Extended Quartz-mine* (13th December, 1887).—This mine is nineteen miles south from Reefton, and is being worked from a tunnel driven into the hill from the head of a small gully, where alluvial gold was obtained many years ago. The stone is conveyed by an aerial tramway to the battery, situate on the Big River, distant about half a mile. The crushing-plant of ten stamps is driven by a Pelton wheel. There were only five stampers working on the day of my visit, in consequence of the scarcity of water, which I understand is quite a common occurrence. This loss of time has suggested the desirability of constructing a reservoir where there is a very suitable spot at no great distance up the stream from the battery. All the workings in the mine are quite dry, well ventilated, and safely timbered. The reef runs from 2ft. to 6ft. thick, but cuts into blocks of various

lengths. The country is fairly solid and good standing. No plan of workings kept; no copy of Acts; and no weekly record-book kept at the mine. The manager promised to attend to these matters at once.

5. *Progress Quartz-mine* (25th October).—Stoping from No. 1 Level tunnel is being carried on vigorously, and the old workings being filled up from the surface of the hill. A winze now down 90ft. was to be sunk another 100ft., which is calculated will be the level of No. 2 Low-level tunnel, now being driven from Devil's Creek. This tunnel, when finished to the line of reef, will probably be 1,300ft. in length. It is now driven 328ft. and cannot be completed within fifteen or eighteen months. Shortly after my visit all work in the mine was stopped in consequence of the stone near the surface proving non-payable. As the 90ft. winze passed through good stone to that level, this mine is likely to prove, by-and-by, one of the most prosperous in the district. No copy of Act; no weekly record-book; no plan of workings kept at the mine. The manager promised to attend to these matters as required by the Act.

6. *Wealth of Nations Extended Quartz-mine* (28th October).—From the bottom of the 200ft. shaft-sunk in the chamber at the end of the long tunnel, a tunnel was driven about 210ft. to the west in expectation of intersecting the line of reef worked at a higher level, but failed to find it. Drives were then put in in other directions, but without finding payable stone. Prospecting is still being continued. It is generally thought that this company will have to sink their shaft very much deeper, and then drive a cross-cut to the line of reef proved to exist in the Keep It Dark Mine. There are six men employed in the mine. The cages had new safety-catches attached. Good air in the tunnels. No weekly report book kept for several months past.

7. *Globe Quartz-mine*.—This mine has quite lately worked out all the stone between No. 1 Level and the surface, and No. 2 Level tunnel is now being put in as quickly as possible. Other preparatory work is being done to insure a long spell of work when again ready for crushing. The future prospects of this mine are very promising.

8. *Phoenix Quartz-mine* (19th December).—I visited the low-level tunnel, but did not find any-one there. I also visited the battery, which did not appear to me to have been working for a considerable time. The miners' huts there were empty.

9. *Venus-Extended Quartz-mine* (6th February).—No. 3 Level tunnel intersected the reef at a the reef at a distance of 828ft. from the mouth of the tunnel. The tunnel then follows the line of reef for 96ft., carrying good stone all the way. This distance brings the tunnel to within 26ft. of the perpendicular position of the winze sunk in the workings in No. 2 Level and 120ft. from the bottom of same, measuring along the lay of the reef. This depth of stone promises a long and prosperous spell of work for this mine. The tunnel is well ventilated by that simple plan of a jet of water playing into the mouth of a funnel-shaped zinc pipe extending from the mouth of the tunnel to its end. The tunnel is well timbered, and particularly so where it follows the line of reef. Preparations are being made to shorten the aerial tramway from the high- to the present low-level tunnel, where there is already a quantity of good stone ready to be conveyed to the battery, which is situated on Murray Creek. At present there are three shifts of two men each and five men doing preparatory work on the surface. This mine promises, at an early date, a long spell of work to a good many men. No copy of the Act at the mine.

10. *Low-level Tunnel Company* (22nd October).—I found the air in this tunnel very bad near its mouth, but it improved as I proceeded on to the end. I learned, however, from the two men working there that the air was at all times very sluggish, and the result of this was, that by reason of the dynamite fumes not being carried away more quickly they were unable to resume work for fully an hour after firing a shot. The air is forced along in zinc pipes from the mouth of the tunnel to the working-face by the ordinary water-jet method. From the fact of the air being sluggish it appeared very evident to me that the joinings of the many lengths of pipes were leaking very much, and I at once brought this matter under the notice of Mr. Wise, the legal manager, requesting him to have it remedied without delay. I carefully examined the timber put in under the present contract and condemned several of the caps, because of their being chamfered off at the ends to fit the roof where it was not made high enough to admit the timber of the specified size going up freely. These, and other caps that were notched out in the centre to fit the roof, were ordered to be removed before Mr. Montgomerie would certify to the progress-payment now due.

11. *Golden Fleece Extended Quartz-mine* (19th December).—The winding-engine is repaired and fixed in its new position and also all the gearing repaired or renewed since my previous visit. The engine has been started and a quantity of water baled out of the mine. The old workings have been examined and found in tolerably good condition, but some of the timber requires renewing before any mining can be done. At present there is only one man in charge of the plant who is putting everything in order for a good start when all the preliminaries are arranged.

12. *Inkerman Quartz-mine* (17th November).—Neither mine or battery has been working for some time past. At the time of my visit a prospecting tunnel was being driven; it was then in 50ft., and was to be continued to a supposed line of reef. I have since learned that the reef the manager was then in search of was not found, but that a new reef had quite lately been found, which is generally supposed to be the continuation of that found in the Happy Valley, Sir Francis Drake, Gallant, and Scotia Mines. If this turns out to be correct there is a good prospect of the Inkerman battery having plenty to do at an early date.

New Mines.—Happy Valley.

13. *Happy Valley Quartz-mine* (7th February).—This, the most southern of the three adjoining mines, is situated about nine miles south of Reefton. There are at present two men sinking a shaft on the reef. The shaft is down 29ft., at which level the reef is 3ft. thick, where gold can be seen through the body of the stone. There are two distinct reefs exposed on the surface of this claim, one nearly north and south and the other nearly east and west. It is on the north and south reef the shaft is being sunk.

14. *Sir Francis Drake Quartz-mine*.—This mine joins the north boundary of the Happy Valley Mine, from which the reef has been traced on the surface of this claim for a considerable distance to, probably, the centre of the claim, where a tunnel has been driven 60ft. into the side of the hill, intersecting the reef 9ft. thick at a level 90ft. from the surface. No. 2 Tunnel has already been driven 190ft., and is calculated to cut the reef at 220ft., and at a depth of 180ft. below the surface. At 20 chains down the Valley from the mouth of the last mentioned tunnel preparations are being made to erect the battery, which is shortly expected on the spot. This company has applied for a coal lease, which is within a quarter of a mile of the battery site, and where it is said a 6ft. seam is exposed to view.

15. *Gallant Quartz-mine*.—This mine joins the north boundary of the Drake. The reef—from 2ft. to 3ft. thick—has been exposed at short intervals along the surface from near the south to quite up to the north boundary, and the stone in every place shows gold.

16. *Scotia Quartz-mine*.—This mine joins the north boundary of the Gallant, and shows a continuation of the same reef on the boundary for a short distance. Prospecting tunnels are now being put in in search of the reef northward along the line of reef. I was told that the north boundary of this claim joins the Inkerman Mine at Rainy Creek. This would therefore make five leases along this line of reef, and should, at no distant date, give employment to a large number of men.

BOATMAN'S.

17. *Fiery Cross Quartz-mine* (14th December).—This mine has a total of forty men employed. Twenty-six of these are stoping out on the new level, 600ft. below the surface. I had occasion to find fault with the sluggishness of the air in this level, and stated, as a matter of fact, that complaints had been made about the bad air in the mine. The manager must have been aware of the fact that the air was bad, because there were a number of new air-pipes in the mine which were being fitted and fixed in the main-drive while I was in the mine. The mine appears to be carefully worked. No spring-catches on the cages yet, but the manager has promised to order them at once.

18. *Just in Time Quartz-mine* (15th December).—This mine is now being worked at 85ft. and 200ft. levels, which is the lowest depth yet opened in this mine. All winding is done for this and the adjoining company—Reform—by a 30ft. water-wheel, which is the joint property of the two companies. The boundary of the two mines is about 30ft. from the shaft. The reef is about 2ft. thick, and there are only twelve men employed at present, but 25 men will be employed when there is more room. The air is good, and the workings are in good order.

19. *Reform Quartz-mine* (15th December).—This mine is in the hands of tributers just now, but the men were not working on the day of my visit. I learned that they had just finished up a small crushing which they did not consider payable, and were therefore not inclined to resume work on the same terms. One of the tributers showed me over the workings, and pointed out to me where he had been working, and where he intended to work, provided satisfactory arrangements could be made with the company. This inspection enabled me to point out to him many things he would have to do in the event of his again resuming work. There are no ladders in the main-passes, and much of the old timber in the main-levels will have to be renewed to make the working-places safe. No plan, no weekly report-book, and no copy of the Act kept at the mine.

20. *South Hopeful Quartz-mine* (15th December).—This mine is situated on the south side of Boatman's Creek, and has been in occupation for many years without finding any stone till quite lately. This late discovery of stone was made in the old main-drive about 33ft. in from the face of the hill, and only a few feet from the left side of the old drive, which appears to have been driven alongside of, and only a few feet from, the reef. A winze has been sunk about 30ft. on the reef, where it is very good, and about a foot thick. There are only two men employed yet. It is intended to get the stone crushed at the Just in Time battery, which is quite handy to the mine.

21. *Walhalla Quartz-mine* (15th December).—This mine is being worked by a party of tributers who were not in the mine at the time of my visit. I found the mine well ventilated, but some of the timber in the main-levels is very much crushed, and showed decay. I wrote to the legal manager calling his attention to this, and requesting him to get new timber put in these bad places.

22. *Argus Quartz-mine* (15th December).—This is a new mine on the south side of Boatman's Creek and east of the Lone Star. As yet only leaders have been found, and a tunnel has been put in to test their value, and in the hope they may lead to a solid reef. The country, as far as it has been driven into, is very loose and exceedingly wet over head. As yet there are only three men employed.

23. *Welcome Quartz-mine*.—The tunnel from the face of the hill to the mine shaft is 2,600ft. in length, through which all the timber, stone, &c., is drawn by a horse. A large quantity of timber throughout this great length of tunnel has to be renewed from time to time, and some of it at very short intervals, where the ground is crushing in, to keep it from collapsing. The workings at the present time are 1,150ft. below the surface and quite dry. The reef has lately been very patchy, and one of the working-faces on the day of my visit showed a leader of rich gold-bearing antimony. The slaty-rock along the line of reef is just now remarkably free, and easily removed by the hand from the face and walls. The side pressure shows on the timber a few days after it is put in, and much of the timber in the main-levels has to be renewed every few days in order to keep the working-places open. The main-passes have to be treated in a similar manner to enable the men to get through them. There are no safety-catches on the cages yet. The ventilation is very good and carefully looked after.

24. *Eureka Quartz-mine* (16th December).—There are only two shifts of two men each below ground driving a tunnel in search of a reef and two engine-drivers. The tunnel now being driven is 600ft. below the surface, and this depth is reached by an incline-tunnel 1,800ft. in length, having a dip of 1 in 3. This mine, although occupied for many years, has not yet produced any payable stone. I do not think there has been continuous prospecting during all the years the mine has been held. No copy of the Act, no weekly report-book, and no plan kept at the mine.

25. *Homeward Bound Quartz-mine* (16th December).—From the chamber described in my March report last year a shaft is now down 100ft., leaving 175ft. sinking to be done by the present contractors. It is generally thought that 600ft. will have to be sunk to reach the level where the reef is likely to be found. There is a winding steam-engine of eighteen horse-power fitted in the chamber, and which is driven by compressed air supplied by an air-compressor at the mouth of the tunnel, the air being conveyed along the tunnel through gas-pipes. The air-compressor plant is worked by a small turbine wheel, but as there is sometimes a scarcity of water to do the work, it is intended shortly to add a steam-engine to their surface-plant to do the turbine's work in dry weather. The whole plant works well, and is a great improvement on the winding-plant similarly fixed in the Welcome chamber. The top of the ladder-shaft did not appear to me quite safe, so I asked for some alterations to be made.

26. *Lone Star Quartz-mine*.—Very little more than prospecting has been done in this mine. A new tunnel is now being driven in search of the reef at a greater depth from the crown of the hill.

WESTPORT.

27. *Great Republic Quartz-mine* (22nd November).—This mine is being energetically worked by three shifts of eight men each. The country is remarkably loose and broken, as also the stone, which is in detached blocks of a few yards in length and most difficult to follow. The mine requires the most careful timbering, which is not easily done with the class of timber at hand. Good suitable timber is not to be got in the immediate vicinity of the mine. The battery crushes about 30 tons of stone per week. No explosives are used in the mine, as the quartz and slate rock is removed with a pick as quickly as gravel from an ordinary open cutting. The workings are not overhead. No weekly report kept.

LYELL.

28. *United Alpine Quartz-mine* (27th January).—The timbering throughout the workings shows careful management, for which this mine is noted. Some of the working-faces are still wet and dirty, and not at all pleasant to pass through on inspection. The stone now being taken out is very poor. No. 7 Tunnel is now driven 1,020ft., which is reckoned about half the distance to where the reef should be found. It is now evident this important work cannot be completed within the next twelve months, and it is generally regretted that so much time (about ten months) has been lost by the company in having entertained an offer of a dynamo to work the air-compressor at the mouth of the tunnel, and thence the rock-drill at the end of the tunnel. After much time had been lost, and many delays, the dynamo was eventually fixed up at the battery, but after repeated trials it failed to do the work. No more time could be wasted by the company in experimenting, so the air-compressor was at once removed from the tunnel mouth to the battery, where it was working for the first time on the day of my visit, and doing good work. The compressed air is conveyed to the tunnel through gas-pipes. The speedy completion of this tunnel is considered of great importance to the district, as the labour employed by this mine is the main stay of the town. It is calculated that the level of No. 7 Tunnel will give 300ft. of backs up to the present workings, and from 300ft. to 400ft. along the line of reef, which would give employment to thirty or forty men for four years. The mine is working three shifts, giving employment to between twenty and thirty men. The general rules of the Mining Act are carefully carried out.

29. *Tyrconnel Quartz-mine*.—(28th January). A party of six tributers are following up a small leader near the surface of the hill. The formation is very loose and broken, and very wet and dirty to work in. The timbering requires great attention to keep the workings open, and the tunnel, though short and near the surface, shows that there must be great weight on it. Extra timber in the main-level was promised to be put in at once in the worst places. No plan of the mine kept.

30. *Maruia Quartz-mine*.—This mine is being worked by four men who are following up a small leader of 3in. thick. This leader has been traced down into the old workings of the Tyrconnel Mine. The stopes are remarkably dry and systematically worked, and is the neatest piece of quartz-mining on the Coast. The timbering and filling in of the old workings is most carefully done. The leader is only from 2in. to 3in. thick. The air is good. No plan of mine kept.

31. *United Italy Quartz-mine*.—I did not visit this mine, as I learned there were only two men there prospecting.

OWEN.

32. *Enterprise Quartz-mine*.—(31st January).—There are two shifts of eight men each working in No. 1 and No. 2 Levels; the latter intersects the reef at 114ft., where the stone is 38ft. thick. No. 3 Tunnel has been driven 260ft., which is supposed to be near the line of reef. A shaft has been sunk from No. 2 Level to within a few feet of the end of No. 3 Tunnel, down which all the stone from the present workings is dumped, and from thence conveyed to the battery, which is only a few yards from the mouth of the tunnel. The tunnels are well and neatly timbered and the ventilation good. The battery of ten stampers is driven by a pelton wheel, on which there is a pressure of 62ft., obtained from a race only 32 chains in length, having a never failing supply of water from the Owen River. There is not a quartz-mine on the Coast possessing the same facilities for making a poor reef pay. The battery is working, and appears to be getting through a large quantity of stone, which, I was informed by the manager would pay at a yield of 4dwt. to the ton; no plan yet made of the mine; no copy of Act; no weekly report kept at the mine. The manager promised to attend to these matters.

33. *Wakatu Quartz-mine* (1st February).—This mine is situate on the south side of Mount Owen, and is about 3,000ft. above sea-level. I examined the workings in the several levels opened, and find the country very loose and broken. The reef did not appear to me to be continuous for

more than a few yards in any one place, which renders the work of following it both tedious and difficult. The stone is conveyed by an aerial tramway to the battery of ten stampers driven by a pelton wheel, getting its water-supply from a race constructed from the Owen. The battery was not, nor had it been, working for several days previous to my visit; and I understood it was not intended to start again till copper-plates were fixed on the tables. The plates were expected to be on the ground in a day or two. No weekly report-books; no copy of Act kept at the mine.

34. *Bulmer Quartz-mine*.—This mine joins the Wakatu on the north side, where some stone is being got near the surface. As yet very little appears to have been done. Two men are getting out enough stone for a trial crushing, which will be conveyed to the battery by the Wakatu aerial tramway.

35. *Waimea Quartz-mine*.—This is the most southern lease on the Owen. One of the shareholders is trying alone to sink a shaft by the side of the reef, which he has exposed on the surface for a few feet in length.

36, 37, 38, 39 and 40. *Golden Crown, Murchison's Comstock, Sunbeam, Zealandia, and Better Times*.—These claims have had, on an average, about two men each, prospecting at short intervals from time to time.

The *Great Eastern* and *Daisy* have had a little less done in them at intervals. There are twelve others in which there has been absolutely nothing done since they were applied for.

Ross.

41. *William Tell Quartz-mine* (2nd January).—I think this mine had a small trial crushing about two years ago, but the result, I think, was not satisfactory. The work was then suspended for a time. Quite lately some leaders were followed from the main tunnel to the westward, where they gradually thickened to a reef of from 1ft. to 2½ft., showing gold in many places in the face. The stone in the paddock—a few tons—is a good colour, having a little gold distributed through it. The formation is firm and solid, and the hanging-wall well defined. The roof is very wet, and some of the timber in the tunnel rather light, which the manager has promised to replace with stronger as soon as he can get the men to work. There is a small chamber near the end of the tunnel, and a contract has been let to sink a winze in this chamber as deep as the influx of water will allow, probably 40ft. or 50ft. It is also intended to let a contract to drive No. 2 Tunnel at about 120ft. lower level, and to open the mine properly from this tunnel. As there is not sufficient water in the Cedar Creek at the reef to drive a battery, it is intended to erect it at a much lower level, where enough water in all seasons is available to do the work, to which place the stone would have to be conveyed by aerial tramway, probably a mile in length. There is very little good mining timber in the vicinity of the reef; therefore the most of it will have to come up from lower country, where laths are to be got. It being holiday-time when I was there, there were no men at the mine. The manager, Mr. Baxter, who had been in charge only four months, promised to get a weekly report-book, a copy of the Act, and a plan of the mine prepared at once.

