

1887.
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 STRATFORD to the UNDER-SECRETARY of MINES.

SIR,—

Warden's Office, Thames, 7th April, 1887.

I have the honour to forward herewith statistical returns for the Hauraki Mining District for the year ending the 31st March ultimo, together with a general report, which is not so full and accurate as I could wish, owing to the fact that I have been obliged to obtain the information somewhat hurriedly, to meet your urgent request that it be forwarded not later than the 10th April; and in justice to myself I feel bound to remind you that I only took charge of the district in September last, and am therefore not as familiarly acquainted with all the mining localities as my predecessor, the late Mr. Warden Kenrick, whose name I find to be revered by the whole mining community. I hope that this explanation will be accepted as an apology for my shortcomings.

COROMANDEL.

In the early part of last year the mining industry in this district had sunk to a low ebb, when, through the exertions of a few persons who still retained faith in the district, the Kapanga Mine was again floated on the English market, and shortly afterwards the Union Beach Mine was sold to a London company now known as the Coromandel Gold-mining Company. These two events, together with a few good returns from various portions of the district, seem to have restored confidence, and the prospects of the place appear brighter than for years past.

The Kapanga commenced operations again in August last under the management of a mining expert sent from England by the new proprietors. Both mine and machinery have had a complete overhaul, and sinking operations have been going on for some time, the intention being to open out on the underlie of the reef at a depth of 480ft. from the surface. The shaft is now down over 400ft., and sinking is progressing at the rate of 7ft. per week; and should the rich shot of gold from which such large returns were obtained in former times in the upper levels be struck at the depth above mentioned, the future progress of this portion of the district will be assured.

Adjoining the Kapanga is a claim known as the South Kapanga. This ground was profitably worked years ago, but want of pumping-gear caused the claim to be abandoned. The present company commenced operations in November last by erecting a very compact pumping- and winding-plant. A shaft has been sunk to a depth of 100ft., and a drive of about that distance has been put in from the bottom of the shaft. As yet nothing has been cut, but it is expected that a few feet more driving will cut a reef. One or two other claims are working in this neighbourhood, but nothing worth noting has been done in them.

Tokatea.—This company's low level is now in over 3,000ft., but the rich run of gold in the upper levels has not, unfortunately, continued in this. The surface of the mine is still being worked by tributors with profitable results.

The Royal Oak, Young American, Harbour View, and other adjoining claims have given fairly good returns for the labour expended.

Waikoromiko.—This district adjoins the Whatea Block, on the eastern watershed of the main dividing-range. Gold has been got in many rich patches, but nothing permanent has as yet been found. It is a favourite locality for prospectors, and is seldom without a party or two. Within the last fortnight a well-defined lode has been discovered by a party working with aid under the Prospecting Regulations, and stone estimated to contain over 30oz. of gold taken therefrom; but nothing definite can be said as to the probable continuance of the reef at present.

Tiki.—In this quarter the principal mine is at present the Castle Rock claim. This mine has been worked for years with varying results. A new leader was lately discovered, from which a crushing of 6 tons was taken, yielding 136oz. of gold. Since then another crushing of 5 tons

yielded 113oz. The Matawai and Nelson claims, adjoining, have yielded fairly well during the past year. A few men are still at work in Moor's Freehold, but the returns for the past year have been very poor.

Manaia.—This district, situate about nine miles from Coromandel, was opened about eighteen months ago with great expectations of good results. A good road was made and a large amount of work done, but the yield from the trial-crushings, though averaging over 2oz. per ton, was found not sufficient to pay expenses; and so, with the exception of two of the prospectors, the field was abandoned by all. About a fortnight ago these men reported the finding of a small leader carrying rich gold, but nothing is as yet known as to its permanency.

Kauri Block.—This block is situate near the wharf, and includes the once famous Union Beach Mine. This mine has lately been acquired by an English company (referred to in the commencement of this report), who are making preparations for extensive operations, a proceeding which the situation and past history of the mine amply warrant. There is a first-class pumping- and winding-plant already on the ground, together with a ten-stamper battery, all in going order. Work was resumed about the middle of January in this year. The mine is now dry, and the prospects are very encouraging.