42. *All Nations Quartz-mine* (2nd January).—This mine joins the William Tell on the east boundary. A tunnel has been driven 862ft., and is being continued in expectation of intersecting the reef within another 100ft. This tunnel is very much below the level of the William Tell. The country is very solid, there being only three sets of timber in the 862ft. driven. I understand the Mines Department subsidised this work so far to the extent of 17s. 6d. per foot. There are several other leases taken up, but no work has yet been done on them.

43. *Ross United Gold-mining Company* (3rd January).—The deep shaft and all the machinery attached thereto is idle, and has been so for some time past. A portion of the company's ground is being worked on tribute, viz., the upper end of Ross Flat and Donohue's Flat. The work is all open sluicing in the bottom of the mine, from which level large elevators are made to dredge up the tailings to the surface. Neither of these places were being worked on the day of my visit. All the dredging-machinery appeared to be in good working order.

44 and 45. *Mount d'Or and Greenland Mining Companies* (3rd January).—It is a pity these valuable properties have such an intermittent supply of water. They have a large quantity of gold-bearing wash to work at, plenty of fall for tailings, and many years profitable work before them.

46. *Kelley's Terrace Gold-mining Company* (5th January).—This mine is situated near Stafford and Hokitika Road. The shaft is about 116ft. deep, where the wash containing gold is taken out from 4ft. to 5ft. deep. The bottom is blue-lias, and the gravel overhead is fortunately tolerably firm, but exceedingly wet. The roof is supported with single timber (soldiers) and short laths, and the worked-out ground is well packed with stones. I think the mine is carefully and safely worked. The shaft is partitioned off into three compartments, with a ladder fixed in one of them. The wash is lifted from the mine by a cage, and the motive-power is a water-tank, which empties itself at the bottom of the shaft, from which place the water is again lifted a few feet by a hydraulic pipe into a long tail-race communicating with the surface. The plant works remarkably well. No copy of Act and no plan kept at the mine. The manager promised to attend to these things.

ACCIDENTS.

I have only two accidents to record during the year. The first occurred at the Just in Time Quartz-mine, on the 19th February, to Thomas Naysmith, mine-manager, who, while in the act of examining a working-face with a view of getting a set or two of timber fixed in position, was struck down by a piece of slate from the hanging-wall, which broke his leg and several of his ribs, besides doing serious internal injuries. The timbering should have been kept closer up to the working-face. The necessary sets of timber were put in immediately after the accident. Naysmith is again manager of the mine.

2. Frederick Coverty was killed on the 26th February while excavating rock overhead in a new chamber in the Homeward Bound Quartz-mine, at Boatman's. Coverty and another man were making room in the roof of the chamber for the shaft pulley-wheels, and had nearly finished the work when a wedge-shaped piece of rock slipped out of the roof striking Coverty, who then fell to the bottom of the chamber. This accident might not have happened had Coverty been more careful in sounding the rock with his pick or hammer at short intervals. I may mention that I did not know of the accident in time to be at the inquest.

I have, &c.,
J. Gow,

The Under-Secretary, Mines Department, Wellington.

Inspector of Mines.

WESTLAND GOLDFIELDS.

No. 11.

Mr. Warden KEDDELL to the UNDER-SECRETARY of MINES.

SIR,—

Warden's Office, Greymouth, 8th May, 1888.

I have the honour to report on the general condition of the mining district under my supervision, and the principal mining events of the past year. During the month of March I assumed charge of the northern portion of the Hokitika Division, relieving Dr. Giles, and at the same time Mr. Warden Bird relieved me of the Ahaura County and sub-district. In the Greymouth portion of the district no discoveries of any note have been reported, and the mining progress in the several localities usually referred to call for very brief remark.

Barrytown and North Beach.—The sluicing-claims are still working, and the number of miners employed has been the same as last year.

Paroa and South Beach.—These localities have received a little notice. During the latter part of the year 1887, the report that Mr. Brooke Smith, and others afterwards, had taken up a large tract of the foreshore south of Okarito, and subsequently all along northward to the Teramakau, induced others residing in this district to mark out the beach in claims of various areas, extending from the Teramakau to Barrytown.

All these claims are to be worked by the ball or the Wellman dredges. Up to the present there is only one of the machines in position and at work, and it is said that the appliance used in connection with it are not of the best. These machines have been ably described in former departmental reports, and so do not require to be more than referred to here. The one at the Arahura cannot be taken to give a satisfactory or conclusive test as to their efficiency. A larger machine is now in course of erection, under the immediate superintendence of Mr. Brooke Smith, at the Five-mile, south of Okarito. This work is attended with great difficulty, as the machine cannot be shipped to the spot, and has to be conveyed along the coast a long distance. The owners of these special claims await with much interest and anxiety the result of the working of this machine. It can hardly be expected that, even if these dredges fulfil all the predictions made by their introducers, all these beach-claims will pay. There are many places where, many years ago, miners found rich leads of gold that they were compelled most reluctantly to abandon on account of the water, which they could not keep down by the ordinary means,—Californian pumps,—even with the assistance of steam-engines. These localities are well known, and I have little doubt that dredges placed there will amply repay their large cost and recoup their owners handsomely. The prices charged for these machines, stated to be about £1,500, seems to be very large; but, as they are both patented, it may be assumed this price will be reduced in time. At Paroa the first special claim of this class met with strong opposition from the miners in the neighbourhood, but the lengthy investigation that took place, I think, convinced the objectors that a long strip of land on the foreshore of a sluicing-district being granted to a party of miners would be no impediment to present and future sluicing, nor cut off the means of disposal of tailings, &c., but that the rights of present holders of that class of claim, and any that might be taken up in the future, were preserved and provided for by the regulations for special claims and the special conditions attached to the grants. After the hearing of this and another special claim in the same neighbourhood no further opposition to these special claims was made. Owing partly to the manufacturing of these machines being in the hands of a few, and partly perhaps to a desire of seeing a fair test of those working that are now in position, I do not expect to see any of these claims at work much within the twelve months of their grant, though, to encourage speedy work, an abatement of the first year's rent is offered. Some of these claims, I make no doubt, are speculative; and, as the outlay is heavy, in no instance will the claims be worked by individual labour and capital. If the machines fulfil their promise I have no doubt that four of the claims taken up on the beach between Teramakau and Barrytown will prove a successful venture. The rest of the beach has all proved auriferous, but I cannot find reliable evidence of the existence of deep-leads of gold, though that desultory kind of mining known as "beach-combing" has been carried on for years on all parts of the shore below high-water mark.

Paroa.—At the investigation of the objections to a large and special claim between Saltwater and the New River, mention was made of an old lead of gold which had been abandoned owing to some difficulty in getting sufficient fall to work it. This lead is supposed to traverse the land between these two streams, parallel to the beach, and a large special claim has been applied for to take it up and work it on a large scale of hydraulic sluicing.

Marsden.—The claims in this neighbourhood have made no advance, and the hopes entertained of the deep ground at Irishman's have not been realised.

Dargaville and Arnold.—Very little change has taken place in these localities; the population remains about the same, and the yield also. The Wardens' Courts at both have been closed, and all business transacted in Greymouth. At Arnold a small so-called rush took place near Kokiri. It was on new ground, and may turn out better. At present only a few claims are occupied.

No Town.—The Warden's Court here is closed also for ordinary sittings, with an understanding that a quarterly sitting for hearing causes will be held if required. A small rush at a place called Smokers' Gully, about four miles up the No Town Creek, occurred about three months ago, and seven or eight claims gave fair results, from £4 to £7 a week, but the last accounts were unfavourable, and I fear the success was temporary.

Blackball.—Within the last week it has been reported that some very payable ground has been discovered up Ford's Creek, and I have reason to believe the report well founded. This locality is not so accessible as others, or it would be more thoroughly prospected; and, from specimens of auriferous quartz found in its creeks, I believe that quartz-reefs of a valuable kind will some day be discovered.

Kumara.—This district maintains its position, and work is vigorously prosecuted. The subsidiary main tail-race has afforded great relief to the Government tail-race. The tailings in the Teremakau have increased considerably, and the proclamation making it a public sludge-channel is very acceptable to the miners. Kumara is the most prosperous mining centre in the whole district. Some new ground adjoining the Kapitea Creek will soon be occupied; it is only awaiting the completion of a long prospecting- and draining-tunnel, some 3,000ft. in length, to be thoroughly tested. Some years ago several shafts were put down, but the prospectors had to give up owing to the large influx of water, but not before they obtained a fair prospect.

Goldsborough and Stafford.—Some special claims have been granted in this locality (which adjoin) to work what is called the Auckland Lead, and which yielded then such rich results. It is believed, also, that the vast accumulation of tailings in the Waimea Creek will pay handsomely if worked by means of the dredgers. The grantees are, it is said, well supported by distant capitalists, and I am of opinion that the next year's report should favourably mention this venture. Once these machines are at work the result should be speedily ascertained; there is no delay in "washing-up." The Stafford District extends far to the eastward towards the Christchurch Road, and in that direction, in the locality known as Kelly's Range, several licensed holdings and one large special claim have been taken up to work the quartz-reefs long known to exist, but hitherto unsuccessfully occupied. The ground is very mountainous, and is 4,500ft. above sea-level. Auriferous quartz is known to exist, but the difficulties, owing to want of roads and capital, have compelled several parties to abandon a venture which would probably turn out a payable one if undertaken by a strong party. It is stated that a number of influential people have promised their support, and that there is a chance now of the development of the reefs. Kelly's Terrace water-race is now in full swing, and employs about twenty men. The Wheel of Fortune Company is also working vigorously, and hopeful of results.

Hokitika and Kanieri.—The Court at the latter place has been closed, but as it is only three miles from Hokitika I do not think this step should cause much public inconvenience. The Humphrey's Gully Company, after much litigation, have acquired, by purchase, the Five-acre claim that has always occupied a singular position in the centre of their large lease. The claim in question had, by agreement with the Hokitika Harbour Board, a right to protection until water was available, a fact they never realised, and so remained a standing menace to their big neighbour, who was always in peril of an action for trespass. The owners of the claim, however, determined the question of available water by making application for some from McDonald's Gully. After this they had no further pretext for protection, and just before the delivery of the judgment of the Warden's Court, in a complaint by the company, asking for forfeiture of the claim for non-working, it was announced that the defendants had sold to the company.

Totara.—The Ross United is still waiting increase of capital to purchase more powerful machinery to pump their claim. The Mont D'Or continues vigorous work and still pays good dividends. The Mount Greenland is also doing well. The great attraction during the past year has, however, been the reefs on Cedar Creek. The old claim William Tell is the pioneer of this locality. Their original tunnel is in 350ft. and the winze down 70ft. The new low-level tunnel has been constructed for 225ft.; and it is expected to strike the reef in 175ft. more. At present there is no proper battery to test the stone obtained here, nothing but Mr. Petrie's three-stampers. The Swiss Republic licensed holding includes the old company's ground of twenty-nine acres, which has been prospected, and a likely reef has lately been met with, small, as yet, but making. The All Nations, next to the William Tell: this was an old lease exchanged for a licensed holding, at present being prospected. The Larnach licensed holding: In the low-level this company is now in about 800ft., and lately met with very rich stone. This tunnel has been subsidised by the county and by the Government. Two other companies have holdings in this locality, and are busy prospecting. A number of small parties are prospecting for quartz-reefs, scattered over the large tract of country lying between the Reefton County, Bell Hill, Kelly's Creek, down to Cedar Creek; all along this line it is said a continuous stretch of quartz-bearing country exists, and, as there is at present undoubtedly a revival of interest in mining ventures, I trust and believe that this branch of mining will receive more attention, and when discoveries are made they will be energetically prosecuted.

As I have but recently been placed in charge of the southern portion of the district, my report from personal observation must of necessity be a meagre one as to it, and I have had no leisure to visit any places off the line of road. The statistical returns and other information called for in your circular of 20th March has been already forwarded.

I have, &c.,

The Under-Secretary, Mines Department, Wellington,

JACKSON KEDDELL, Warden,

No. 12

Mr. Warden MACFARLANE to the UNDER-SECRETARY of MINES.

SIR,—

Warden's Office, Jackson's Bay, 13th April, 1888.

Herewith please find annual report on the mining districts under my charge for the year ending 31st March, 1888,—

Jackson's Bay.—Mining in this district is principally confined to the black-sand beaches on the coast, where men, as a rule, continue to make small wages; rich deposits are occasionally found after stormy weather on the outer beaches. A few men are at work about Big and Morton's Bays, on the beaches and the low ranges near the coast. Pauline and party from Dunedin are out in the country behind Big Bay, but owing to the unfavourable weather we have had since Christmas, I am afraid the results will be anything but satisfactory.

In my last year's report I referred to the discovery of a new nickeliferous alloy, awaruite, found in the Gorge River and neighbourhood. A sample of this sand was sent Home to Sir Francis Dillon Bell, Agent-General, who placed it in the hands of Messrs. Johnson, Matthey, and Co., London, for exhaustive analysis. I have now much pleasure in appending copy of results obtained. "Assay Offices and Ore Floors, Hatton Garden, London, E.C., 24th January, 1888. Certificate of analysis. The Agent-General for New Zealand. We have carefully analysed the sample of black-sand marked as under, and find the following to be the proportions in every 100 parts: Mark of sample—Iron, 44·20; nickel, 11·60; cobalt, ·40; sesquioxide of chromium, 15·82; oxide of manganese, ·35; magnesia, 4·80; silica, 5·90; sulphur, ·50; water, ·30; oxygen and loss, 16·13; total, 100·00. Platinum, minute trace; gold, nil; silver, nil.—JOHNSON, MATTHEY, AND Co." Their report shows the sand to be valuable, and they say "it will command a ready sale in England, unless the quantity should be so great as to disturb the nickel market." Another important factor to be taken into account in arriving at even approximate values is the fact that gold, in quantities sufficient to pay men from £1 to £1 10s. per week, is found associated with this mineral. In the sand tested the gold was taken out by the miners previous to its being sent Home for treatment, hence the absence of gold in the results of analysis. With nickel at 4s. per lb. (the present market value of the metal), and without reckoning the bye-products, iron, chromium, cobalt, &c., all of considerable economic value in London, I think we may consider the results as extremely satisfactory. The deposit is extensive, and unless the cost of transport from the Coast to London, and treatment afterwards, is out of all proportion to its market value, the discovery should lead to the establishment of a new and extensive industry. No new discoveries have been reported.

Portions of the Cascade and Pyke Valley Road are in course of construction, and will probably be open for traffic in about four months. This portion will give access to the head of the Gorge River, but a continuation of this road through to the Holyford is much wanted.

The Haast Pass Track from the Clarke Bluff to the sea is simply impassable, unless at risk to both life and limb. I understand that £400 is being spent on this road; but, as heretofore, three-fourths of it is being spent on the east side of the saddle, and four men have been sent over to patch up a few of the worst places on the west side. This track through the Haast Pass, the connecting link between the East and West Coast, would be largely used but for the fact that the track is, and has been for years, in such a state that any one making the attempt would surely come to grief. Money has been voted for this track, but it seldom reaches as far as the Coast. I would therefore suggest that a little more attention and consideration should be shown to repairs required on the road from the Clarke Bluff to the sea-coast, so that the road through to the coast may be available for travellers.

Okarito.—Ordinary mining operations in this district are much as they were a year ago; very little prospecting has been done, men being satisfied to plod along at their old workings, realising small but certain returns for their labour. The exception to this has been the explorations made by Charles E. Douglas on the head-waters of Cook's, Waiho, and Karangarua Rivers. This indefatigable prospector has spent the season in examining the gullies and outliers of this portion of the western water-shed of the Southern Alps. He reached a height of 9,000ft., and traced drift-gold until it was lost under the snowfields and glaciers covering the heads and shoulders of the principal peaks of the main-range. The value of Mr. Douglas's explorations, as compared with the ordinary prospector, will be apparent when I state that in this, his latest journey, he has mapped out the whole of the country traversed; marked the principal topographical features; noticed the dip and strike of the strata, and other geological indications; taken hand specimens of rocks from every formation crossed; and ascertained that the heavy gold found in the gravels of Cook's, Waiho, and Karangarua Rivers is derived from an auriferous belt lying near the axis of the main-range, and appears to be a much older formation than the matai slates of the carboniferous series, from which some of the gold near the coast has been derived. Whether this auriferous belt, lying under the eternal snowfields and glaciers of Mount Cook, Tasman, and La Perouse will ever be reached, or, if reached, whether it would be of any practical value, except as an unfailing source from which our gold-drifts are supplied, is questionable, as the country is difficult of access, and travelling dangerous in the extreme; to use the graphic language of the prospector: "the thunder of the avalanche is ever in your ears, and in many places there is a perpetual rain of rocks, barring further progress."

A matter of great interest in connection with mining on the Coast is the introduction of dredging-machines to work the black-sand beaches. About three months ago a Wellman dredge was put to work at the Three-mile, near Hokitika, but owing to the smallness of the pipes, and the plant not being afloat, the work done was disappointing. This gave rise to doubts as to the capabilities of the machines known as "sand-pumps," but those best acquainted with this style of dredge say the principle is right, and the machine will do the work if properly applied.

The first of the ball dredge-machines is now on its way to the celebrated Five-mile, near Okarito. This machine is guaranteed to lift 250 tons of water and sand per hour, 200 water to 50 of solid matter. No doubt a good deal has to be learned before everything works smoothly, so as

to get the maximum of work at the minimum of cost. Mr. E. Brooke Smith, the introducer of the ball dredge, has also on the way a steam-prospecting machine, capable of dealing with lagoons and river-beds. I understand that this machine will be put to work on the Three-mile, also near Okarito. Testing the beaches at the lower levels is of very great interest to any one connected with beach-workings, and Mr. E. Brooke Smith deserves the thanks of the public for introducing, and putting in operation, such an efficient machine.

The disposal of the sand and the best methods of saving the gold are commanding the attention of experts, and already several patents have been taken out for this purpose. Whilst fully recognising the value of the sand-pump or dredge for doing certain kinds of work, I would point out that on most of the beaches large accumulations of wind-blown sand, as well as the regular deposits laid down by the sea—all above water-level—have to be dealt with, and as it would certainly be a waste of power to throw all this dry material down into the water, where the pump is at work, merely to lift it up again, I would suggest that the material above water-level should be lifted by a simple elevator; or, where water with sufficient pressure is available, Perry's patent could be used to great advantage, thereby disposing of a much greater quantity of solid material, with the same expenditure of power, and, consequently, at less cost. Below water-level the dredge proper would then come into use, and deal with the sand at lower levels.

All the best known beaches on the Coast have been taken up or applied for, besides many others whose values have yet to be demonstrated, for dredging purposes, and the present year will prove, or otherwise dispose of, the assertions made about the wealth buried in our beaches. I have implicit faith in the statement that rich deposits of gold-bearing layers of sand will be found at lower levels than have yet been reached, and that many of the well-known beaches will pay for re-working; but this does not warrant an indiscriminate taking up of beaches and river-beds, regardless of their conformation and history; and it will be in the interests of all concerned to await the outcome of the ventures on well-known beaches before entering upon more speculative undertakings. At this initial stage of what may be considered a new departure in mining, care should be taken that capital is expended on undertakings and in a direction that are likely to yield substantial returns out of the gold obtained from the claim.