Adjoining the above-mentioned mine is a claim called the New Just in Time. About four years ago a good deal of gold was got; but the plant was insufficient to keep the mine clear of water, and the ground had to be abandoned. Possession was resumed in December last, and the mine placed upon the English market; but with what result is not at present known. During the past year 313 tons of quartz have been treated, yielding 2,901oz. 18dwt. gold, thus averaging over 9½oz. to the ton.

THAMES.

There is very little change, and, I am sorry to say, no improvement, to report in the mines of this portion of the Hauraki District during the past twelve months. Not much prospecting has been done in any of the mines, operations being confined principally to old workings, with the exception of the Cambria, Prince Imperial, and Saxon, and there are few new finds of any importance to record. The Drainage Board having ceased to pump below the 400ft. level, no deeper work has been carried on in the adjoining mines; and the question of the existence of gold-bearing reefs at greater depths, on which the future of this portion of the district so much depends, is as far from solution as ever. Most of the mines are now carrying on operations through tributors, very few men being employed directly by any of the companies. The drainage of these mines is a matter of great importance and of no little difficulty. Their continuance may be said to depend on the existence of adequate machinery for draining the water which is found in all the lower levels, and their financial success is in a great measure contingent upon the cost of so doing. The drainage regulations passed last year have proved a benefit, as compared with the old system, so far as they affect the fixing of the drainage assessment and the recovery of rates. The Board is now in the second year of its existence, and only one appeal against its decision has been made to the Warden; and that was decided in favour of the Board. Complaints reach me, however, from time to time, which lead me to suppose that dissatisfaction exists among some of those rated as to the amount of the assessment. This is, no doubt, to be expected, and, from the nature of the case, and the different interests involved, unavoidable. There is no question that the rate is in many instances a drain upon the resources of the mines, and is a great drawback to their development. The pump is, however, a necessity; and if the surrounding mines are to be worked, to say nothing of being prospected at lower levels, it must be supported. Some reductions might be made in the cost of working. The present system is undoubtedly very expensive. Could more modern and suitable machinery be obtained, and a change effected by which water could be used as the motive-power instead of steam, a saving of at least fifty per cent. could be made. The alterations of the machinery, and the other works incidental to the change, would entail, it is estimated, an expenditure of at least £4,000. As the revenue derived by the Board is barely sufficient to maintain the pump, and the Board is not in a position legally to raise a loan, the change, though most desirable, does not seem likely to be accomplished. Although no prospecting is being carried on below the 400ft. level of the Big Pump, the general impression among experts appears to be that, if the necessary capital could be obtained to sink the shaft to a depth of about a thousand feet, another gold-bearing country would be penetrated, equalling, and possibly surpassing, the richness of the ground worked on the higher levels. The discovery of gold at great depths would give an impetus to mining here, and revive a languishing industry.

The principal mines now working on Grahamstown Flat are the Deep Level Cross, the New Prince Imperial, and the Saxon.

The Deep Level Cross, though continuously worked with a few men, has not made much progress during the year, and there is nothing of importance to report.

The New Prince Imperial is being worked chiefly by tributors. Work is being carried on by the Company in No. 1 Lode at No. 2 Level, in which a new run of gold has been discovered. This reef was missed by the original proprietors, who worked the upper portions of the mine some years ago, and ceased driving within 3ft. of it. The prospects at present seem excellent, and rich specimens have recently been obtained. The reef from which they have been taken had not been previously worked in any part of the mine.

The Saxon Company has put in a drive of 240ft. in length at No. 3 Level. A block was let to a party of tributors, who, soon after commencing work, discovered a continuation of No. 2 Reef, which was formerly worked with good results, and from which they have obtained excellent returns. The company has now driven some 15ft. on the No. 3 Level on this reef beyond the tributors' boundary, and has obtained some excellent quartz. A winze has been sunk to connect with a drive now being put in at No. 4 Level, of which 100ft. has been already driven. The company has still 400ft. of the reef before it reaches the boundary.