I have, &c.,

The Under-Secretary, Mines Department, Wellington.

D. MACFARLANE, Warden.

OTAGO AND SOUTHLAND GOLDFIELDS.

No. 13.

Mr. Warden REVELL to the UNDER-SECRETARY of MINES.

SIR,—

Warden's Office, Lawrence, 14th April, 1888.

I have the honour to transmit herewith the statistical returns for the year ending the 31st March, 1888, together with a general report on mining affairs within that portion of the Otago Mining District under my supervision. The general aspect of affairs is much the same as last year. A fair amount of prospecting has been carried on, but no fresh discoveries of any note have been made. The returns show a considerable falling-off in the total revenue as compared with last year, arising principally from the reduction of the fees for miners' rights, water-races, and rents of licensed holdings.

TUAPEKA SUB-DISTRICT.

The works on the Blue Spur claims have not been carried on with the energy and perseverance displayed in former years, the owners having been notified about five months ago that the Blue Spur Gold-mining Company had been floated by Mr. J. C. Brown, M.H.R., in London; but owing to some misunderstanding between the owners and the London syndicate the company was only successfully floated in March last, with a capital of £130,000, the claim-holders to receive two-thirds cash and one-third scrip on the amount for which the claims and races were originally sold by Mr. Brown. Some of the claim-holders have been paid half cash and the balance in twelve months, whilst others have accepted 10 per cent., with a right of purchase by the syndicate within twelve months, the vendors retaining possession with full right to work in the meantime. The syndicate are now making arrangements for working the area, and have appointed Mr. Henry Clayton as mining manager.

The large claims in Munro's Gully continue to be steadily worked with fair returns.

The large number of Chinese in this district are employed mining in various places along the banks and low flats on the Tuapeka River, from the bush to Tuapeka Mouth, and also at Wetherstone's, Gabriel's Gully, Clark's Flat, and the Beaumont. Some of these hold good claims, yielding good returns, whilst others vary from fair to ordinary wages.

The Wetherstone's Gold-mining Company suspended operations in the early part of the year, and the directors are now taking steps to have the company wound-up.

At Waitahuna there is nothing calling for special note. Mining operations have been steadily carried on by the Europeans and Chinese. The Norwegian party, Ferris and party, and Callanan and party, up the Waitahuna Gully, hold the principal claims, and are turning over large quantities of tailings and mullock. The Chinese hold seven extended and ordinary claims on the banks of the Waitahuna River, making fair wages, whilst isolated parties are to be found working in the small gullies and creeks about the district.

At Canada Reef and Table Hill four or five quartz-claims have been taken up since Christmas. Messrs. Gillon and Murphy, who have held a quartz-claim on this reef since October last, put in a tunnel 200ft., and struck the reef 100ft. below the surface; they have also erected a ten-head battery, driven by a turbine-wheel with a direct fall of 100ft. from the end of the race. Crushing

began about a fortnight ago, but they will not wash up for some time. The prospects obtained give the yield of gold at 5dwt. to 6dwt. to the ton, and the owners are very sanguine of success. Messrs. McLean and Kerr have bought the remains of the old battery and water-wheel erected by a company ten or twelve years ago on this reef, which they intend removing and putting up again in a more suitable form.

On the Clutha River, above the Beaumont, four special claims (265 acres), embracing four miles of the river, have been granted for dredging purposes. It is intended to work these river claims by means of a Wellman dredge, but up to the present time, the Wellman dredge erected at Alexandra has not been so successful as expected, so that the claim-holders are waiting for further results before ordering dredges for their respective claims. The ordinary dredge worked by Cowan and party at the Beaumont has been idle for several months, owing to the continued high-level of the river.

At Waipori the number of miners is estimated at two hundred Europeans and ninety Chinese, distributed over a radius of ten miles. Of these, about forty Europeans are engaged in quartz-mining. Long and party have taken up the old Canton claim, formerly worked by a party of Chinese, and abandoned. Porter and party have taken up the O.P.Q. claim, and crushed from 700 to 800 tons, yielding from 3dwt. to 14dwt. of gold per ton. There are five other parties working on the same line of reef. There are three batteries in this part of the district, one of ten head, and two of five heads each. It is estimated that one thousand tons of quartz have been crushed yielding about 350oz. of gold.

Mr. James Haslett, of Dunedin, has been granted a prospecting claim of 1,500 acres in the Waipori Flat, extending a distance of six miles from the township of Waipori to Post Office Creek, for one year, on condition that £500 be expended in prospecting the area, with a right to take up a special claim of 300 acres at the expiration of the present grant. The Flat is considered very rich, but heretofore, all attempts to thoroughly test the ground have proved abortive. I am informed that Mr. Haslett has just accepted the tender of Messrs. Kincaid and McQueen for sinking three shafts, and that they propose doing so with the aid of large iron cylinders and hydraulic pumps. Mr. Thomas Black has applied for a prospecting license, to search for the lode of scheelite, a short distance from the township of Waipori. A sample of the scheelite from that locality, sent a short time ago to London, gave an assay of 77 per cent. of pure metal.

The antimony reef at Stoney Creek, Lammerlaw, was taken up by Johnston and party, on a mineral license, in August last. They have been prospecting the reef, and proved its existence for a distance of five hundred yards from the original shaft. Two and a half tons of the ore has been sent to London for assay with a view of floating a company in that market. There is a full supply of water on the ground for driving machinery, and also good beds of peat.

TAPANUI SUB-DISTRICT.

This district, which includes Tapanui, Herriot, Greenvale, Glenkenich, Pomohaka, Waipahi, and part of Waikaka, was formed in May last, and a Warden's Court opened at Tapanui, Constable King being appointed Clerk of the Court and Gold Receiver. About forty Europeans and thirty Chinese have been engaged off and on prospecting and mining during the year, the Europeans generally leaving when other work is obtainable. Some Europeans and Chinese are working on the banks and beaches of the Pomahaka River, making ordinary wages. At the Luthen, in the Greenvale District, there are about eight men at work, principally on private lands, for which they have to pay 2s. per man per week for the permission to mine. The ground at Scrubby Flat gives employment to ten Chinese, who are in possession of a water-race four miles in length, which keeps them well supplied. They have been in full work during the year, and appear satisfied with their returns.

At Waikaka, which is an old diggings, there are about twenty Europeans and Chinese working on the terraces and adjoining creeks making fair wages, while some of the Chinese have obtained good yields from the old tailings. Old and experienced miners are of opinion that there are deep leads of gold in and about Waikaka Township and adjoining terraces, but no efforts have been made to trace or open them out. Gold has been found in several places, but not in payable quantities. A great portion of the district being private property, miners are debarred from entering thereon to thoroughly prospect the ground. In the neighbourhood of Chatton there are about a dozen Chinese working on private land, about four miles from Gore, and another party of six Chinese are in full work on the mining reserve near Chatton; these men are making fair wages. The stripping varies from 3ft. to 8ft. or 10ft. The gold obtained is generally of a fine quality, with a few scaly pieces intermixed.

WAIKAIA SUB-DISTRICT.

At Waikaia, which includes Welshman's and Moffatt's Gullies, Mystery Flat, Winding Creek, Frenchman's Hill, Scrubby Terraces, Long Gully, Muddy Dome and Shepherd's Creeks, there has been very little change. Some Europeans and a large number of Chinese hold good claims in the various localities named. There are several good races supplying the various claims, notably the Argyle water-race, held by Chinese. Mystery Flat, containing five hundred acres, situate at the outlet of Welshman's and Moffatt's Gullies, close to the Waikaia Township, is supposed to have been the original bed of the Waikaia River. In October last Mr. H. S. Valentine, the member for the district, gave the Mining Association at Waikaia the use of a set of boring-rods to prospect the flat. They formed themselves into a company, took up an extended claim of six acres, sank two shafts, and bottomed one at 27ft. and the other at 25ft., going through 5ft. of rich looking wash, which yielded good prospects. The company then tried to sink two shafts, but were unable to keep down the flow of water with the appliances at hand. They have suspended operations until the harvesting is completed, and then purpose erecting pumping-machinery, driven by steam, to enable them to bottom the shaft and test the ground.

The Upper Waikaia and Whitecombe continue much the same as last year. Collie and party have opened up a good claim at the junction of Gow Creek and Waikaia River on ground which had been formerly worked and abandoned. Mr. Mitchell tried the ground about Garvey Creek with boring-rods in two or three places, but could not find any trace of gold.

At Nokomai the licensed holdings granted in the upper and lower Gorge have all been surrendered and cancelled, except that of the Premier Company, who are not satisfied with the result of the operations of the other companies, although it is well known that they incurred heavy expenses in working shafts and erecting powerful machinery for pumping and working the ground before surrendering. The country lying about half-way between the Nokomai and Athol, known as Paddy's Alley, has recently come to the front. Six or seven parties, who have command of water, are on good gold. Several other parties also hold good claims, but cannot obtain sufficient water to wash. A party of miners have secured the right of an old water-race, brought in a distance of sixteen miles from Digger's Creek, on the high ranges, in the early days of the goldfields, and intend to reconstruct the race and convey the water to Paddy's Alley. It will be a very heavy undertaking, requiring a quantity of fluming and rock-cutting round the perpendicular ledges of rock and across steep gullies.

WAIKAWA.

During the year a slight activity has been shown in mining matters at Waikawa, and several miners' rights have recently been issued for that part of the district from the Warden's office at Waikaia.

I visited Waikawa in January last and found five or six parties sluicing on the Waikawa Beach, water being obtained from the adjoining creeks, and stored in two large dams near the beach. Butler and O'Brien hold extended claims in Haldane Bay, and O'Brien is constructing a race some three or four miles in length from the head of Cook's Creek, capable of carrying four to six heads of water, to work the ground.

At Waipapapa Point, outside the limits of the goldfields, I found the same parties at work who were there last year. These hold their ground and water-rights from the Commissioner of Crown Lands, Dunedin.

The Proclamation issued on the 22nd March, 1888, cancelling the Waikawa Goldfield, and extending the Otago Mining District from the Bluff to Catlin's River for a width of 10 chains above high-water mark, will come into force on the 17th instant, and will bring all parties on the sea-beaches within the provisions of the Mining Act to the extent of the 10 chains in width; but, outside that limit, difficulties are certain to arise in respect of water-races and other mining privileges necessary for the working of the beach claims. There is a sawmill at work at the mouth of the Waikawa River, from whence the timber is shipped to Dunedin and other parts. There is also a fine quarry of superior building-stone at the upper end of the Waikawa Harbour, owned by a firm in Dunedin, who have men employed raising stone and shipping it in large blocks to Dunedin for building-purposes.

At Charlton, about four miles south of Gore, there are twenty men at work mining on the River Reserve; they have a good supply of water for sluicing, and appear to be well satisfied with the results obtained, and entertain hopes that the field will continue for some years, but they are very anxious that the private lands adjoining should be acquired and brought under the provisions of the Mining Act. There are a few men working at the Waimumu Creek, making fair wages; but they state the back-water is very troublesome, and renders the ground almost unworkable in small areas.

Since Mr. Park's success with the Wellman dredge on the beach near Hokitika was published, several applications have been made to the Commissioner of Crown Lands, in accordance with the regulation gazetted under "The Mining Act, 1886," for the granting of prospecting licenses and prospectors' mining leases outside mining districts, for large areas on the sea-beaches between the Bluff and the Molyneux River.

The Natives at Wiltshire Bay, Port Molyneux, have granted a large area on their reserves to Messrs. Wilson, Stewart, and party, who purpose erecting one of Wellman's dredges to work their claim, where good gold is known to exist.

GENERAL.

Sittings of the Resident Magistrate's Courts have been held weekly at Lawrence, fortnightly at Milton and Gore, monthly at Balclutha, Tapanui, Waikaia; and alternate months at Kaitangata and Clinton. The Warden's Courts have been held fortnightly at Lawrence, and monthly at Waikaia and Tapanui.

As the south coast between the Bluff and Catlin's River will become part of the Otago Mining District on the 17th April, 1888, and a great portion of the new district being attached to the Warden's office at Waikaia, about eighty miles distant from the principal workings at Waikawa and Waipapapa Point, I consider it advisable that a Warden's Court should be established at Gore or Wyndham, in conjunction with the Magistrate's Court for that portion of the district.

The yield of gold is estimated as follows: Tuapeka, 14,540oz.; Tapanui, 360oz.; Waikaia, 2,730oz.; Waikawa and out districts, 220oz.: total, 17,850oz.

The attached return shows the number of miners' rights, licenses, registrations, &c., issued during the year; the number of cases disposed of, and revenue collected, at the several Courts; and also the estimated population of the district.

I have, &c.,

The Under-Secretary, Mines Department, Wellington.

W. H. REVELL, Warden.

RETURN of Miners' Rights, Licenses, Registrations, &c., issued during the Twelve Months ending 31st March, 1888.

	Lawrence.	Waikaia.	Tapanui.	Total.
Miners' rights	885	224	23	1,132
Consolidated rights ... ..	...	2	...	2
Business licenses, at £3	1	3	...	4
Half-year, at £1 10s. ... ..	...	...	...	...
Water-race licenses, at 5s.	94	62	...	156
" " 2s. 6d.	68	29	...	97
Registrations, at £1	1	...	...	1
" " 10s.	3	...	...	3
" " 5s.	3	5	...	8
" " 1s.	345	200	2	547
Applications for licensed holdings	6	...	...	6
Licensed holdings granted, 69 acres	5	...	...	5
Application for special claims	5	...	...	5
Special claims granted, 1,765 acres	5	...	...	5
Application for mineral licenses	1	...	...	1
Mineral licenses granted, 59 acres	1	...	...	1
Application for occupation licenses	44	...	...	44
Occupation licenses granted, 60 acres 2 roods	4	...	...	4
Mining applications	231	186	...	417

RETURN showing the Revenue collected during the Twelve Months ending 31st March, 1888.

	Revenue.	Deferred Payments.	Total.
	£ s. d.	£ s. d.	£ s. d.
Warden's Department—			
Lawrence	667 9 0	1,067 19 1	
Waikaia	174 12 2	15 3 0	
Tapanui	7 6 0	...	
	849 7 2	1,083 2 1	1,932 9 3
Resident Magistrate's Court—	R.M.	Licensing Fees.	
Lawrence	136 15 0	16 10 0	
Waikaia	61 16 0	6 13 0	
Tapanui	108 16 0	6 13 0	
	307 7 0	29 16 0	337 3 0
Resident Magistrate's Court, outside goldfields—	R.M.	Licensing Fees.	
Milton	86 6 6	4 19 0	
Balclutha	65 15 0	6 11 0	
Kaitangata	35 11 0	1 2 0	
Clinton	67 8 6	2 4 0	
Gore	347 10 0	17 16 0	
Mataura	5 18 0	2 0 0	
	608 9 0	34 12 0	643 1 0
Total ... ..	...	...	£2,912 13 3

Summary.

	£ s. d.
Warden's Department	849 7 2
Rent on deferred payments	1,083 2 1
Resident Magistrates' Courts on goldfields	307 7 0
" " outside goldfields	608 9 0
Licensing-fees	64 8 0
	£2,912 13 3

RETURN showing the Number of Cases disposed of in the Resident Magistrates' and Warden's Courts, and Revenue collected, for the Twelve Months ending 31st March, 1887.

Courts.				Civil.	Criminal.	Warden's.	Total.	Revenue.		
								£	s.	d.
Lawrence	...	...	...	176	115	19	310	150	13	0
Waikaia	...	...	...	35	58	16	109	78	5	0
Tapanui	...	...	...	83	48	1	124	110	2	0
				294	213	36	543	339	0	0
Outside goldfields—										
Milton	...	...	...	117	39	...	156	86	6	6
Balclutha	...	...	...	74	46	...	120	65	15	0
Kaitangata	...	...	...	33	42	...	75	35	11	0
Clinton	...	...	...	54	45	...	99	67	8	6
Gore	...	...	...	466	70	...	536	347	10	0
Mataura	...	...	...	...	22	...	22	5	18	0
				744	264	...	1,008	608	9	0
Grand Total	...	...	...	1,038	477	36	1,551	947	9	0

The population of the district is estimated at 25,361 souls, located as under,—

				Europeans.	Chinese.	Total.
Tuapeka	...	...	...	3,860	410	4,270
Waipori	...	...	...	360	80	440
Waitahuna	...	...	...	1,120	140	1,260
Waikaia	...	...	...	1,013	188	1,201
Tapanui	...	...	...	1,600	150	1,750
Milton	...	...	...	4,600	39	4,639
Balclutha	...	...	...	3,398	2	3,400
Kaitangata	...	...	...	1,450	...	1,450
Clinton	...	...	...	2,051	...	2,051
Gore	...	...	...	2,930	70	3,000
Mataura	...	...	...	1,696	4	1,700
Waikawa	...	...	...	200	...	200
Totals	...	...	...	24,278	1,083	25,361

No. 14.

Mr. Warden HICKSON to the UNDER-SECRETARY of MINES.

SIR,—
Warden's Office, Clyde, 30th April, 1888.
I have the honour to submit the following report on the Dunstan and Wakatipu Districts under my charge for the year ended the 31st March, 1888, together with the usual statistics for the same period.
Clyde and Alexandra.—In these subdivisions of my district there is very little of moment to report upon in alluvial mining. About the same number of men are engaged as last year, and from what I can ascertain they have been no less profitably employed. Several extended claims have been taken up at Bald Hill Flat, where, during the last year, very good prospects have been obtained.
Dredging.—There are one steam and three current-wheel dredges situate between the above-named townships, but, owing to the flooded state of the river, very little work has been done by them since the New Year. The whole of them are, however, again in active operation, and will, I trust, be able to continue so until the setting-in of the usual spring floods. The special claims which were taken up in this locality for the purpose of being worked by Wellman's patent dredger are still lying idle, and will remain so, I have no doubt, until Mr. Wellman has completed the alterations to the machinery, which were found to be necessary upon a trial last year. The alterations being made will include the substitution of a 12in. pump for the 6in. or 8in. one, which proved totally inadequate for the requirements necessary to manipulate the heavy boulder wash-drift of the Molyneux. The patentee has no doubt of the ultimate success of his dredger as enlarged and otherwise improved, and should his expectations be realised, the expenditure of a large amount of capital and a considerable increase in the demand for labour in this district will follow.
Roxburgh.—The river-bank claims here are still being profitably worked, and seem to show no signs of exhaustion; one of these claims, of six acres, changed hands a few months ago for £750. I

believe efforts are being made to float a company to take over several of these holdings, together with the attached water-rights, so that the ground may be worked on a larger scale by the adoption of more modern methods, such as the Gabriel's Gully hydraulic-machinery, &c. Should this be brought about, I feel sure that good results will follow, as the means they have now for working the ground are of the most primitive character. What may be termed a rush on a small scale has taken place at the Upper Wakaia, Campbell's, and the Fraser River during last summer, and many claims and other privileges have been taken up. I have been shown several beautiful samples of gold from these localities, and cannot help feeling surprised, in these dull times, that more of the so-called "unemployed" do not try their fortunes there. An outfit would not cost much: a tent, tin dish, pick and shovel, with a month's provisions, would suffice. Of course a little hardship would have to be put up with, but nothing like the privations which the miners of twenty years ago underwent in the same localities.

Dredging.—There are five current-wheel dredges upon the river between Roxburgh and the Horse-shoe Bend, but, like those between Alexandra and Clyde, the high state of the river has kept them more or less idle since the beginning of the year.

Cromwell.—Mining in this division of my district during the past year has continued in a satisfactory state, and the yields from the various workings are believed to have been quite up to the average of late years, and, in some instances, exceptionally favourable yields are reported. At Bannockburn the only item inviting special comment is the completion of the Pipeclay Channel, which has been satisfactorily accomplished, and has opened the way to work a considerable area of ground, which is known to be highly auriferous. At Kawaru Gorge there are a few very good claims at work, and, judging by the prices at which some of them have changed hands during the year, the miners purchasing must have almost unbounded faith in the future of this locality. The various gullies running from Mount Pisa towards the Clutha River, viz., Lowburn, Five-mile Creek, Gravelly Gully, and others have been fairly remunerative, and a greater amount of activity has been noticeable during the year. Little doubt is entertained by miners acquainted with this part of the district that a very large portion of the eastern slopes of Mount Pisa Range will yet be profitably worked.

Mount Criffel.—So far as can be gathered from the reports to hand, the returns from the claims worked have been very good. A great deal of interest is now centred at what has hitherto been known as "Fat Boys," a new lead on a portion of Mount Pisa, and in the immediate vicinity of Mount Criffel; a very large area has already been applied for, both under extended claims and licensed holdings. Prospecting by means of boring-rods is being carried on in the deeper portions of the ground, and already very promising prospects have been secured. If these are borne out on developing the lead, there is no doubt that the field will give work to a large number of miners. Indications are not wanting of greater interest and general activity in mining matters throughout the whole of this portion of the district.

Wakatipu District, Queenstown Subdivision.—Mining operations in this district have been very much brisker during the past twelve months than has been the case for some years previously. Although the results are not, up to the present time, equal to what might reasonably have been expected, yet, taking into consideration the several new ventures specially, and the renewed activity all over the district generally, I think it may fairly be presumed that my next annual report will be a much more favourable one. If the annual report was furnished at the close of the season, instead of as at present, whilst both alluvial and quartz-mining is in full working order, a much more authentic and trustworthy one could be given. The amount of gold purchased by the banks for the year ended 31st March, 1888, shows a considerable falling off as compared with the three previous years, owing to the fact of the stoppage of several of the quartz-mills, the quantity of retorted gold purchased being less than one-half for the three years previously, and the alluvial gold 1,000oz. less. At the head of the lake there are several parties working in the various streams running into the lake between Queenstown and Glenorchy, all doing fairly well, more especially those working at the Five-mile Creek.

Moke Creek.—There is nothing new to report from this once famous goldfield.

Upper Shotover.—A number of licenses to work mines have been granted during the past year, but most of them are under protection, pending the floating of companies in London to work them. Several parties, however, are depending on their own resources, and no doubt there will be good results of these to report in my next. There are many alluvial terraces that only require a good supply of water to be brought on to make them payable ventures, as has been exclusively demonstrated by Aspinall's, Davis's, and Johnston's claims keeping up their past reputation, proving that the resources of the district are not yet exhausted.

Lower Shotover.—Several miles of the river-bed have been granted in special claims; three of them are to be worked by the hydraulic jet process, but these ventures are awaiting the formation of companies to work them. The fourth claim is a very extensive one of 180 acres, comprising the sites of most of the famous claims on Big Beach, Arthur's Point. The promoters hope to make good headway with their undertaking this winter. Should these ventures be proceeded with, and the various methods of abstracting the gold prove successful and remunerative, there is, in the beds of the Shotover, Arrow, and Kawaru Rivers, ample scope for the investment of much capital, foreign or otherwise.

Arrow Subdivision.—Alluvial mining, especially on the higher levels, has proved generally remunerative. The Arrow River Tunnel Company has pushed on their works with energy and ability, and have now everything in good working order. As yet it has not proved a very payable undertaking, but the shareholders are confident that the final result will warrant the outlay. A company is being floated to work the beaches at the Horse-shoe Bend, about six miles from Arrowtown, in the Kawaru River, by hydraulic jets, the water-power being obtained from sources high up in the Remarkables.

Gibbstown.—There is little to report about in this locality. Three coal-mining leases have been granted, two of them being in full working order, and producing coal of a good quality. One or two parties are getting payable gold in a creek running into the Nevis. A grant of a special claim of ninety-three acres was made to a company, whose intention it is to divert the Kawaru River through a tunnel near the Victoria Bridge, about half a mile long and 22ft. square, thus laying bare about four miles of the river-bed. The undertaking is still in embryo.

Cardrona.—A small rush has taken place to a piece of land at the back of the township. Several parties are on good gold. There are about seventy men on the ground, but until water, which is very scarce, is brought in, nothing definite will be known. One party is carting the wash-dirt to the creek, and obtaining from 15dw. to 1oz. per man per day. If this run proves to be well defined there is room for several hundred men.

QUARTZ.

White's Reef, at the Obelisk Range, is still looking well, and shows more indications of permanency than when I reported last year. About twenty men and boys are employed upon this mine during the working season, and a five-head stamper battery is engaged reducing the stone. During the year ended the 31st March, 1888, about 820 tons of stone were put through, with a result of 829oz. 17dw. of retorted gold, worth £3 17s. 10d. per oz. Out of this the company has effected several necessary improvements, paid two dividends amounting to £625, and carried a considerable amount forward as a reserve fund. There are two other claims working here, one of which is now engaged taking out stone to be crushed at White's Reef battery. Three previous crushings from this mine have averaged over 3oz. to the ton. The Obelisk Range seems to be a large network of quartz-reefs, and, to quote the words of one old miner there, "A rabbit cannot burrow without disclosing payable stone."

The New Cromwell Company, Bendigo.—This company has changed hands since my last report, having been purchased by a London syndicate. The new proprietary has been formed with a capital of £100,000, to purchase the whole of the special grants held by the New Cromwell Company, which includes most of the known lodes at Bendigo. They have initiated very extensive works, and, the utmost confidence is felt and expressed by those who know the ground in the ultimate success of these operations.

The Invincible Quartz-mining Company, head of Lake Wakatipu, is the only company at work in this part of the district. The mine had been profitably worked up to August last, when their late manager, Mr. A. Morrisby, reported that he found, after careful prospecting, that the gold-bearing quartz had run out, and advised the shareholders to wind up the company. The shareholders disagreeing with this decided to let the mine on tribute, which has since been done, the tributers taking over the mine in February last. In March they reported that they were on payable gold.

The Phoenix Company, through unforeseen difficulties, are now only working a portion of their stampers, and, consequently, with less than half their complement of men.

The Phoenix Extended Company are still driving for the reef, hoping to strike it shortly.

The Maori Point Company have let their mine on tribute. Up to date nothing payable has been struck.

The Gallant Tipperary Company have had a good season with payable results, and with every prospect of a continuance of the same.

Macetown.—Of all the numerous gold-mining companies that were called into existence on the discovery of payable quartz at Macetown, two only are now working, and of those two, one is about to be closed; the other, the Premier, has had a successful season. What is wanted here is more capital, with a proper scientific and careful expenditure of that capital. If the money spent in floating bogus companies, and squandered in prosecuting works of no earthly value, had been judiciously expended in properly prospecting and working the mine, my report of to-day, with regard to Macetown, would have been a much more cheerful one. The Sunrise Company has just now struck a good payable reef, the first crushing running more than an ounce to the ton. It is to be hoped that this may cause a reaction, and that, with careful and scientific management, Macetown may take its proper place as one of the best reefing districts in the colony.

The last three months of the year ended 31st March have been exceptionably wet and stormy throughout the whole of my district; and whilst this has materially assisted sluicing operation it has seriously interfered with the dredges upon the river. During the spring the outlook for the farmers was very promising, but the stormy weather which prevailed during the harvesting period must have reduced the yields to the average of previous years.

The number of mining applications dealt with during the year were: Clyde, Alexandra, and Roxburgh, 450; Cromwell, 410; Queenstown, 266; Arrowtown, 215: total, 1,341.

I have, &c.,

The Under-Secretary, Mines Department, Wellington.

JOHN S. HICKSON, Warden.

No. 15.

Mr. Warden WOOD to the UNDER-SECRETARY of MINES.

SIR,—

Warden's Office, Naseby, 2nd May, 1888.

I have the honour to forward statistical returns for the year ending the 31st March last for that portion of the Otago Mining District under my supervision. Mining operations remain much in the same position as last year, though there are indications of a revival in some parts.

Naseby.—Sluicing in this subdivision has been carried on longer this year than previously, in consequence of the wet weather during the late spring and summer months. The only fresh sluicing company started and floated is the Garibaldi Sluicing Company, situated on the east

side of the Rough Ridge, from which good gold was obtained some years ago, but the limited capital of the proprietors prevented the work being prosecuted with success, on account of the scarcity of water, which would only allow sluicing operations to be carried on continuously for about two months during the year. Quartz-mining is confined to the reefs at Rough Ridge, and there has been a good deal of healthy activity in that locality. One of the companies—the Great Eastern—has come into prominence by reason of its gold-production during the last few months. The Otago Central Company, after doing a lot of prospecting, has suspended operations and gone into liquidation. Doubtless the ground will be taken up again and worked successfully. The Progress Company have done a good deal of work, spent a good deal of money, and have temporarily suspended work to recruit their resources; but it is probable that a fresh start will be shortly made under fresh management. The last registered company,—the Great Eastern,—with a capital of £2,000, in 2,000 shares of £1 each, has been very successful, and a good deal of energy has been displayed by the management during the last year. A considerable sum of money has been expended in developing and working the property. Since the end of October last the claim has produced 820oz. of gold, in value over £3,000; heavy liabilities which had accrued were paid off, and a dividend of 2s. per share distributed, being one-third of the paid-up capital—6s. The total quantity of quartz crushed was 400 tons, being an average of over 2oz. per ton. The crushing in March yielded 295oz. of gold, the produce of 100 tons of stone, or nearly 3oz. to the ton, whilst the April crushing returned 150oz. from the same quantity of ore. The company are now working in the 250ft. level, and have commenced sinking a shaft below that level. I understand there are four or five different lodes in the claim, but the one the company are now working on is heavily impregnated with iron pyrites and zinc-blende, both of which minerals are highly auriferous. In some parts of the lode the percentage of pyrites to quartz is nearly 40 per cent., and it is believed that, as greater depths are attained, this will increase in quantity with the reef. Large quantities of ore of various grades exist in the claim which, however, the company find themselves unable to reduce, owing to the lack of efficient crushing-power. Whilst on this subject, it may be mentioned that the properties of the Progress and Great Eastern Companies, with some adjoining claims, have been placed on the London market, with every prospect of their being successfully floated; these properties were exhaustively inspected by Professor Black, of the Otago University, and other experts, and their reports were highly satisfactory, but showed that large quantities of gold were being lost,—the Great Eastern losing nearly 2oz. for every ounce obtained by the battery process,—and they therefore recommend the erection of a complete chlorination-plant for extracting the gold from the refractory metals. This will be undertaken in the event of the ventures being successfully launched on the London market. I am fully of opinion that a chlorination-plant at Rough Ridge will be the cause of establishing a large quartz-mining centre in the locality, as “The Ridge” is a perfect network of reefs, leaders, and lodes, and large quantities of other minerals accompany the gold.

Hamilton.—This subdivision is entirely sluicing, and I have nothing fresh to report, except that an application has been lodged by a company from Dunedin for a special claim of 150 acres to work the tailings which have been accumulating for the last twenty-four years, and I understand that the company's prospects have been very satisfactory.

Serpentine.—There is nothing fresh to report in this subdivision. The Golden Gully Company let their first contract for driving 300ft. in the company's tunnel in February, 1887, and, during the course of this 300ft., indications proved conclusively that the reef extends down the gully to within 100ft. of the tunnel mouth, as well-defined walls, enclosing decomposed quartz, &c., were cut by the tunnel at about 150ft. from mouth, and large quantities of water met with. An air-shaft was then sunk 260ft. from mouth of the tunnel, the depth of which is 80ft. from surface to top of drive. As driving proceeds, air is conveyed from this shaft to the face by means of pipes and a water-blast. The second section of 300ft. was let in August last, and was finished during Christmas week, the reef having, during the process, hardened and become of a well-defined nature, which proved later on to carry fair prospects of gold. The driving of the tunnel was not, however, stopped, and another section of 300ft. was let in January and completed last month. Several shots of gold were met with whilst driving the last section, and as the tunnel is some 280ft. from the surface it is estimated that there are at least 1,200 to 1,500 tons of payable stone now ready to be stoped out. The final section of 300ft. of tunnel-driving has just been let, and when completed will bring the tunnel under Turnbull's shaft, whence 4½oz. per ton was obtained. If this rich stone lives to the depth of the tunnel, as it is confidently expected to do, the prospects of the company will be very bright indeed. A small test crushing of seven or eight tons is now being milled at Rough Ridge battery, and arrangements have been made to have a fuller test crushing of 200 tons put through the battery in Long Valley at once. Another reef which is thought to be payably auriferous has been discovered at higher level; a small tunnel is being driven thereon now, the stone obtained from which will be also tested in the 200 tons above referred to. It is considered practicable, if this upper reef proves payable, to work it from the level of the main tunnel by means of a branch drive. Should the above crushings be satisfactory it is the intention of the company to have improved machinery erected on their claim below the mouth of the main tunnel.

Hyde Subdivision.—There is nothing new in the immediate neighbourhood of the village of that name, but the field would appear to offer excellent chances of remuneration to the plucky and intelligent prospector. There were some splendid patches found in the neighbourhood of the Fillyburn: A man named Ulverstone, or better known in the locality as “Wheelbarrow Jack,” getting about 2,000oz. of gold in two years, when the gold ran out; doubtless there are other patches equally good if properly searched for. The principal discovery, and one I consider of great value, was made by McAuley, McNally and Company in June last at the Mareburn and known as the Mareburn reef. It consists of a lode of gold-bearing quartz, which has been traced for nearly two miles on the surface, and in the Prospectors' claim it outcrops for 1,500ft. The reef has been prospected at intervals with good results, and two trial crushings yielded nearly 2oz. per ton, and is

said to be 5ft. or 6ft. wide, and auriferous from wall to wall. It is estimated that there is nearly three years' crushing in sight, the yield based on a low calculation at 1oz. per ton. The trial-crushings, however, show a much better result. I understand that steps are being taken to float it into a company, with every prospect of success.

Macrae's.—This place maintains a small European population, but seems to be a favourite locality for the Chinese. I do not hear of any new finds.

Kyeburn.—This field, though limited in extent, keeps up a steady yield of gold. I do not know any locality more likely for reefing, but, strange to say, no reef has yet been discovered. I cannot help thinking it is for want of intelligent prospecting.

Blackstone Hill.—A few parties of miners have done, and are doing, fairly well on the new discovery reported by me last year. A greater number might be employed but for the limited supply of water.

St. Bathans.—The new tailings-channel, to work the St. Bathans's Basin at a lower level, has made good progress during the year. The Government subsidy of £1,000 has been exhausted, and a great deal still remains to be done; but the most difficult part, that in which heavy beach-wash has to be dealt with, is nearly past. None of the ground already passed through has, until recently, carried gold, but those interested are now sanguine of obtaining enough to defray the cost of future operations. This channel has been five years under construction, and they say it will take about three years more to finish it. It has now cost, including the Government subsidy, nearly £5,000. During the year the main road—St. Bathans's to Clyde—has been shifted off the line of the channel and carried over by a substantial bridge, at a cost of about £300, the County Council paying half. Most of the holdings in the Basin are working to the lowest depth attainable until the new channel is completed. Of those that are working, only that of Mr. J. Ewing is said to be giving good results, and these are obtained by elevating. On the Muddy Creek water-shed the companies and individual miners, who have obtained a fall for their ground through the construction of the Muddy Creek channel, have, for the most part, been profitably employed. One company, the United M. and E., after being non-dividend paying for five years, has, during the past year, paid off nearly £2,000 indebtedness, and declared dividends amounting to £5 per share. The Scandinavian Race Company is expected to do equally well. Its prospects look so bright that, although it has paid no dividend for an equally long period with the United M. and E. Company, and is still considerably in debt, shares have, during the past year, risen from £10 to £21. The St. Bathans's Water-race Company, whose ground is situate contiguous to that of the Scandinavian Company, are said to be on better ground. This company has never paid a dividend, and has been unlucky during its existence of fourteen years. A number of private parties, purchasing water from the above-mentioned companies, are said to be doing fairly well since the completion of the channel. Those interested have not yet availed themselves of the land purchased in Block VII., Blackstone, by the Government for a main tail-race, which, I think, is due to all the available water for the time being profitably used elsewhere.

Cambrian's and Vinegar Hill.—There is nothing new in this part of the field. A considerable number of miners are still at work, but most obtain but poor returns, the only exception being a few of the claims on Vinegar Flat and Ewing's, at Vinegar Hill.

Tinker's.—At this place, the richest without doubt for hydraulic mining in New Zealand, the returns for the past year have not been so good. Two of the companies have been trying the granite wash, a great deposit of older gravel, resting at a high angle against the side of the mountain between it and the terrace and gully workings, from which gold has hitherto been obtained, as also forming what, in some of the workings, has been called "bottom." Gold was found in this deposit about four years ago by a miner named Fogarty, who obtained a lease of the ground. Special claims have been taken up on either side of Fogarty's lease by Symes and Company and the Mountain Race Company respectively. The former obtained 230oz. and the other over 400oz., the smaller yield only paying expenses, and the larger giving about £500 profit. Fogarty's lease has not been worked, but from tests applied is expected to give much better results. It has been purchased recently by Mr. John Ewing, of St. Bathans's, who is constructing a water-race from Thompson's Creek at an altitude which will give much better pressure than has yet been obtained at Tinker's. This will effect a great saving in labour. The Undaunted Company during the year obtained about 800oz. of gold, and Read and Huddleston's party 500oz., which yields gave profits of £1,600 and £1,100 respectively. The Matakanui Company are constructing a tail-race, and are just reaching the good run of gold which the Undaunted Company have been working for years past, and which has yielded as high as 3,000oz. per acre. The Matakanui Company are possessed of the best water-right in the Tinker's District, and have gone to great expense to bring it from Drybread, where they employed it for some eighteen years, to Tinker's; they hold a special claim of twenty-five acres at the latter place. Besides the companies enumerated a number of small parties and fossickers find profitable employment at Tinker's and Drybread, three miles away. Wages at Tinker's have this year been reduced to 8s. per day of nine hours. The companies employ a considerable number of men.