Moanataiari Creek.

The Moanataiari Company are working principally with tributors. No new work is being carried on beyond some prospecting in the vicinity of the Redan Reef.

The Golden Crown Mine has been worked by parties of tributors for the last seven months, some of whom are earning good wages. There is no prospecting at present being carried on. The battery is engaged crushing for the tributors and the general public.

The Old Caledonian Mine.—The past year's operations have been fairly successful. A drive has been commenced on No. 1 Reef at No. 2 Level, and is already in a distance of 40ft. Colours of gold have been seen in the quartz. The reef averages 3ft. in width. Tributors are working by cross-cuts from the old drives.

Larnach.—A small staff of men is kept employed in this mine, which is worked from the old Caledonian shaft, but nothing of importance has been obtained during the year.

Alburnia.—This company has had a small staff of men employed, besides which nine parties of tributors are working on the Success and Star of the South reefs, and are doing fairly well.

Dixon's.—This mine was formerly part of the Alburnia Company's holding, and was surrendered by them. It is worked by a small party of miners, and is yielding very remunerative returns.

Waiotahi Creek.

The Waiotahi Mine still maintains its position as one of the best-worked and most regular-paying mines on the goldfield. The manager is now opening out the No. 4 Level 300ft. from the surface. A dividend of 2s. 6d. per share (6,000) was paid during the year. About forty men are regularly employed.

The New Manukau is opening out No. 4 Level, and is being worked in conjunction with the Waiotahi Mine. The returns are payable.

The Cambria Mine has driven on the Hanging-wall Reef a distance of 300ft. The prospects are very good. It has paid two dividends during the last four months, amounting to 1s. 6d. per share (44,700).

The Bright Smile is being worked by tributors on reef formerly worked by the company.

Several small claims are working on the upper part of this creek, and in a few instances the shareholders are doing very well.

Karaka Creek and Collarbone Creek.

On these creeks many parties of miners are at work with varying success. The principal mines, the Adelaide, City of Manchester, Hokianga, and Lone Hand, are all worked by small parties of miners, and continue to yield satisfactory returns. At the head of the creek the Auckland Company has taken up old abandoned ground, and has been working with eight men. They have done a considerable amount of work, and are at present employed on a small reef which yields remunerative returns, averaging about 4oz. to the ton. The drive is about 300ft. in length. In the Queen Claim, on the Collarbone Creek, a long drive has been put in for the purpose of prospecting the ground. No discovery of importance has been made.

Tapu Creek.

The mines in this district have, with one exception, ceased operations. The Everton claim, for working which a subsidy was obtained from Government, was found too expensive, and has been given up. The Tapu prospecting-tunnel, subsidized by the Government, is still working; but no discovery of any importance has been made. The Venture claim, taken up in the bed of the Tapu Creek for alluvial gold, has been abandoned after much time and money had been expended. The energy and perseverance of the shareholders deserved better success. A few miners are prospecting the Mata and Gentle Annie Creeks for alluvial gold, but with poor success.

Waiomo.

The expectations raised in the beginning of the year as to this district have unfortunately not been realized. The prospectors, Messrs. Laurie and Plummer, brought several parcels of quartz from their claim (Paroquet) to Grahamstown for treatment at the Prince Imperial battery, with the following results: In May last 2½ tons of quartz and 2cwt. of specimens were crushed for a yield of 169oz. of gold; subsequently 27 tons was crushed for 101oz., 5 tons for 80oz., and 9 tons for 28oz. Several claims of small area were pegged out near the prospectors' claim, and a few about two miles away. Work has, however, been carried on in a desultory and intermittent manner, owing in a great measure to the want of crushing-machinery. Arrangements made during the year for the erection of a battery fell through, and the expense of bringing the quartz to Grahamstown for crushing is too great to allow of a profit, except on the richest stone. The Thames County Council have let contracts for making roads to the mines. Recently four water-rights have been applied for on the Waiomo Creek, and there is every probability of at least one quartz-crushing battery of fifteen stamps being erected within the next three or four months. The returns above quoted certainly justify the expectation that during the ensuing year the Waiomo district will contribute considerably to the gold returns of this district.