Ophir or Black's.—During the past year a company calling itself Green's Reef and Seam Workings Company has been floated to work the holding of a man named Green, who, some three years ago, found gold in an extensive seam of decomposed schist situate on a spur above and about a quarter of a mile from the township. This seam has, in places, been found to be very rich, and Green, with but poor appliances, obtained a considerable amount of gold. The company are procuring machinery and bringing water on to the ground, and they expect, within a few months, to begin getting gold. A large area on the spurs above Ophir and of the flat on which it stands has in former years been worked. Some of the ground was very rich, but on the spurs water in sufficient quantities could not be got, and on the flat there is no fall. All the ground worked in the latter was paddocked and box-sluiced. The gold was coarse, and only here and there would the ground pay under the system that had to be adopted. It has long been considered that if water at

a sufficient elevation and quantity could be obtained, and some speedier process found, large areas in the vicinity, both of old and new ground, might be worked with profit. Some Tinker's miners have recently taken levels, and state that the Manuherikia River can, by a race not more than thirty miles in length, be brought at a sufficient elevation. They have applied for a water-race and special claim of sixty acres. The new system of hydraulic elevating is that by which they intend to work the flat, no part of which is very deep.

Black's No. 3.—Three special claims have been applied for within the last six months upon the deep lead which I have already alluded to in a previous report. About twenty years ago several claims were in operation upon this lead, and a very large quantity of gold was taken out; but in consequence of the heaviness of the ground and the immense cost of timber landed here the various undertakings had to be abandoned for the time. An effort was again made about six years ago by a small limited liability company, with a capital of £800, and, although similar prospects were obtained, the same reasons which necessitated the abandonment of the earlier effort, together with the small capital of the company, were also the means of bringing this to a close.

In conclusion, I think the district is in a flourishing condition with a fair prospect for the coming year. In the immediate vicinity of Naseby a large number of claims have been taken up, and doing fairly well, consequent on the extension of the Mount Ida Water-race to Spec. Gully. I understand that the Great Eastern Company, at Rough Ridge, have succeeded in disposing of their property, together with the Progress Company, to a London syndicate, and that the London offer has been accepted. I attach hereto return showing the number of miners' rights, &c., issued at Naseby, also the revenue collected in the Warden's office; but I cannot include the Black's office as I find I have not the data.

RETURN of Miners' Rights, Licenses, Registrations, &c., issued during the Year ending the 31st March, 1888.

	Naseby.	Black's.
Miners' rights, at 5s. ...	768	183
Business licenses, at £3 ...	3	
Water-race licenses, at 5s. ...	171	
" " 2s. 6d. ...	218	Data not to hand.
Registrations, at 10s. ...	2	
" " 1s. ...	522	
Licensed holdings issued ...	13	
Special claims granted ...	3	
Mining privileges applied for ...	471	90

RETURN showing the Revenue collected in Warden's Department.

	£	s.	d.
Warden's Department (including Black's) ...	1,386	18	1
Rent received under deferred payment, Naseby ...	947	9	0
" " agricultural leases, Naseby ...	187	1	1
" " mineral leases, Naseby ...	21	14	6
Total ...	£2,543	2	8

I have, &c.,

J. NUGENT WOOD, Warden.

The Under-Secretary, Mines Department, Wellington.

No. 16.

Mr. Warden ROBINSON to the UNDER-SECRETARY of MINES.

SIR,—

Oamaru, 31st March, 1888.

I have the honour to report as follows upon the Maerewhenua Division of the Otago gold-fields for the past year:—

There have been no new discoveries of any consequence within the district since I last reported. Mining in this district is, and has been, for a long time a regular industry pursued in the same way, and mainly by the same persons, from year to year. As one claim gets worked out, other ground is taken up, and the work goes on with but little variation. There is always a little prospecting; but, as a rule, only within the limits of the ground commanded by the existing water-races. The ground is mostly heavy sluicing-ground, and takes a good deal of water to make it pay. The same people having remained so long in the district seems to show that a living is to be made; but no brilliant successes are to be recorded. Still, there are men on the ground who have, undoubtedly, saved money. Living has, on the whole, been cheap, and most of the miners possess cattle, besides having their own little homes and gardens. Recently several have availed themselves of the privilege of taking up small areas, under section 60 of the Mining Act, for cultivation, and for dairy purposes. I have not thought it advisable to grant any such areas of more than twenty-five acres in extent.

As I have had occasion to remark in a former report, the number of miners must always be limited by the amount of water available for sluicing. There has been some talk recently of a

scheme for increasing the supply of water by bringing in a new race, the proposed source of supply being the Otekaike River; and, apparently, it is expected that Government will give some substantial assistance to the work. Nothing in reference to this scheme has been officially brought under my notice, and, so far as I know, the precise course of the proposed race has not been decided on. The race, if brought in, would of course only be available for the west side of the Maerewhenua River, and would in no way affect the workings on the Livingstone side. Before this scheme can assume a practical form there will be a good deal to be arranged, not only as to ways and means, but as to possible interference with existing rights. But doubtless, before the Government allows itself to be committed to anything, proper inquiries will be made. I enclose the usual statistical returns.

I have, &c.,

The Under-Secretary, Mines Department, Wellington.

H. W. ROBINSON, Warden.

No. 17.

Mr. Warden CAREW to the UNDER-SECRETARY of MINES.

SIR,—

Warden's Office, Dunedin, 26th April, 1888.

I have the honour to forward herewith the usual annual returns for the Hindon Sub-division of the Otago Mining District for the year ending the 31st March, 1888. In doing so I have to remark that, although the year has been productive of but little change in the district, there has been, if anything, greater activity in mining matters than during the previous year.

Alluvial mining is still followed by a certain number as their exclusive occupation, while, by others who know the ground, it is resorted to when other employment fails, and doubtless this will continue to be the case for years to come.

In quartz-mining there is a prospect of renewed enterprise, several licensed holdings of land previously held under gold-mining leases having been recently taken up. It is, I believe, the intention of the licensees to form a strong company for the purpose of working ground which is known to contain quartz-lodes of considerable extent, though of comparatively poor quality, but which is believed to be sufficiently rich to pay when worked economically and by the most approved appliances. The expense of bringing in water for motive-power for machinery being too great, it is intended to use steam, a fair lignite for fuel being procurable in the district. Lyders and party have crushed at their battery during the year the following quantities of stone: Lyders and Hilgendorf, 350 tons, yielding 6dwt. per ton; P. A. Lyders, 130 tons, yielding 5dwt. per ton; A. T. Kenney, 70 tons, yielding 4dwt. per ton; A. S. F. Parker, 30 tons, yielding 7dwt. per ton.

Four applications for licenses to prospect for antimony were made during the year, two of which have been granted, one in the Silver Peak Survey District, the other in Mount Hyde Survey District. In connection with that in the Silver Peak District the applicant has already made application for a mineral license of over one hundred acres for antimony-mining purposes, and has been for some time endeavouring to form a company for working the mine. He appears to be sanguine of success. The provisions of section 60 of "The Mining Act, 1886," and regulations thereunder have been availed of by two applicants on the mining reserve in Block I., Silver Peak District: one in the Dunedin and East Taieri District; and by two in Block V., Mount Hyde District. The occupiers of deferred-payment and perpetual-lease land in the district have suffered, in common with many others, in consequence of the unfavourable season and the low prices for all products of the soil, and in some instances, probably, through having to pay high prices for the land. The population of the district is estimated at between three and four hundred.

I have, &c.,

The Under-Secretary, Mines Department, Wellington.

E. H. CAREW, Warden.

No. 18.

Mr. Warden McCULLOCH, to the UNDER-SECRETARY of MINES.

SIR,—

Resident Magistrate's Office, Invercargill, 19th April, 1888.

I have the honour to forward herewith the usual annual statistical returns for the Orepuki, Roundhill, and Longwood Districts for the past year.

All through these districts there has been, during that period, no change of sufficient importance to call for particular notice. Although there is plenty of ground said to be auriferous in all three of the sub-districts above named, a limited and expensive water supply in but few hands, let at a heavy rental, has an important effect in checking enterprise. Races are in course of construction, by which the want of water will be in some degree relieved at Roundhill, but some time must elapse before the water can be brought in.

On the Ourawera Flat, and in its immediate vicinity, is a considerable area of payable ground which cannot be worked at present for want of fall; this, in the opinion of practical miners, can only be obtained by taking up a sludge-channel from the beach at Wakapata to the present workings at Roundhill. During the past year a special claim of thirty acres has been taken up by the Roundhill Sludge and Drainage Company for the purpose of working the sludge that has been accumulating for many years on the upper portion of the Ourawera Flat, and bringing up such a channel as I have mentioned; but the difficulties they have had to contend with have compelled them to relinquish this part of their project, and they are now moving their machinery on to their claim, about a mile higher up the flat. I may here mention that two special claims of about thirty acres each, with half-mile beach-frontages, have been taken up at Bushy Point, with the intention of working them with Wellman's dredges.

As far as I can learn there has been no great falling-off in the yield of gold during the past year at Orepuki and Roundhill. Many Europeans and Chinese miners are doubtless deriving fair

incomes from their claims. On the other hand many, those especially without an adequate water supply, are doing little or nothing. I believe 9,000oz. to be a fair approximate estimate of the yield of gold for the past year, which, with a mining population of 550 (as per return herewith), would give an average of about £62 per head.

At Longwood, on the other side of the range, there are barely twenty miners at work. As I observed in a former report, it is a matter of surprise that this district, from which rich prospects and coarse gold have been so often obtained in past years, should be still lying unproved, waiting for the enterprise and resource that sooner or later will lead to its development.

At Merivale, at the north end of the Longwood, there are still some twenty persons employed in mining, all of whom, I understand, are making good wages; and I have no doubt the number of miners here will be largely increased as soon as the harvest is over. The gold here is coarse, like that obtained at Longwood, while that at Roundhill and Orepuki, on the other side of the range, is very fine.

I have, &c.,

HENRY McCULLOCH, Warden.

The Under-Secretary, Mines Department, Wellington.

WATER-RACES.

No. 19.

Mr. J. DAND, Manager, Waimea-Kumara Water-race and Sludge-channel, to the UNDER-SECRETARY of Mines.

SIR,—

Kumara, 5th April, 1888.

I have the honour to report on the working of the Waimea-Kumara Water-races and Sludge-channel for the year ending 31st March, 1888, as follows:—

Waimea Race.—The sales of water from this race for the year amount to £1,612 11s. 3d., and the expenditure on maintenance and contingencies for the same period to £1,027 17s. 11d., leaving a credit balance of £584 13s. 4d. on the year's transactions. The average number of miners supplied with water during the year was ninety-six, and the approximate quantity of gold obtained by them was 2,960oz., of the value of £11,248. For some time past the yield of gold from several claims has only been sufficient to pay small wages after paying working-expenses; but, by continued perseverance in the working of them, the shareholders have yet hopes of being better rewarded. The race has been kept in good repair during the year.

Kumara Race.—The sales of water from this race for the year amount to £7,169 10s. 3d., and the expenditure on maintenance and contingencies to £982 11s. 7d., leaving a credit balance of £6,186 18s. 8d. Although the working of the race for the past year has been attended with favourable results, I may here mention that the prevalent dry weather experienced throughout this district during the first six months caused a scarcity of water for mining purposes to be very much felt. Both dams being empty at one time for five weeks, the sales of water were affected to a considerable extent, otherwise the profits would have been largely increased. The average number of miners supplied with water during the year was 185, and the approximate quantity of gold obtained by them was 10,550oz., of the value of £40,090. Several claims that are being worked have continued poor so far, having barely paid wages, while others have paid well from the time they were opened up. Old claims have been worked out during the year; but the demand for water is still more than equal to the supply. The race and dams are in good order.

Sludge-channel.—The channel-fees for the year amount to £1,075 6s. 7d., and the value of gold-dust obtained from the channel to £724 13s. 6d., making the total earnings £1,800 0s. 1d. The expenditure on maintenance and contingencies amounts to £4,260 12s. 4d., showing a debit balance of £2,460 12s. 3d.; the cost of working the channel for the past year being £1,696 19s. 1d. less than the year previous, and the debit balance on the year's transactions £1,234 16s. 6d. less than last. The same number of parties are using the channel as at the beginning of the year, viz., eighteen, and the same class of paving is still being used.

Tailing-site.—Several times during the year the tailing-site presented the appearance of having been filled up to such an extent that it was thought sluicing into the channel would have to be stopped; but on each occasion a fresh of sufficient magnitude occurred in the river in time to clear off the accumulated tailings that had been discharged from the channel and prevent the necessity of any stoppage taking place.

I have, &c.,

JAMES DAND,

The Under-Secretary, Mines Department, Wellington.

Manager, Water-races.

No. 20.

Mr. J. Gow, Manager, Nelson Creek Water-race, to the UNDER-SECRETARY of MINES.

SIR,—

Nelson Creek Water-race, Hatter's Terrace, 4th April, 1888.

I have the honour to forward the following report on the Nelson Creek Water-race, and the mining industry in the locality for the year ending 31st March, 1888.

Some of the claims, which have contributed a steady, though small, revenue to the race for some years past, are being gradually reduced to a field of clean washed stones and uprooted trees; and, as a matter of course, the quantity of known payable ground is rapidly getting less every year. Some of the old-race customers, however, who are comfortably settled on the field, and who may have worked-out one piece of ground, immediately try again and again till they find another that

will pay them; but the finding and opening of payable claims becomes more and more difficult and costly every year, not solely on account of there being less ground previously prospected, but because the shallow and easily-worked fancy places in the immediate neighbourhood of the rich old leads are nearly all washed away, leaving only new unprospected ground to be tried, which, as a rule, requires strong hearts, much faith, and much time to ascertain if it be of any value. So far the opening of entirely new ground creates a feeling of depressing uncertainty of favourable results. The long tail-race (tunnel and open cutting) from near Drennan's farm to Claghsey's paddock, which I referred to in my report of last year, is still in hand, but has not been under construction during much of this time. When the party had completed about 26 chains of open cutting and about 27 chains of tunnelling without finding any gold, the want of funds induced them to take a road contract of 84 chains, out of which they hoped to make enough money to enable them to complete their tunnel. Having lately successfully carried out the contract, they have resumed the tunnel work, which is now within about 600ft. of the paddock, where it is calculated to be about 23ft. below the surface, and more than deep enough to drain the ground, the drainage from which is very heavy.

The flat lowest down the creek, and which was formerly the tailing-site for Try-again Terrace, has lately been taken up in two claims, of a total area of fifty-six acres, by Edward Hailey, who purposes forming a company to work it by Perry's hydraulic system, and to get the necessary quantity of water from the Government race, which is about 360ft. above the level intended to be worked. This pressure, with a large and thoroughly good plant, should put through a great quantity of *débris*; and, as the ground in places is known to be good, there is a fair prospect of the venture turning out a success and a profitable investment.

The Brian Boru claim, referred to in my last annual report, has turned out almost a complete failure. There is just now some talk of giving it another trial. Mr. Roche's claim, in the bed of No. 3 Creek, has not, up to the present, proved an unqualified success. There are, however, some grounds for expecting better returns when the work approaches Welshman's Creek.

During the year there have always been two, and some of the time three, men constantly renewing the very bad parts of many of the bridges. Wherever renewals have been made the bridges may be considered good for the next three or four years; but much of the flume-planking will require renewing during that time. I think there are now only four bridges that may be classed as dangerous, and all possible haste is being made by the maintenance-men to renew the most important parts of these to prevent an accident. The timber in many of the tunnels is being constantly renewed, and may be considered in fairly good order. The ditching is in good order throughout the length of the race, as also all non-timbered tunnels. Trial water is still being given from time to time, in the hope of opening out more payable ground. When a payable block is found there is no certainty as to how long it will continue to pay. I therefore find it most difficult to estimate even, approximately, the amount of revenue for the year.

The Under-Secretary, Mines Department, Wellington.

I have, &c.,

J. Gow, Manager.

No. 21.

Mr. D. DOYLE, Manager, Argyle Water-race, to the UNDER-SECRETARY of MINES.

SIR,—

Charleston, 4th April, 1888.

I have the honour to forward report for the twelve months ending the 31st March, 1888, on the working of the Argyle Water-race.

The receipts have not come up to the expectations at the beginning of the financial year, owing to several causes, although the average number of days worked were an increase on last year.

On the 12th April I had to stop the water at Ballarat Creek siphon owing to one of the slip-joints blowing the packing, and the water getting behind the timber in the tunnel, bringing down the sides and slabs, which caused a delay of two days to get repaired again, as we had all the tunnel for two chains to clear out before we could get at the blow, and had to pass the whole of the *débris* up through a small man-hole in the top of the tunnel.

On the supply-races during this month extensive repairs had to be made, owing to a landslip which carried away a portion of the race and flume.

In the last week in June a break occurred in the syphon across Ballarat Creek, which carried away the whole side out of the pipe; this happened at a place where the pressure was not so heavy by 30lb. to the square inch as that on lower portion of the syphon. This took three days to repair, owing to its being on a high scaffolding and very hard to get at. The scaffolding being at the time frozen over made it dangerous to work on.

During this month (July) one of the tunnels on the new portion of the race caved in, and caused the water to overflow and carry away a portion of race, which had to be flumed, causing a stoppage of three days while repairing it. I may say along this portion of the race, whenever a break happens, the whole trouble is getting the timber, as it has to be carried a distance of about three-quarters of a mile, before reaching the race, along a very steep and difficult track.

During September another break occurred in the Ballarat Creek syphon, which necessitated the stoppage of the water in the race for a few days in order to effect repairs. These breaks, although not extensive, together with bad weather, which prevents the miners from working their claims, have, to a certain extent, reduced the revenue, besides increasing the expenditure.

The average time worked by men taking water from Aryle Water-race during the year ending the 31st March, 1888, was 97.29 days per man—slightly over last year.

APPENDICES TO WARDENS' REPORTS.

No. 1.

STATEMENT showing the REVENUE of the GOLDFIELDS collected in the several DISTRICTS, and the GOLD DUTY of the COLONY of NEW ZEALAND, for the Period from the 1st January to the 31st December, 1887.