Otanui.

Work in the Otanui Mine has been almost suspended, although, judging from the results of past operations, this is a district that will well repay the expenditure of labour and capital.

With regard generally to the Thames mines, but more particularly to those in the vicinity of the township, I think it may be said that the more easily accessible portions have been, to a great extent, worked out, and that, unless more vigorous operations can be carried on in the way of renewed prospecting, particularly at greater depths, the returns must decrease year by year.

It seems a pity that companies should not, while working on rich reefs and leaders, regularly devote a portion of the proceeds to the continuous and systematic prospecting of their properties, so that the working of the richer portions and the prospecting of the untried parts of the mines should go on always at the same time, instead of, as seems to have been too often the case, all the energies and resources of the company being devoted to the speedy extraction of the gold from a few rich patches, to the entire exclusion of all other works, leaving what is termed the dead work to be done when the run of gold has become exhausted, and when the great incentive and encouragement afforded by the receipt of dividends has been removed. The returns would, no doubt, be smaller, but they would be more continuous and regular, and the depressing barren intervals less frequent and shorter in their duration. Efforts have been made to obtain capital from England for the development of some of the mines in the vicinity of the Thames Foreshore, the difficulty and expense of working which has precluded operations being carried out on a large scale, on a general and comprehensive system, and on areas of sufficient extent. From facts that have come to my knowledge I believe there is here a legitimate and likely field for the investment of capital, and in the interest of this district it is to be hoped that the efforts will be successful.

OHINEMURI.
Karangahake.

The failure of the La Monte furnace at the Thames to melt ores at a reasonable cost injuriously affected the mines in the district which had been taken up chiefly with a view to the treatment of the silver present in the stone, and which could not be saved by the ordinary battery process. The smelting-furnace erected for the Woodstock Mine was started during the year, but 38 tons only of silver-ore was smelted. The return from this was 600oz. of bullion, valued at 9s. 6d. per ounce, and the cost of smelting £13 5s. per ton. It is not probable the furnace will be again used, the expense of smelting being too great.

The erection of Railey's Battery on the Waitawheta River, and the success attending his process of treating ores, have given a certain amount of encouragement to the owners of mines in the upper portion of the district, and parcels are being crushed from the mines in the vicinity.

Since Railey's Battery started, 179 tons 5cwt. has been reduced, yielding 1,340oz. of bullion, the lowest price being 4s. 1d. per ounce, and the highest £2 14s. 6d. There are several parcels of quartz stacked ready to be sent to the mill, the largest being 400 tons from the Crown Mine; but the owners are waiting for the completion of the tramway. The cost of sledging is so great that in the meantime large quantities cannot be profitably treated at the battery.

Ivanhoe Mine.—Operations have been confined to working on the Scott Reef, Liddle's Reef, and the main reef. There has been 589 tons crushed, producing 307oz. 16dwt. of gold. Thirteen men have been employed on an average during the year.

Monastery Mine.—This mine is situated nearly opposite Railey's Battery, and across the Waitawheta River. Eight chains of a tramway connects with the battery. Twenty-three tons has been crushed for a return of 159oz. of bullion, value 15s. per ounce. Twelve tons is stacked at the mine. One ton of ore sent to Freiberg was valued in London at £31 per ton, but the result of the treatment at Freiberg is not yet known. Six men are employed.

Woodstock.—This mine is now worked by two parties of tributors, who have crushed 22 tons at Railey's for 333oz. of bullion, valued at £154 15s. On account of the Woodstock Company, 204 tons were crushed at the Ivanhoe battery, which produced 184oz. 3dwt. of bullion, value £1 4s. per ounce.

Kenilworth.—This mine is let on tribute. Ten tons, crushed at Railey's, produced 44oz. of bullion.

Crown Mine.—A considerable amount of work has been done in this mine. 189ft. has been driven in No. 2 Reef, and 70 fathoms stoped. An intermediate level has been driven 114ft., and a rise put up 75ft. This reef averages 4ft. in thickness. There are eight other reefs in this mine, varying from 3ft. to 4ft. in width, on which a fair amount of work has been done, and prospects obtained which are very encouraging. Twenty tons, crushed at Railey's, produced 101oz. of bullion, valued at £69 16s.; and 400 tons of quartz is stacked at the mine.

Imperial.—A reef has been cut in this mine within 5 chains of the tramway to Railey's Battery, and very good-looking stone, with gold showing, is in sight.

Adeline Mine.—This mine is the richest at present worked at Karangahake. The reef varies from 1ft. to 1ft. 6in. in thickness. The low level has been driven 210ft. during the year, and connected with the level above by a pass of 78ft. Stoping has been continued on both sides of the pass, as well as from the back of the low level. The quartz at the low level is not so rich as at the upper blocks, but is reported to be worth from 5oz. to 6oz. per ton. The cost of sending quartz to Railey's is at present too great to admit of economically working the mine. A parcel of 40 tons is in transit, but no more will be sent until the tramway is completed. 160 tons yielded 1,608oz. of gold, valued at £2 12s. 3d. per ounce, and the company paid £2,500 in dividends during the year.

Rose Mine.—The reef worked in this mine is a continuation of the Adeline reef. A block of ground at the smithy level is producing quartz estimated to yield 6oz. to 7oz. to the ton, and a parcel is now being sent to Railey's Battery. A low level has been driven 282ft. through hard rock to cut the reef, which looks well, and is in a good channel of country. The stone appears to be of similar character to that found in the upper workings: 51½ tons of quartz yielded 129oz. 10dwt. of gold.

Diamond Mine.—This mine is on the same line of reef as the Adeline and Rose. A crushing of 25 tons yielded 204oz. of valuable bullion.

Dubbo Mine.—Good prospects are being found in the reef, and 15 to 20 tons of quartz is to be sent to the battery forthwith.

Sutro Mine.—Two reefs are worked in this mine. The main reef varies from 4ft. to 3in. in thickness. Forty-four tons crushed yielded 220oz. of bullion, valued at 12s. per ounce.

Owharoa District.

The low-level tunnel subsidized by the Mines Department was not continued through the hard bar at the back of the claims formerly worked; and, with the exception of the Smile of Fortune Company, employing five men, and the Me and Rowe claim (four men), no mines are at present in active work. The returns from the Smile of Fortune battery for the year are 84½ tons crushed, producing 69oz. of gold. Pans are to be erected at the battery.

Waihi District.

Martha Extended Mine.—The low level has been continued 300ft., and is now 1,200ft. in length; 170 fathoms of reef has been stoped; 5,000 tons of quartz crushed, yielding 1,052oz. of gold, or a return of 4dwt. 5gr. per ton. This has paid the expenses of the mine and the balance of a debt due by the company.

Silvertown Mine.—The works in this mine have been the continuation of the low level, stoping towards the surface, and sinking a winze on the run of gold. The winze is down 60ft., and a level constructed at bottom of the winze on the reef for 30ft.; 100 tons of quartz is stacked, worth 1oz. per ton; 170 tons has been crushed for 510oz. of gold.

Rosemount Mine.—The low level has been driven, to cut the reef, a total distance of 570ft. No other work has been done.

Union Mine.—A low level was driven on the reef, and 350 tons of quartz taken out: 300 tons are crushed at the battery, producing 300oz., valued at £2 9s. per ounce; and 50 tons, selected from the parcel and exported to England and America, was valued at £40 per ton.

Winner Mine.—150ft. of surface-driving has been done, and a reef 5ft. thick cut. A low-level tunnel, at a depth of 200ft., has been driven, but the reef here has not yet been found.

Nelson Mine.—100ft. of driving has been done.