District.	Miners' Rights.	Business Licenses.	Water-races, Sluices, &c.	Gold-mining Leases, Rents, and Royalties.	Registration.	Fees and Fines, Wardens' Courts.	Miscellaneous.	Totals.
AUCKLAND.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Coromandel ..	78 0 0	..	..	..	288 0 0	0 9 0	11 14 6	378 3 6
Te Aroha ..	45 15 0	10 0 0	0 5 0	1,218 3 9	7 17 0	1 10 0	17 10 0	1,301 0 9
Thames ..	478 10 0	..	72 0 0	1,227 6 5	11 11 6	20 15 0	111 8 6	1,921 11 5
Totals ..	602 5 0	10 0 0	72 5 0	2,445 10 2	307 8 6	22 14 0	140 13 0	3,600 15 8
NELSON.								
Owen's ..	12 5 0	44 2 0	1 7 6	70 15 0	0 10 0	1 0 0	168 2 0	298 1 6
Collingwood ..	46 10 0	9 0 0	23 10 0	161 12 0	9 8 0	2 17 0	0 17 0	253 14 0
Westport ..	87 10 0	19 10 0	18 7 6	418 12 6	8 14 0	2 19 0	90 7 6	646 0 6
Charleston ..	70 10 0	6 0 0	34 2 6	107 12 3	14 2 0	6 18 0	8 16 0	248 0 9
Ahaura ..	145 5 0	16 10 0	37 2 6	46 10 0	22 9 0	14 9 0	4 14 0	286 19 6
Reefton ..	167 15 0	370 10 0	27 12 6	1,904 15 10	20 7 0	6 13 0	696 12 9	3,194 6 1
Wangapeka ..	16 10 0	9 0 0	1 10 0	2 17 6	0 16 0	..	4 2 6	34 16 0
Lyell ..	29 5 0	..	4 0 0	158 8 4	0 12 0	3 0 0	6 3 0	201 8 4
Notown ..	41 0 0	1 10 0	14 5 0	5 0 0	2 15 0	0 14 0	0 1 0	65 5 0
Murchison ..	37 15 0	..	11 17 6	..	0 16 0	0 8 0	2 15 0	53 11 6
Totals ..	654 5 0	476 2 0	173 15 0	2,876 3 5	80 9 0	38 18 0	982 10 9	5,282 3 2
WELLINGTON.								
Wellington ..	..	..	..	..	..	..	..	..
MARLBOROUGH.								
Havelock ..	34 0 0	3 0 0	5 15 0	29 0 0	3 5 0	1 8 0	18 18 6	95 6 6
CANTERBURY.								
Christchurch ..	..	..	..	53 6 8	..	..	4 0 0	57 6 8
WESTLAND.								
Hokitika and Kani- eri ..	113 15 0	18 0 0	26 15 0	15 0 0	10 4 0	9 4 0	13 9 6	206 7 6
Greymouth ..	252 0 0	17 7 6	52 14 6	118 9 6	15 19 0	2 17 0	0 12 0	459 19 6
Ross ..	55 5 0	3 0 0	16 15 0	310 8 6	3 4 0	4 18 0	93 2 7	486 13 1
Stafford ..	55 10 0	..	17 2 0	50 19 0	8 10 0	2 12 0	68 9 0	203 2 0
Greenstone ..	43 10 0	..	6 12 6	18 12 6	5 8 0	9 6 0	0 19 0	84 8 0
Kumara ..	185 15 0	16 10 0	7 2 6	62 5 0	20 9 0	8 9 0	46 7 6	346 18 0
Jackson's Bay ..	6 5 0	..	0 2 6	..	0 5 0	0 10 0	..	7 2 6
Goldsborough ..	50 15 0	..	33 5 0	..	9 15 0	4 9 0	8 7 0	106 11 0
Okarito ..	21 5 0	7 10 0	4 5 0	..	1 13 0	..	1 1 0	35 14 0
Totals ..	784 0 0	62 7 6	164 14 0	575 14 6	75 7 0	42 5 0	232 7 7	1,936 15 7
OTAGO.								
Tapanui ..	5 0 0	..	0 5 0	..	0 2 0	..	..	5 7 0
Hindon ..	34 0 0	3 0 0	1 2 6	57 1 0	1 0 0	0 10 0	11 7 10	108 1 4
Naseby and Black's ..	232 7 0	9 0 0	82 7 6	748 12 7	23 17 0	21 12 6	70 10 6	1,188 7 1
St. Bathans ..	59 10 0	..	14 12 6	76 5 0	7 9 0	4 5 0	6 6 6	168 8 0
Roxburgh ..	71 15 0	..	13 2 6	39 2 0	6 9 0	4 9 0	60 4 0	195 1 6
Alexandra ..	32 10 0	..	10 7 6	37 0 0	4 1 0	3 9 0	2 9 0	89 16 6
Clyde ..	43 10 0	12 0 0	10 17 6	16 10 0	2 11 0	3 3 6	96 6 6	184 18 6
Pembroke ..	4 15 0	1 10 0	..	..	..	4 6 0	..	10 11 0
Cromwell ..	145 5 0	30 0 0	32 17 6	186 12 6	16 1 0	29 5 6	49 16 0	489 17 6
Queenstown ..	118 17 0	18 0 0	27 0 0	796 7 6	10 4 0	11 5 0	134 12 6	1,116 6 0
Arrowtown ..	82 0 0	3 0 0	22 0 0	207 4 5	7 19 0	3 15 6	51 5 6	377 4 5
Lawrence ..	238 10 0	3 0 0	32 17 6	188 0 0	21 1 0	13 12 0	1 2 0	498 2 6
Switzer's ..	93 0 0	6 0 0	18 12 6	13 6 8	8 3 0	16 18 0	8 11 0	164 11 2
Orepuki and Long- wood ..	150 0 0	19 10 0	24 15 0	15 4 0	11 8 0	8 6 0	3 1 0	232 4 0
Totals ..	1,310 19 0	105 0 0	290 17 6	2,381 5 8	120 5 0	124 17 0	495 12 4	4,828 16 6
Grand Totals ..	3,385 9 0	656 9 6	707 6 6	8,361 0 5	586 14 6	230 2 0	1,874 2 2	15,801 4 1

Gold duty received during the year in the under-mentioned provincial districts:—

Auckland ..	£ s. d.	Westland ..	£ s. d.
Wellington ..	3,149 9 5	Otago ..	5,752 12 1
Nelson ..	0 6 0	Canterbury ..	7,034 2 8
Marlborough ..	3,718 11 7		0 17 6
	89 11 8		

T. H. HAMER,
Accountant,

No. 2.

STATEMENT showing the REVENUE of the GOLDFIELDS collected in the several DISTRICTS, and the GOLD DUTY of the COLONY of NEW ZEALAND, for the Period from 1st January to 31st March, 1888.

District.	Miners' Rights.	Business Licenses.	Water-races, Sluices, &c.	Gold-mining Leases, Rents, and Royalties.	Registration.	Fees and Fines, Wardens' Courts.	Miscellaneous.	Totals.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
AUCKLAND.								
Coromandel ..	24 10 0	..	..	..	..	1 6 0	..	25 16 0
Te Aroha ..	13 0 0	13 0 0	0 5 0	236 13 9	4 19 6	4 4 0	2 11 3	334 13 6
Thames..	126 5 0	..	24 0 0	731 13 6	7 18 0	2 5 0	405 16 11	1,297 18 5
Totals ..	163 15 0	13 0 0	24 5 0	1,028 7 3	12 17 6	7 15 0	408 8 2	1,658 7 11
NELSON.								
Motueka ..	2 5 0	..	..	..	..	..	..	2 5 0
Collingwood ..	21 0 0	..	4 5 0	27 9 0	4 12 0	1 12 0	1 6 0	60 4 0
Westport ..	35 0 0	4 10 0	3 17 6	161 2 3	2 1 0	1 0 0	153 13 0	361 3 9
Charleston ..	21 0 0	..	5 0 0	32 12 0	5 9 0	2 14 0	2 5 0	69 0 0
Ahaura ..	43 15 0	..	8 5 0	67 0 0	6 13 0	1 8 0	0 12 0	127 13 0
Reefton ..	28 15 0	66 0 0	4 10 0	238 10 0	4 1 0	0 10 0	56 1 0	458 7 0
Wangapeka ..	3 15 0	..	0 5 0	..	2 2 0	..	6 5 0	12 7 0
Lyell ..	6 1 0	..	..	32 0 0	0 2 0	..	..	38 3 0
Murchison ..	39 0 0	..	3 5 0	..	0 11 0	..	1 0 0	43 16 0
Notown ..	14 5 0	..	2 10 0	10 0 0	1 2 0	..	..	27 17 0
Dunganville ..	..	..	..	..	..	..	..	..
Owen's ..	3 1 0	3 0 0	0 7 6	..	0 1 0	..	..	6 9 6
Totals ..	217 17 0	73 10 0	32 5 0	628 13 3	26 14 0	7 4 0	221 2 0	1,207 5 3
MARLBOROUGH.								
Havelock ..	9 15 0	3 0 0	1 12 6	2 10 0	2 4 0	1 12 0	0 9 0	21 2 6
WELLINGTON.								
Wellington ..	..	..	..	..	..	..	5 0 0	5 0 0
CANTERBURY.								
Christchurch ..	..	..	..	0 10 0	..	..	2 0 0	2 10 0
WESTLAND.								
Hokitika and Kaniere	53 0 0	9 0 0	1 12 6	..	1 19 0	1 4 0	0 8 0	67 3 6
Greymouth ..	80 10 0	3 0 0	14 2 6	64 13 0	7 1 0	3 7 0	0 9 0	173 2 6
Ross ..	14 5 0	..	3 10 0	133 15 0	0 15 0	2 1 0	42 11 6	196 17 6
Stafford ..	27 10 0	..	4 5 0	..	2 6 0	..	33 9 0	67 10 0
Okarito ..	7 10 0	1 10 0	1 0 0	..	0 12 0	..	0 6 0	10 18 0
Greenstone ..	12 0 0	..	1 7 6	5 11 3	1 5 0	2 2 0	..	22 5 9
Kumara ..	52 10 0	6 0 0	0 17 6	93 16 3	3 15 0	1 12 0	..	158 10 9
Goldsborough ..	14 15 0	..	2 12 6	..	2 16 0	1 2 0	0 17 0	22 2 6
Jackson's Bay ..	..	..	..	..	..	..	..	..
Totals ..	262 0 0	19 10 0	29 7 6	297 15 6	20 9 0	11 8 0	78 0 6	718 10 6
OTAGO.								
Takanui ..	0 15 0	..	..	..	..	0 15 0	0 9 0	1 19 0
Hindon ..	10 15 0	3 0 0	0 5 0	4 17 6	0 6 0	..	11 12 0	30 15 6
Naseby and Black's	65 5 0	3 0 0	13 5 0	236 18 9	7 18 0	3 18 0	0 10 0	330 14 9
St. Bathans	16 10 0	..	2 2 6	30 0 0	1 16 0	3 16 0	0 16 0	55 0 6
Alexandra ..	14 15 0	..	1 17 6	42 4 0	1 8 0	0 17 0	0 6 0	61 7 6
Clyde ..	4 0 0	..	0 12 6	51 5 0	0 15 0	2 6 6	15 9 8	74 8 8
Roxburgh ..	16 15 0	..	2 2 6	44 16 0	2 0 0	0 16 0	44 5 0	110 14 6
Cromwell ..	39 0 0	1 10 0	6 5 0	52 0 0	5 6 0	1 6 6	43 16 0	149 3 6
Queenstown ..	26 5 0	4 10 0	6 0 0	324 9 5	3 13 0	2 4 0	50 9 3	417 10 8
Arrowtown ..	18 5 0	..	3 15 0	135 1 3	2 11 0	1 15 0	8 7 0	169 14 3
Lawrence ..	51 0 0	..	4 12 6	53 2 6	3 10 0	3 16 0	81 0 0	197 1 0
Switzer's ..	30 0 0	3 0 0	4 15 0	12 10 0	3 17 0	7 7 0	0 11 0	62 0 0
Orepuki ..	41 7 0	4 10 0	7 12 6	31 2 0	6 6 0	4 5 6	16 11 0	111 14 0
Pembroke ..	12 15 0	1 10 0	..	..	0 4 0	0 2 0	..	14 11 0
Totals ..	347 7 0	21 0 0	53 5 0	1,018 6 5	39 10 0	33 4 6	274 1 11	1,786 14 10
Grand Totals ..	1,000 14 0	130 0 0	140 15 0	2,976 2 5	101 14 6	61 3 6	989 1 7	5,399 11 0

Gold duty received during the quarter in the under-mentioned provincial districts:—

	£ s. d.		£ s. d.
Auckland ..	1,109 12 0	Marlborough ..	29 16 11
Wellington ..	..	Westland ..	2,375 5 0
Nelson ..	1,025 16 10	Otago ..	2,283 16 2

T. H. HAMER,
Accountant.

No. 3.

COMPARATIVE RETURN of REVENUE derived from the GOLDFIELDS in the several DISTRICTS of NEW ZEALAND during the Years 1886 and 1887, showing INCREASE or DECREASE under each Head of Revenue.

District.	Miners' Rights.	Business Licenses.	Water-races, Sluices, &c.	Gold-mining Leases, Rents, and Royalties.	Registration.	Fees and Fines, Wardens' Courts.	Miscellaneous.	Gold Duty.	Totals.
AUCKLAND—	£	£	£	£	£	£	£	£	£
Year 1886	330	5	94	3,547	79	22	240	3,227	7,544
Year 1887	602	10	72	2,446	307	23	141	3,149	6,750
Increase	272	5	..	..	228	1	..	..	..
Decrease .. ..	..	..	22	1,101	..	..	99	78	794
WELLINGTON—									
Year 1886 .. ..	..	..	..	..	..	..	..	5	5
Year 1887 .. ..	..	..	..	..	..	..	..	..	..
Increase .. ..	..	..	..	..	..	..	..	..	..
Decrease .. ..	..	..	..	..	..	..	..	5	5
NELSON—									
Year 1886	1,502	279	99	2,423	97	58	1,195	408	6,061
Year 1887	654	476	174	2,876	80	39	983	3,719	9,001
Increase .. ..	..	197	75	453	..	..	..	3,311	2,940
Decrease	848	..	..	..	17	19	212	..	..
MARLBOROUGH—									
Year 1886	64	5	4	17	6	1	..	40	137
Year 1887	34	3	6	29	3	1	19	90	185
Increase .. ..	..	..	2	12	..	..	19	50	48
Decrease	30	2	..	2	3	..	..	..	..
CANTERBURY—									
Year 1886 .. ..	..	..	..	..	..	..	..	..	..
Year 1887 .. ..	..	..	..	53	..	..	4	1	58
Increase .. ..	..	..	..	53	..	..	4	1	58
Decrease .. ..	..	..	..	..	..	..	..	..	..
WESTLAND—									
Year 1886	1,676	96	94	519	76	61	151	11,118	13,791
Year 1887	784	62	165	576	75	43	232	5,753	7,690
Increase .. ..	..	..	71	57	..	..	81	..	..
Decrease	892	34	..	..	1	18	..	5,365	6,101
OTAGO—									
Year 1886	2,529	113	173	1,931	72	103	435	7,910	13,266
Year 1887	1,311	105	291	2,381	120	125	496	7,034	11,863
Increase .. ..	..	..	118	450	48	22	61	..	..
Decrease	1,218	8	..	..	..	..	..	876	1,403
Total Increase .. ..	..	153	244	..	255	..	..	..	..
Total Decrease	2,716	..	..	76	..	14	146	2,962	5,257

T. H. HAMER,
Accountant.

No. 4.

COMPARATIVE RETURN of the TOTAL AMOUNTS of GOLDFIELDS REVENUE (exclusive of Gold Duty) collected in the several Districts during the Years 1886 and 1887, and the Quarters ending 31st March, 1887 and 1888 respectively, showing the INCREASE or DECREASE in respect of each District.

District.	Years 1886 and 1887.				Quarters ending 31st March, 1887, and 31st March, 1888.			
	1886.	1887.	Increase.	Decrease.	1887.	1888.	Increase.	Decrease.
AUCKLAND.								
Coromandel ..	£ 263	£ 378	£ 115	£ ..	£ 35	£ 26	£ ..	£ 9
Te Aroha ..	1,126	1,301	175	..	200	335	135	..
Thames ..	2,929	1,922	..	1,007	220	1,298	1,078	..
NELSON.								
Motueka ..	..	..	..	..	..	2	2	..
Owen's ..	..	298	298	..	..	6	6	..
Collingwood ..	168	254	86	..	40	60	20	..
Westport ..	1,137	646	..	491	303	361	58	..
Charleston ..	..	248	248	..	..	69	69	..
Ahaura ..	604	287	..	317	90	128	38	..
Reefton ..	2,878	3,194	316	..	853	458	..	395
Wangapeka ..	13	35	22	..	63	12	..	51
Dunganville ..	142	..	..	142	..	..	..	..
Lyell ..	582	201	..	381	238	38	..	200
Notown ..	130	65	..	65	32	28	..	4
Murchison ..	..	54	54	..	..	44	44	..
MARLBOROUGH.								
Havelock ..	97	95	..	2	20	21	1	..
WESTLAND.								
Hokitika ..	207	206	..	246	54	67	..	43
Kanieri ..	245	..	..	..	56	..	..	..
Greymouth ..	605	460	..	145	143	173	30	..
Ross ..	500	487	..	13	60	197	137	..
Stafford ..	197	203	6	..	35	67	32	..
Okarito ..	..	36	36	..	..	11	11	..
Greenstone ..	40	84	44	..	32	22	..	10
Kumara ..	535	347	..	188	110	159	49	..
Jackson's Bay ..	26	7	..	19	3	..	..	3
Goldsborough ..	174	107	..	67	37	22	..	15
OTAGO.								
Hindon ..	85	108	23	..	22	31	9	..
Naseby and Black's ..	1,775	1,188	..	587	430	331	..	99
St. Bathans ..	260	168	..	92	79	55	..	24
Alexandra ..	215	90	..	125	24	61	37	..
Clyde ..	185	185	..	..	36	74	38	..
Roxburgh ..	179	195	16	..	19	111	92	..
Cromwell ..	574	490	..	84	94	149	55	..
Arrowtown ..	..	377	377	..	..	170	170	..
Queenstown ..	1,076	1,116	40	..	174	418	244	..
Pembroke ..	..	11	11	..	..	15	15	..
Lawrence ..	724	498	..	226	83	197	114	..
Switzer's ..	51	165	114	..	382	62	..	320
Tapanui ..	..	5	5	..	..	..	2	..
Orepuki ..	232	232	..	..	34	112	78	..
WELLINGTON.								
Wellington ..	..	..	..	..	..	5	5	..
CANTERBURY.								
Christchurch ..	..	57	57	..	..	2	2	..
Totals ..	17,954	15,800	2,043	4,197	4,001	5,399	2,571	1,173
Total decrease ..	..	..	..	2,154	..	..	1,173	..
Net increase ..	..	..	..	..	..	..	1,398	..

T. H. HAMER,
Accountant.

No. 5.

SUMMARY of the QUANTITY and VALUE of GOLD ENTERED for DUTY for EXPORTATION from NEW ZEALAND, from 1st April, 1857, to 31st December, 1887.