The gold-producing mines at Waihi will soon be worked to water-level, and, as the country is generally flat, pumping-machinery must be employed if sinking is attempted.

Waitekauri District.

Welcome Mine.—Two men have been working for the year, and have crushed 70 tons for 76oz. of gold. They have now opened the old low level on the reef, and expect two years' payable work.

Mangakara Claim.—A party of eight men are working this ground, having the mine and battery on tribute. Eighty-four tons of quartz crushed yielded 75oz. 15dwt. of gold.

Waitekauri Mine.—This mine is also (with the battery) let on tribute. Thirteen men are employed; 2,397 tons has been crushed, yielding 1,015oz. of gold. The operations have been confined to opening and stoping two blocks between Butler's Level and the surface.

Parties of prospectors work occasionally in the district, but during the past year have not met with much success, 42oz. being the yield for the year.

One or two parties are still prospecting at Parakiwai, or Wharakeraupunga, but have made no further discoveries of any importance. Some time must elapse before the district can be thoroughly prospected, as it is surrounded by exceedingly rough country nine or ten miles from Waitekauri, and is not connected by road with any settlement.

The average number of miners employed during the year ending the 31st March, 1887, in the Ohinemuri District is as follows: Karangahake, 75; Waihi, 33; Waitekauri, 32; Owharoa, 12; prospecting, 10; total, 162.

TE AROHA.

The return of gold from the Waiorongomai mines for the past year shows a decrease. The falling-off in the yield from the New Find and Colonist Mines is accounted for by the fact that, owing to the scarcity of water during the months of January and February, the battery could not be fully worked, and only a small quantity of quartz was crushed. Work in the other mines has not been vigorously prosecuted, and the returns are proportionately reduced. The new battery owned by Ferguson, Fraser, and party commenced to crush in April last; but the process of amalgamating does not appear to have been satisfactory, as the plant has not been much used, and is now idle. The reefs at Tui Creek contain ores of a complex nature, which require a different mode of treatment from that formerly adopted. The class of machinery required to treat them has not yet been decided on. The returns have therefore been restricted to the quantity and value of the ores sent to England for treatment.

The returns from the claims taken up at Stoney Creek have not proved payable, and that district is at present deserted. The general depression existing in the colony has been felt on this goldfield, and no fresh capital has been expended in mining operations during the year.

Waiorongomai District.

New Find Mine.—The new low level has not yet been driven to cut the reef, and operations have been confined to the blocks left over No. 2 Level. There has been 3,308 tons of quartz crushed for a yield of 2,824oz. 6dwt. of gold; 420 fathoms of reef has been taken out; 260ft. of driving done on the reef, and 350ft. in the low-level cross-cut, through very hard rock. Ninety-five feet will yet have to be driven to cut the reef.

Colonist Mine.—The operations in this mine have been confined to working the ground previously opened up, and no new prospecting works have been undertaken. The Battery Company have been working the mine on terms with the Colonist Company, and 865 tons has been crushed for a return of 483oz. 3dwt. of gold. There has been 200 fathoms stoped, and 150ft. driven on the reef.

Galena Mine.—This mine is owned and worked by the Battery Company. The return from 396 tons of quartz treated has been 193oz. 16dwt. of gold. There has been 175 fathoms of reef stoped, and 300ft. driving done.

Waiorongomai Mine.—This mine has been chiefly worked by parties of tributors, and 78 tons yielded 41oz. 19dwt. gold.

May Queen.—This mine has been lately purchased by the Battery Company, and 50ft. has been driven on the reef; which has proved payable.

Canadian Mine.—Operations in this mine have been confined to driving on the reef from the Colonist low level; and 60 tons of quartz yielded 20oz. of gold.

Success Claim.—This claim, which is situated to the eastward of the main reef, and was formerly known as the Waitoke Extended, has been worked since August last. A considerable amount of work has been done by the owners: 36 tons of quartz has been crushed for a yield of 36oz. of gold, and 10 tons of quartz of better quality is stacked at the mine ready to be sent to the battery. The reef worked varies from 6in. to 18in. in thickness.

Sundry crushings of parcels from small claims yielded 120oz. 2dwt. 12gr. of gold.

Tui District.

Champion Lode Mine.—The work done in this mine has been in opening a reef about 5ft. in width running in a north-easterly direction. The workings are for the most part near the surface. About 100 tons of ore is stacked ready for treatment. Various parcels, amounting in the aggregate to 150 tons, have been forwarded to England for sale. Mr. C. A. Cornes, one of the owners, informs me that a return from 75 tons was valued at £11 10s. to £12 10s. per ton. Another reef running parallel to the first has been found with a good show of sulphide of silver in the stone.

Surprise Mine.—A considerable amount of prospecting has been done in this mine, and a large reef, about 6ft. in thickness, discovered, which contains a quantity of galena and carbonate of lead. There is also another larger reef to the southward of the first, which also shows sulphides of silver. The reefs in this mine run nearly east and west.

The mines at Tui Creek may be expected to add to the returns of next year, for if the furnaces to be erected at Waiorongomai are successful in the treatment of those complex ores, quartz may be sent there from those mines for treatment.

The future prospects of the field rest on the prosecution of works to develop the reefs in a systematic manner, and on reducing the expenditure for working, and also on improved methods for the treatment of the ores.

Messrs. Firth and Clarke (the Battery Company, at Waiorongomai) have during the past year taken steps to become acquainted with the best methods of ore-treatment: Mr. J. C. Firth and the battery-manager, Mr. H. H. Adams, visited the principal mining centres in California, Nevada, and other parts of the United States; and the effect of their observations has been to convince them that the most economical and practical method of treating ores such as are found at Te Aroha is by calcining—the ores to be roasted in a furnace after being crushed in a battery, and then to be ground with suitable chemicals in pans for the purpose of amalgamation. A much greater percentage of the assay-value of the ore is thus saved—more than sufficient to compensate for extra cost of treatment.

The Battery Company has erected a small furnace at Waiorongomai, capable of roasting 15cwt. of crushed ore at one charge; and the samples already operated on have given such satisfactory results that they intend to erect extensive furnaces capable of treating ores in large quantities. A special claim of 110 acres has been applied for by the company. This will comprise the whole of the line of the main reef from Waiorongomai Township to the New Find Mine, and there is every prospect of being successful in obtaining capital from England to work the ground in a systematic manner. It is intended to drive two tunnels, one on each side of the reef, from the level of the battery northward to the New Find Mine. The reef will be cut through at stated distances. This method will test its value and be the means of thorough ventilation. The scheme is certainly one that recommends itself as being a thoroughly practical way of prospecting a large extent of known gold-bearing reef; and, although at the commencement of the tunnels there is not much of the reef overhead, when it has been driven a mile and a half there will be at least 2,000ft. of "backs" on the reef, and if any runs of gold are found there are vast quantities of quartz to be obtained between the tunnel and the surface. It is also intended to lay a tramway from the entrance of the tunnel to the platform at the battery. The water-power at the battery will be employed in compressing air to work rock-drills to be used in driving the tunnel.

This company is in treaty for the purchase of the New Find, Canadian, and Colonist Mines, and will be able to work lower-grade quartz in the reefs than the companies now holding the ground can, on account of the cost of crushing. It is intended to lease the tramway from the Piako County Council, and work will be continued from those portions of the mines at present opened during the time the tunnel is being driven along the reef. Mr. Peter Ferguson has marked out a special claim of extended area lying to the eastward and northward of the Battery Company claim and the New Find and Colonist Mines. He states that this claim will be worked by a company, which will also own the splendid reducing-battery erected by his party. There are numerous reefs running through this ground, and also a portion of the main reef lying to the northward of the Colonist Mine, so there is every probability of payable quartz being obtained if the reefs are prospected in a systematic manner; and, as they are mostly at a great height above the battery, tunnelling only will be required to work them.