Product of the Goldfields in the District of	Entered for Duty at the Port of	During the Quarter ended 31st December, 1887.		Entered for Exportation to the 30th September, 1887.		Total entered for Exporta- tion from New Zealand to the 31st December, 1887.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Auckland	Auckland	Oz. 7,657	£ 30,628	Oz. 1,536,077	£ 5,713,338	Oz. 1,543,734	£ 5,743,966
Wellington	Wellington .. ..	..	..	188	706	188	706
Marlborough ..	{ Blenheim .. Nelson ..	277 22	997 79	54,675	211,011	54,974	212,087
		299	1,076				
Nelson	{ Dunedin .. Nelson ..	112 589	448 2,168	1,644,213	6,524,143	1,644,914	6,526,759
		701	2,616				
West Coast ..	{ Nelson .. Westport .. Greymouth .. Hokitika ..	441 2,612 9,442 11,553	1,755 10,446 37,770 46,214	3,353,697	13,335,397	3,382,745	13,431,582
		24,048	96,185				
Canterbury	Dunedin .. ..	..	..	24	96	24	96
Otago	Dunedin .. Invercargill ..	10,939 1,249	43,646 4,996	4,581,831	18,078,738	4,594,019	18,127,380
		12,188	48,642				
Totals		44,893	179,147	11,175,705	43,863,429	11,220,598	44,042,576

Department of Trade and Customs,
Wellington, 24th January, 1888.

W. T. GLASGOW,
Secretary.

No. 6.

RETURN of the QUANTITY and VALUE of GOLD ENTERED for DUTY for EXPORTATION from NEW ZEALAND for the Years ended 31st December, 1886 and 1887.

Ports.	During the Quarter ended—				Totals for Year 1887.		Totals for Year 1886.	
	31st March, 1887.	30th June, 1887.	30th September 1887.	31st December, 1887.	Quantity.	Value.	Quantity.	Value.
Auckland	Oz. 9,664	Oz. 5,741	Oz. 7,635	Oz. 7,657	Oz. 30,697	£ 121,564	Oz. 32,271	£ 123,140
Wellington ..	3	..	..	..	3	12	52	189
Picton .. ..	..	..	..	..	..	..	399	1,430
Blenheim ..	..	..	667	277	944	3,400	..	..
Nelson	1,016	307	1,272	1,052	3,647	13,711	4,078	15,868
Westport ..	3,463	1,394	2,078	2,612	9,547	38,187	18,766	74,870
Greymouth ..	17,965	12,568	15,061	9,442	55,036	220,503	61,751	242,899
Hokitika ..	8,889	6,765	6,118	11,553	33,325	133,299	30,658	122,630
Dunedin ..	20,953	13,209	17,526	11,051	62,739	249,531	73,858	296,559
Invercargill ..	2,248	905	3,114	1,249	7,516	29,233	1,965	7,860
Riverton ..	415	..	..	..	415	1,660	3,281	13,124
Totals for 1887 ..	64,616	40,889	53,471	44,893	203,869	811,100	..	..
Totals for 1886 ..	59,614	53,106	60,296	54,063	..	..	227,079	903,569

Department of Trade and Customs,
Wellington, 24th January, 1888.

W. T. GLASGOW,
Secretary.

No. 7.

RETURN of the QUANTITY and VALUE of GOLD ENTERED for DUTY for EXPORTATION from NEW ZEALAND, from 1st April, 1857, to 31st March, 1888.

Entered for Duty at	Produce of the Gold-fields in	During the Quarter ended 31st March, 1888.		Entered for Exportation to the 31st December, 1887.		Total entered for Exportation from New Zealand to the 31st March, 1888.	
		Quantity	Value.	Quantity	Value.	Quantity.	Value.
Auckland	Auckland ..	Oz. 10,953	£ 43,449	Oz. 1,543,734	£ 5,743,966	Oz. 1,554,687	£ 5,787,415
Wellington	Wellington ..	..	..	188	706	188	706
Blenheim	Marlborough ..	..	..	54,974	212,087	54,974	212,087
Nelson	Nelson ..	367	1,365	1,644,914	6,526,759	1,645,281	6,528,124
Nelson	West Coast {	758	3,009	3,382,745	13,431,582	3,409,397	13,538,147
Westport		2,699	10,797				
Greymouth		18,510	74,019				
Hokitika		4,685	18,740				
		26,652	106,565				
Dunedin	Canterbury ..	..	..	24	96	24	96
Dunedin	Otago {	13,777	53,821	4,594,019	18,127,380	4,608,755	18,185,037
Invercargill		959	3,836				
		14,736	57,657				
Totals		52,708	209,036	11,220,598	44,042,576	11,273,306	44,251,612

Department of Trade and Customs,
Wellington, 16th April, 1888.

W. T. GLASGOW,
Secretary.

No. 8.

COMPARATIVE RETURN of the QUANTITY and VALUE of GOLD ENTERED for DUTY for EXPORTATION from NEW ZEALAND for the QUARTERS ended 31st March, 1888, and 31st March, 1887.

District of	Quarter ended 31st March, 1888.		Quarter ended 31st March, 1887.	
	Quantity.	Value.	Quantity.	Value.
	Oz.	£	Oz.	£
Auckland	10,953	43,449	9,664	38,290
Marlborough .. ..	..	..	75	280
Nelson	367	1,365	1,028	3,791
West Coast	26,652	106,565	30,348	121,744
Otago	14,736	57,657	23,501	93,154
Totals	52,708	209,036	64,616	257,259

Department of Trade and Customs,
Wellington, 16th April, 1888.

W. T. GLASGOW,
Secretary.

Table No. 9.

STATEMENT showing the PRICE of GOLD per OUNCE, PRICE charged per Ton for CRUSHING QUARTZ or CEMENT, and PRICES charged for WATER per SLUICE-HEAD per WEEK, during the Year ending 31st March, 1888.

Mining District.	Price of Gold per Ounce.	Price charged per Ton for crushing Quartz or Cement.	Price charged for Water per Sluice-head per Week.	Remarks.
	£ s. d.			
AUCKLAND—North Hauraki	2 10 0 to	8s. to 14s.	..	..
South Hauraki	3 1 6	5s. to 7s. 6d.	£3	40in. by 1in.
Ohinemuri	2 10 0 to	10s. to 14s.	£0s. to 60s.	Railey's treatment.
Te Aroha	3 10 0	6s. 8d.	..	..
MARLBORO—Pelorus and Wairau ..	2 13 0 to	..	£1	20in. by 2in.
NELSON—Wangapeka	3 5 0	..	..	..
Charleston	3 12 6	..	£2 15s.	40in.
Inangahua	3 3 0 to	8s. to 10s.	..	..
Collingwood	3 16 0 to	£1	..	..
Westport	3 19 3	10s.	£2	40in.
Lyell	3 12 0 to	10s.	10s.	40in.
WESTLAND—Hokitika and Kanieri	3 13 0	..	£2 to £4	40in.
Waimea	3 16 0	..	15s.	60in.
Totara and Ross ..	3 16 6	..	£3	40in.
Notown, Arnold, and Dun-	3 16 6	..	£3	40in.
ganville	3 16 6	..	£2 10s.	40in.
Greymouth	3 16 6	..	15s.	40in.
Greenstone	3 16 6	..	..	..
Kumara	3 15 0	..	..	..
Ahaura	3 16 0	..	..	..
Okarito	3 16 0	..	..	..
Jackson's Bay	3 15 0	15s.	£1 4s. to £1 10s.	40in.
OTAGO—Hindon	3 15 0	..	£1 to £3	60in.
Tuapeka	3 15 0	£1	14s.	8in. by 1in.
Dunstan	3 8 0	..	£1 and 15s.	40in. by 1in.
Longwood	3 16 6	12s. 6d. to 15s.	..	20in. by 2in.
Orepuki and Roundhill ..	3 15 0	..	£1	16in. by 1in.
Arrow (Wakatipu Goldfield)	3 15 0	..	£1 13s. 4d.	..
and Queenstown	3 15 0	..	£4 10s.	20in. by 2in.
Mount Ida	3 10 6 to	..	10s.	60in.
Macrae's, Hyde	3 17 6	..	..	..
Hamilton, Serpentine ..	3 12 0	..	..	..
Maerewhenua .. ..	..	..	..	..
Cromwell .. ..	..	..	..	..
Waikaia .. ..	..	..	..	..
Tapanui .. ..	..	..	..	..

RETURN showing the AVERAGE PRICES of PROVISIONS and LIVE STOCK for the Year ending 31st March, 1888.

Mining District.	Beer.	Brandy.	Bread— Wheat.	Butter— Fresh.	Butter— Salt.	Cheese.	Coffee.	Flour.	Grain— Wheat.	LIVE STOCK.						MEAT.				Rice.	Milk.	Sugar.	Tea.	Tobacco.	Wine.	
										Cattle— Horned.	Goats.	Horses.	Sheep.	Swine.	Beef.	Mutton.	Pork.									
Per. bhd.	Per gall.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per 100lb.	Per Im. bushel.	Per head.	Per head.	Per head.	Per head.	Per head.	Per lb.	Per lb.	Per lb.	Per qt.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per gallon.	
AUCKLAND—																										
North Hauraki ..	100/	25/	d.	1 1/4	10/	8/	2/	15/	5-15	10-20/	3-50	3-50	10/-15/	30/-60/	6-8	3-4	6	6	d.	d.	d.	d.	d.	6/6	24/	
South Hauraki ..	88/-100/	25/-30/	1 1/4	1/	10-1/	8-10/	2/	13/	4-5/	10/	5-40	5-40	8-13/	30/-60/	2 1/2	5 1/2	5-6	5-6	3	3	3	3	3	6/	15/30/	
Te Aroha ..	100/	25/	2	1/	10/	8/	2/	9/	3/6	70/-110/	4-20	4-20	8-10/	10/-30/	2-4	2-4	5	4	3	3	3	3	3	6/	18/	
MARLBOROUGH—																										
Queen Charlotte Sound	100/	..	4	9/	9/	8/	1/9	12/	..	1-5	5/-10/	50/-£30	3/-10/	5/-50/	4	2 1/2	5	4	3	3	1	3 1/2	2/-3/	6/	..	
Pelorus ..																										
Wairau ..																										
NELSON—																										
Wangapeka ..	113/	26/	1 1/4	1/	9/	7/	1/6	11/	3/6	7/6	15	15	9/	25/	3	4	4	4	3	3	1 1/2	3 1/2	2/	5/6	14/-25/	
Collingwood ..	100/	38/	2	1/11	6/	8/	1/9	15/	5/6	3-7	5-15	5-15	7-10/	12-50/	5	4	6	6	4	4	1 1/2	5	2/9	6/	16/	
Inangahua ..	130/	24/	2 1/2	1/9	1/3	9/	1/9	18/	7/	6-9	10-35	10-35	7/6	60-80/	6	4	8	6	4	4	2	4	3/6	8/	20/	
Lyell and Murchison	150/	28/	3	2/6	1/6	1/	2/	22/	10/	8	30/	15	16/	70/	6	6	10 1/2	9	6	6	6	8	3/6	7/	24/	
Westport ..	125/	25/	2	1/6	1/	8/	1/9	14/	4/3	7-10	10-40	10-40	14/	40/	6	6	6	6	4	2	5	3/	2/9	20/		
Charleston ..	130/	26/	2	1/6	1/3	8/	1/9-2/	13-15/	5/6	9	20-30	20-30	16/	30/	6	6	8	6	5	2	5	2/9-3/6	5/6-7/6	16/		
Ahaura ..	120/	25/	2	1/3	1/	8-9/	1/6-1/9	14-15/	5/6	4-10	5-40	5-40	13/-17/6	45-80/	4-5	4-5	6-8	6-9	3-4	2	2	4	2/6-3/	6/	15/-16/	
WESTLAND—																										
Waima ..	100/	25/	2	2/	1/3	9/	2/	15/-20/	5/6	7-10	10/-15/	7-20	15/-20/	20-60/	5-8	6	8	6	4	2	2	6	3/	7/	25/	
Hokitika and Kanieri																										
Ross ..	110/	26/	1 1/2	1/6	1/	9/	2/	16/	7/	8-15	15/-25/	8-20	14/	40-90/	5	5	8	5	4	2	5 1/2	6	3/	7/	20/-30/	
Okaito ..	120/	28/	2	1/	1/3	1/	1/	20/	7/	10	10/-15/	12-15	30/	40-100/	5	5	5	1/	3	4	2	5 1/2	2/9	6/6	16/	
Kumara ..	120/	23/6	2	2/	1/6	1/	1/8	20/	6/	10-15	10-30/	10-30	15/-20/	40-120/	5	5	8	6	3	2	5	3/	6/8/	22/		
Greymouth ..	90/-110/	26/-36/	1 1/2	1/6-2/	1-1/9	1/-1/3	1/9-2/	12/-15/	6/-6/6	6-9	15/-20/	5-50	6-20/	15/-60/	5-6	5-6	6-8	6	3-4	2 1/2	3 1/2	6	2/-3/6	6/6-6/6	15/-35/	
Arnold ..	130/-140/	22/-25/	2 1/2	2/	1/6	1/	1/9	20-22/	6/6	7-11	..	..	15-22/	40-100/	5	5	8	6	4	2	6	3/	6/	6/	16-20/
Jackson's Bay	30/	..	1/3	1/	1/	1/6	15/-20/	6/6	5-10	8-15	8-15	12/6	20/-100/	3-5	8	1/	1/	1/	4	4	2	6	2/9	7/	..
OTAGO—																										
Hindon ..	95/	25/	1 1/2	1/2	1/2	9/	1/6	12/6	..	..	8-50	8-50	9/	..	5	4	6	4	3	2	2	5	3/	6/6	..
Tuapeka ..	80/-140/	25/-27/	1 1/2	7/	6/	7/	1/9	9/6	3/1	4-6	5-20	5-20	1/6-10/	5-50/	3	2 1/2	4	3	3	3	1	3 1/2	2/	5/6	18-25/	
Tapanni ..	118/	42/	2	9/	7/	6/	2/4	12/	3/	5	16	16	7/6	40/	4	3	6	4	4 1/2	2	4 1/2	2/4	6/	6/	23/-30/	
Cromwell ..	100/-120/	26/-36/	2	1/3-2/	1/	10-1/	1/9-2/	13-14/	5/	3-8	5-40	5-40	4-15/	..	4 1/2	4-6	6-7	6	5	2-3	4-6	2/-4/	5/-7/	18-60/		
Clyde ..																										
Alexandra ..	120/	26/-30/	2	1/3	1/	9/	1/6-2/	14/	5/	50/-140/	7-30	7-30	2-15/	40-80/	4 1/2	3 1/2	8	4-5	5	2	3 1/2	2/6-3/6	6/	6/	18-40/	
Roxburgh ..																										
Black's ..	120/	26/-30/	2	1/3	1/	9/	1/6-2/	14/	5/	50/-140/	7-30	7-30	2-15/	40-80/	4-5	3 1/2	8	4-5	5	2	3 1/2	2/6-3/6	6/	6/	18-40/	
Queenstown ..	110/	28/	2	1/4	1/	9/	2/	13/	3/6	5-10	10-30	10-30	3-10/	20-100/	6	5	7	6	3	2	2	2/3-3/6	6/	6/	16-30/	
Orepuki and Longwood	100/	25/	1 1/2	7/	6/	6/	2/	12/	3/6	6-7	5-18	5-18	5-7/	30-50/	6	3 1/2	6	4	5	1	4 1/2	2/-3/	6/	6/	20/	
Arrow (Wakatipu Gold- field) ..	120/	30/	2	1/4	1/	9/	2/	13/	3/6	5-10	5-15	5-15	3-10/	20-100/	6	5	7	6	3	2	2	2/3-3/	6/	6/	16/-30/	
Mount Ida ..	90/-120/	27/	1 1/2	1/3	1/3	10/	2/	25/	3/3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	16/
Maerewhenua ..	100/	26/	1 1/2	7/	7/	7/	1/4	10/	3/4	3-7	5-25	5-25	2-7/	10-50/	3	2 1/2	4	4	5	4	1	3	2/9	6/	24/	
Waikanae ..	180/	27/-30/	2	10/	8/	8/	1/10	12/	3/3	50/-100/	5-15	5-15	3-6/	20-30/	4	2 1/2	3	2 1/2	4 1/2	2 1/2	2 1/2	3/	6/	6/	23/-30/	

No. 12.

NUMBER of MACHINES employed in ALLUVIAL and QUARTZ-MINING, and the VALUE thereof, for the Year ending 31st March, 1888.

Mining District.	Machinery employed in Alluvial Mining.											Machinery employed in Quartz-mining.										
	Puddling Machines.	Whims.	Whips or Pulleys.	Sluices, Toms, and Sluice-boxes.	Water-wheels.	Hydraulic Hose.	Pumps.	Dredges.	Quicksilver and Compound Cradles.	Derricks.	Stamp-heads crushing Cement.	Boring Machines.	Steam-engines employed winding, crushing, &c.	Crushing Machines.	Stamp-heads.	Water-wheels.	Whims.	Whips or Pulleys.	Derricks.	Buddles or Boulders.	Approximate Value of all Mining Plant included in this Return.	
													No. Aggregate h.p.									
AUCKLAND—																					£	
North Hauraki	8	210	7	65	3	..	..	..	25,000	
South Hauraki	25	600	23	460	25	..	..	213	108,500	
Te Aroha	*1	..	2	40	8	..	..	..	27,000	
Totals	34	810	32	565	36	..	..	213	160,500	
MARLBOROUGH—																						
Wairau	30	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	50	
Pelorus	60	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1,000	
Totals	90	2	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1,050	
NELSON—																						
Wangapeka	107	..	2	9	..	..	..	..	..	2	16	3	15	1	..	..	..	not known	
Collingwood	14	256	18	285	16	2	3	64	4,200	
Inangahua	128,430	
Charleston	80	3	70	..	..	50	..	13	..	..	..	..	..	..	..	..	..	3,000	
Lyell	20	..	10	..	..	..	..	..	1	..	..	4	45	15	..	..	..	17,000	
Murchison	70	..	30	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,500	
Westport...	47	6	28	..	..	..	..	..	..	..	2	20	2	..	..	..	..	7,500	
Ahaura	1,430	2	475	1	..	..	4	..	..	..	..	..	..	..	..	..	..	9,000	
Owen's	5	..	..	..	..	..	..	..	..	..	2	20	2	..	..	..	..	5,000	
Totals	1,759	11	615	10	..	50	4	13	1	16	272	29	385	26	2	3	64	176,630	
WESTLAND—																						
Ross †	1	3	180	3	50	4	2	..	..	..	..	..	1	3	1	..	..	..	..	25,000	
Hokitika and Kani- nieri	2	30	300	..	30	..	1	..	1	..	..	..	..	..	..	..	..	..	..	5,000	
Greymouth	1,450	1	440	40	1	50	..	3	..	..	..	..	..	..	..	..	..	5,800	
Arnold	700	1	200	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,250	
Kumara	7	20	80	3	56	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,000	
Greenstone	60	1	33	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,000	
Okarito	2	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	36	
Totals	10	53	2,770	11	809	44	4	54	1	3	..	..	1	3	1	..	..	..	..	44,086	
OTAGO—																						
Tapanui	40	2	5	..	1	..	..	..	..	..	..	2	20	1	..	..	..	180	
Hindon	10	..	2	..	..	..	..	..	1	20	2	20	1	..	..	..	..	4,100	
Tuapeka	500	15	10	30	1	..	95	..	..	..	1	20	4	1	..	..	..	9,000	
Cromwell	200	..	100	2	2	..	..	1	..	..	2	22	1	1	..	..	..	25,000	
Clyde, Alexandra, and Roxburgh	1	1	300	8	2,290	8	9	..	1	..	..	..	2	8	1	..	..	..	..	27,000	
Black's ..	1	2	2	190	4	1,500	2	..	2	..	..	..	..	..	..	..	..	..	..	..	4,600
Orepuki and Long- wood	500	1	155	6	..	..	..	..	1	10	2	8	1	..	..	..	..	1,900	
Waikata (Switzer's) Arrow	490	5	50	4	..	..	..	..	..	..	4	37	3	..	..	..	..	3,925	
Queenstown	400	..	50	..	..	..	..	..	1	8	7	100	..	..	..	..	..	14,500	
Naseby	200	..	85	..	..	..	..	..	..	..	..	..	..	..	..	..	..	30,000	
Kyeburn and Clarke's	70	..	20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,750	
Hamilton's and Sowburn	70	..	25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	500	
Hyde and Fullerton's	15	..	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	450	
Macrae's, Strath- Taieri, and Shag Valley	50	..	15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	200	
Maerewhenua	30	..	..	14	..	..	..	..	..	..	..	..	..	..	..	150	
Serpentine	20	..	5	..	..	..	..	..	..	..	1	5	1	..	..	..	..	300	
St. Bathans, Ida Valley, and other localities	60	..	40	..	..	..	..	..	..	..	1	10	..	..	..	..	..	600	
Totals ..	1	3	3	3,355	35	4,457	57	14	14	3	95	1	4	42	22	230	12	2	..	..	126,655

SUMMARY.

Auckland ..	..	..	..	..	..	..	..	..	..	..	..	..	34	810	32	565	36	..	..	..	213	160,500
Marlborough ..	..	..	..	..	90	2	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1,050
Nelson ..	..	..	..	..	1,759	11	615	10	..	50	4	13	1	16	272	29	385	26	2	3	64	176,630
Westland ..	..	..	10	53	2,770	11	809	44	4	54	1	..	3	..	..	1	3	1	..	..	..	44,086
Otago ..	..	1	3	3	3,355	35	4,457	57	14	14	3	95	1	4	42	22	230	12	2	..	..	126,655
Totals ..	1	13	56	7,974	59	5,882	113	18	118	8	108	5	54	1,124	84	1,183	75	4	3	..	277	508,921

* Roasting furnace.

† Includes 1 turbine and 1 pelton.

; 5 turbines, 1 water-wheel.

No. 13.

TABLE showing approximately the NUMBER, DESCRIPTION, and VALUE of the WATER-RACES, TAIL-RACES, DAMS, RESERVOIRS, and GROUND-SLICES in Operation during the Year ending 31st March, 1888.

Mining District.	Water-races.				Tail-races.		Dams.		Reservoirs.		Ground-slides.		Approximate Total Cost.
	No.	Length in Miles.	No. of Sluice-heads.	Approximate Cost.	No.	Approximate Cost.	No.	Approximate Cost.	No.	Approximate Cost.	No.	Approximate Cost.	
AUCKLAND—													
Hauraki North ..	8	3	20	£ 1,250	..	£ ..	..	£ ..	..	£ ..	..	£ ..	£ 1,250
Hauraki South ..	19	18	105	80,000	1	10	2	188	1	600	..	..	80,798
Te Aroha ..	5	4	19	7,800	..	..	..	..	..	..	..	..	7,800
Totals ..	32	25	144	89,050	1	10	2	188	1	600	..	..	89,848
MARLBOROUGH—													
Pelorus ..	21	25	34	4,000	7	600	18	450	12	500	..	..	5,550
Wairau ..	12	12	17	1,000	4	250	3	60	3	60	..	..	1,370
Totals ..	33	37	51	5,000	11	850	21	510	15	560	..	..	6,920
NELSON—													
Wangapeka ..	9	8	26	50	10	150	2	..	..	..	..	..	200
Collingwood ..	86	84	187	6,230	48	960	56	1,700	..	..	..	..	8,890
Inangahua ..	139	112	1,092	31,252	302	18,598	356	12,497	..	..	..	..	62,347
Charleston ..	284	156	363	24,608	212	8,562	452	10,600	1	3,000	80	3,000	49,770
Westport ..	261	268	1,740	62,471	67	7,412	133	..	..	4,373	..	..	74,256
Lyell ..	40	30½	195	4,915	20	1,700	29	1,978	..	..	10	1,155	9,748
Murchison ..	70	40½	239	5,364	27	900	20	1,200	..	..	53	7,564	15,028
Ahaura ..	403	381½	986	41,190	464	32,291	439	12,206	..	..	..	..	85,687
Owen's ..	6	4	111	1,736	4	300	6	475	..	..	..	..	2,511
Totals ..	1,298	1,084½	4,939	177,816	1,154	70,873	1,493	40,656	1	7,373	143	11,719	308,437
WESTLAND—													
Hokitika & Kanieri ..	289	183	520	19,000	175	1,600	189	3,780	..	..	..	..	24,380
Ross ..	139	130	323	30,200	153	1,800	60	1,207	23	1,550	60	600	35,357
Kumara ..	108	60	180	14,000	125	12,000	20	2,000	11	7,500	20	200	35,700
Greymouth ..	400	290	570	28,170	175	21,563	130	2,740	..	..	40	1,000	53,473
Maori Gully (Arnold) ..	240	223	401	11,000	229	3,810	260	3,250	..	..	..	..	18,060
Jackson's Bay ..	6	6½	16	800	2	300	..	..	..	..	..	..	1,100
Okarito ..	20	22	86	2,080	3	620	3	220	..	..	..	..	2,920
Greestone ..	92	40	185	8,000	60	3,000	40	2,500	..	..	30	600	14,100
Totals ..	1,294	954½	2,281	113,250	922	44,693	702	15,697	34	9,050	150	2,400	185,090
OTAGO—													
Hindon ..	21	33	38	3,400	10	150	30	650	..	..	13	85	4,285
Tuapeka ..	177	564	746	11,280	286	4,290	214	4,490	..	..	..	..	20,060
Tapanui ..	5	45	22	740	20	130	4	105	..	..	..	..	975
Clyde ..	39	130	94	9,000	24	535	19	430	..	..	..	..	9,965
Black's ..	75	316	263	24,000	76	12,000	55	11,000	..	..	..	..	47,000
Queenstown ..	131	160	580	64,744	160	5,000	40	1,700	11	550	..	..	71,994
Alexandra ..	53	225	166	14,500	42	2,000	46	1,150	..	..	..	..	17,650
Roxburgh ..	70	162	240	16,000	70	10,960	40	2,000	..	..	..	..	28,960
Cromwell ..	147	656	521	39,376	200	6,000	60	1,200	..	..	..	..	46,576
Waikaia ..	94	295	350	9,686	245	2,740	131	3,208	..	..	36	200	15,834
Orepuki and Longwood ..	179	230	413	12,500	95	4,500	90	1,200	..	..	110	2,050	20,250
Arrow (Wakatipu Goldfield) ..	91	154	204	9,510	200	5,000	30	1,500	30	..	28	280	16,290
Naseby ..	65	290	208	46,000	..	..	..	..	..	..	..	..	46,000
Kyeburn & Clarke's ..	85	300	315	10,300	..	..	..	..	..	..	..	..	10,300
Hamilton's and Sowburn ..	31	106	80	5,500	..	..	..	..	..	..	..	..	5,500
Hyde & Fullerton's ..	18	90	64	10,150	..	..	..	..	..	..	..	..	10,150
Macrae's, Strath-Taieri, and Shag Valley ..	30	48	55	4,100	..	..	..	..	..	..	..	..	4,100
Serpentine ..	36	88	93	5,000	..	..	..	..	..	..	..	..	5,000
Maerewhenua ..	18	168	43	14,735	21	986	25	1,547	..	..	..	..	17,268
St. Bathans and Ida Valley ..	95	315	345	32,000	..	..	..	..	..	..	..	..	32,000
Totals ..	1,460	4,375	4,839	342,521	1,449	54,291	784	30,180	41	550	187	2,615	430,157

SUMMARY.

Auckland ..	32	25	144	89,050	1	10	2	188	1	600	..	..	89,848
Marlborough ..	33	37	51	5,000	11	850	21	510	15	560	..	..	6,920
Nelson ..	1,298	1,084½	4,939	177,816	1,154	70,873	1,493	40,656	1	7,373	143	11,719	308,437
Westland ..	1,294	954½	2,281	113,250	922	44,693	702	15,697	34	9,050	150	2,400	185,090
Otago ..	1,460	4,375	4,839	342,521	1,449	54,291	784	30,180	41	550	187	2,615	430,157
Totals ..	4,117	6,475½	12,254	727,637	3,537	170,717	3,002	87,231	92	18,133	480	16,734	1,020,452

No. 14.

RETURN showing the REVENUE and EXPENDITURE on account of CONSTRUCTED WATER-RACES maintained by the Government, from 1st April to 30th September, 1887, and from 1st October, 1887, to 31st March, 1888.

Name of Race.	1st April to 30th September, 1887.						1st October, 1887, to 31st March, 1888.						Balance due on Water Account.		
	Revenue.				Expenditure.	Revenue.				Expenditure.					
	Water sold.		Actual Receipts.			Water sold.		Actual Receipts.							
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Nelson Creek ..	632	0	0	632	0	0	585	8	10	413	1	8	413	1	8
Waimea-Kumara ..	4,233	15	5	4,524	5	1	1,059	17	2	4,548	6	1	4,712	19	5
Kumara Sludge-chan.	471	2	8	859	12	0	2,086	17	4	604	3	11	1,024	16	7
Argyle ..	233	5	3	218	4	1	211	13	10	222	7	6	245	12	0
Mikonui ..	..	..	..	50	0	0	..	..	..	..	..	..	45	16	8
Totals ..	5,570	3	4	6,284	1	2	3,943	17	2	5,787	19	2	6,442	6	4
													3,899	4	3

No. 15.

TABLE showing the NUMBER of GOLD-MINING COMPANIES REGISTERED under "The Mining Companies Limited Liability Act, 1865," and Amending Acts, the Joint-stock Companies Act, and "The Mining Companies Act, 1872," upon 31st March, 1888.

Mining District.	Under "Mining Companies Limited Liability Act, 1865," and Amending Acts.			Under Joint-stock Act.			Under "Mining Companies Act, 1872."		
	No.	Nominal Capital.	Paid-up Capital.	No.	Nominal Capital.	Paid-up Capital.	No.	Nominal Capital.	Paid-up Capital.
AUCKLAND—		£	£		£	£		£	£ s. d.
North Hauraki* ..	..	..	..	..	..	..	..	..	..
South Hauraki and Te Aroha	5	..	..	..	..	..	5	140,000	7,286 4 8
MARLBOROUGH—									
Pelorus ..	21	384,850	36,292	..	..	..	287	3,895,518	148,081 2 10
Queen Charlotte Sound ..	..	..	..	..	..	..	..	..	..
NELSON—									
Collingwood ..	..	..	..	..	..	..	1	20,000	9,450 0 0
West Wanganui ..	..	..	..	..	..	..	..	..	..
Westport ..	..	..	..	..	..	..	11	293,500	159,051 7 11
Inangahua ..	2	37,000	12,700	..	..	..	40	836,500	314,212 15 1
Lyell ..	..	..	..	..	..	..	10	266,000	140,310 6 8
Murchison ..	..	..	..	..	..	..	7	90,000	17,612 10 0
WESTLAND—									
Hokitika and Kanieri ..	..	..	..	..	..	..	1	150,000	129,761 4 9
Greymouth† ..	..	..	..	..	..	..	..	..	..
Abaura ..	..	..	..	..	..	..	..	..	..
Totara ..	1	150,000	148,425	..	..	..	4	78,000	26,879 14 0
Kumara ..	..	..	..	..	..	..	1	16,000	15,100 0 0
Greenstone ..	1	6,000	6,000	1	4,480	4,480	..	..	..
Waimea and Stafford ..	..	..	..	..	..	..	2	21,000	2,368 10 0
OTAGO—									
Hindon ..	..	..	..	..	..	..	..	..	..
Tuapeka† ..	3	10,300	10,300	..	..	..	2	38,000	14,942 0 0
Cromwell ..	2	24,000	6,000	..	..	..	1	12,000	6 0 0
Clyde, Black's, Alexandra, and Roxburgh	..	..	..	..	..	..	5	41,600	32,456 10 0
Orepuki and Longwood ..	..	..	..	..	..	..	..	..	..
Arrow (Wakatipu Goldfield)	..	..	..	..	..	..	22	298,000	156,000 0 0
Naseby (Mount Ida) ..	..	..	..	..	..	..	..	..	..
Queenstown ..	..	..	..	1	24,000	17,500	4	80,000	40,000 0 0
Maerewhenua ..	..	..	..	..	..	..	1	3,600	3,600 0 0
Totals ..	35	612,150	219,717	2	28,480	21,980	404	6,189,718	1,217,118 5 11

* No record kept.

† Not in operation.

‡ No return.

No. 16.—RETURN of the NUMBER of MINING LEASES or LICENSES and AGRICULTURAL LEASES in Force on the 31st March, 1888, the EXTENT of GROUND LEASED or held under LICENSE, and RENTAL per ANNUM.

Mining Leases.				Agricultural Leases.			
Mining District.	No.	Gross Acreage.	Rental per Annum	Mining District.	No.	Gross Acreage.	Rental per Annum.
AUCKLAND—		A. R. P.	£ s. d.	AUCKLAND—		A. R. P.	£ s. d.
Hauraki North ..	..	104 3 21	242 0 0	Hauraki, Ohinemuri	94	4,476 3 2	321 5 0
Hauraki South ..	..	1,417 2 18	1,788 0 0				
Te Aroha ..	24	445 3 8	173 0 0				
MARLBOROUGH—				NELSON—			
Wairau and Pelorus	1	4 2 11	5 0 0	Collingwood ..	10	572 2 5	57 2 0
NELSON—				Inangahua ..	12	527 1 3	53 8 0
Collingwood ..	8	93 2 36	81 0 0	Charleston ..	23	542 2 24	45 11 6
Inangahua ..	62	885 3 26	925 0 0	Westport ..	20	1,632 2 39	170 3 6
Charleston ..	26	150 1 24	144 0 0	Lyell ..	16	1,109 2 23	114 9 0
Ahaura ..	7	86 1 37	70 0 0	Ahaura ..	31	1,923 1 25	195 17 0
Westport ..	23	327 3 28	335 0 0				
Lyell ..	11	224 2 25	185 10 0				
Owen's ..	6	171 2 10	120 0 0				
WESTLAND—				WESTLAND—			
Hokitika & Kanieri ..	..	10 0 0	..	Greymouth ..	11	902 3 13	90 10 0
Kumara ..	8	240 0 0	88 0 0	Greenstone ..	1	89 0 0	11 2 6
Greenstone ..	1	30 0 0	4 10 0	Kumara ..	2	69 2 13	8 15 0
Greymouth ..	1	4 0 0	4 0 0	Ross ..	2	22 1 19	2 15 0
Arnold ..	2	12 0 0	12 0 0				
Ross ..	..	289 0 8	..				
OTAGO—				OTAGO—			
Waikaia ..	1	10 0 0	5 0 0	Waikawa ..	1	100 0 0	12 10 0
Cromwell ..	2	34 0 0	34 0 0	Tuapeka ..	4	556 1 25	69 15 0
Hindon ..	7	103 2 0	61 10 0	Cromwell ..	28	3,576 0 0	447 0 0
Tuapeka ..	5	69 0 23	35 0 0	Black's ..	3	94 1 18	12 2 6
Black's ..	9	147 2 28	93 10 0	Clyde, Alexandra, and Roxburgh	16	3,204 2 33	401 5 0
Clyde, Alexandra, and Roxburgh	16	649 2 18	169 5 0	Mount Ida District	14	2,041 3 18	256 0 0
Naseby ..	53	660 0 15	450 10 0	Arrow (Wakatipu Goldfield)	26	1,310 2 6	161 15 0
Arrow (Wakatipu Goldfield)	34	223 0 2	231 0 0	Queenstown ..	31	934 0 27	113 8 3
Queenstown ..	33	314 1 25	318 0 0				
Totals ..	340	6,690 0 3	5,574 15 0	Totals ..	345	23,686 1 0	2,544 14 3

No. 17.—RETURN of CASES in the WARDENS' COURTS, and COSTS AWARDED, for the Year ending 31st March, 1888.

Mining District.	Number of Mining Disputes adjudicated on.	Aggregate Amount of Value.		Amount of Costs awarded.	Cases wherein Judgment has decreed Specific Performance.
		Claimed.	Recovered.		
AUCKLAND—		£ s. d.	£ s. d.	£ s. d.	
North Hauraki ..	2	..	..	3 3 0	
South Hauraki ..	47	175 0 0	175 0 0	30 15 6	
Te Aroha ..	14	90 0 0	68 0 0	5 4 0	
NELSON—					
Collingwood ..	8	..	..	15 3 6	
Inangahua ..	9	108 10 0	76 10 0	15 11 0	
Lyell ..	2	33 9 6	10 0 0	7 19 0	
Westport ..	4	..	..	4 13 0	
Charleston ..	9	126 0 0	8 11 9	28 13 0	
Ahaura ..	4	25 0 0	0 1 0	17 13 0	
Murchison ..	1	20 0 0	..	..
WESTLAND—					
Kumara ..	5	12 0 0	0 1 0	4 13 0	
Greymouth ..	7	10 0 0	10 0 0	19 1 0	
Arnold (Maori Gully) ..	1	..	..	4 11 0	
Greenstone ..	8	140 0 0	50 1 0	18 13 0	
Hokitika and Kanieri ..	10	29 0 0	0 1 0	16 4 3	
Waima and Stafford ..	1	30 0 0	..	1 16 0	
Jackson's Bay ..	5	25 0 0	..	1 11 0	
Ross ..	..	..	..	..
OTAGO—					
Tapanui ..	1	50 0 0	5 0 0	8 7 0	
Hindon ..	1	..	..	0 6 0	
Tuapeka ..	9	195 0 0	61 0 0	18 12 0	
Cromwell ..	12	137 0 0	10 0 0	15 19 0	
Alexandra ..	6	..	..	13 3 6	
Roxburgh ..	7	40 0 0	..	22 17 0	
Black's ..	9	..	..	37 6 0	
Clyde ..	10	1 10 0	1 10 0	9 11 0	
Waikaia ..	16	37 10 0	10 10 0	28 2 0	
Orepuki and Longwood ..	24	82 5 8	78 10 8	8 19 0	
Arrow (Wakatipu Goldfield)	9	..	..	3 0 0	
Queenstown ..	28	706 16 10	703 1 10	30 0 0	
Naseby ..	22	170 18 0	11 12 0	51 12 0	
Macrewhenua ..	2	263 15 0	30 0 0	17 11 0	
Totals ..	292	2,508 15 0	1,305 0 3	460 14 9	

H. J. H. ELIOTT,
Under-Secretary of Mines.

Mines Department, 1st June, 1888.

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