The excellent returns from the quartz sent to England by the owners of the Champion Lode Mine at the Tui Creek should cause them to make provision for working the mine and treating the ores locally. They are in treaty with English capitalists to form a company to work the mine and erect machinery. The reefs at Tui Creek are of a different character from any previously worked

in this district. The gold, silver, and other metals contained in them require each its own special treatment, and suitable machinery must be erected, involving the expenditure of a large amount of capital. A greater extent of land may possibly be required to justify the expenditure by any single company.

Special claims will probably be required at Waiorongomai, as individual miners or companies cannot hope to hold and work small claims to advantage. The extension of the tracks from Waiorongomai towards Tui Creek, and from Karangahake towards Te Aroha, for which a grant has been made by the Mines Department to the Ohinemuri County Council, will open up a large extent of country for the miners, and enable prospectors to test the main Waiorongomai reef, and also those reefs extending from the Champion Lode Mine at Tui Creek, in places which are at present inaccessible.

A deposit of gold-bearing rock has been found on the farm of Mr. J. B. Smith, at Waihou, in the Thames Valley, about six miles from Te Aroha Township. Several samples tested by Mr. J. A. Pond, of Auckland, Mr. H. H. Adams, of Waiorongomai, and Mr. Montgomery, of the Thames School of Mines, have given various results, and a parcel of 3cwt., treated at Mr. G. Fraser's works in Auckland, yielded at the rate of £1 13s. per ton. This deposit is a most unusual one for gold to be found in, as it is in large boulders of a kind of cement named by Mr. Montgomery a "rhyolitic breccia," and has the appearance of pumiceous drift cemented, and containing small crystals of quartz. Mr. Smith's land is outside the mining district; but he is at present engaged in prospecting the ground where the boulders have been found.

The population of the Te Aroha District is about the same as last year—viz., 1,150. The Township of Te Aroha still continues to increase, the hot springs and baths maintaining their popularity; and many people visit Te Aroha for the purpose of obtaining rest and health.

GENERAL REMARKS.

Mining on the whole Coromandel Peninsula is at present depressed, and as a consequence trade is dull, and on all sides are heard complaints of hard times. The introduction of the La Monte furnace raised hopes of a more prosperous future, but its failure to deal remuneratively with the refractory ores of the district caused great disappointment and intensified the feeling of depression. There can be no doubt, from many experiments made with ores from different parts of the peninsula, that the discovery or adaptation of some process by which the great waste of gold and silver could be obviated would be of immense benefit to the whole district, and large blocks of land in various parts of the goldfield now idle, because they will not pay to work under the existing conditions, would be taken up and afford employment to hundreds of men. Private enterprise, induced by the prospects of remunerative investments, will, no doubt, in time succeed in obtaining some satisfactory solution of the difficulty; but in the meantime the whole district suffers serious loss and injury. The project mooted by the committee of the Thames School of Mines, of erecting at the Thames—as the most suitable and central position—an experimental plant, where tests could be conducted and the various methods at work in other places tried on the ores from different portions of the district, is one that commends itself to practical miners. The benefit that would accrue, not only to this mining district, but to the goldfields of the whole colony, will, in my opinion, justify the expenditure of public money in assisting the undertaking. Though temporarily depressed, I see no reason to despair of the future of this district. Eighteen years' incessant work has necessarily exhausted much of the wealth of the Thames mines, but there are in many of them large blocks of land that have not been yet thoroughly worked, while the deeper levels are still unprospected. In the newer districts, such as Karangahake, Waihi, and Waioino, the prospects are decidedly encouraging, while at Coromandel there are evident signs of improvement, and the introduction of English capital encourages the hope that more systematic and vigorous operations will obtain results calculated to incite others to renewed efforts in other parts of the district. It must be remembered, too, when speaking of the Thames mines, that they cover, after all, a very limited area. Most of the mines which have produced great quantities of gold in the past are within a radius of half a mile from the town. There are many miles of the peninsula unprospected to this day, and even at a distance of two miles inland from Grahamstown scarcely a miner is to be seen at work, although gold has been found in the ranges from almost the opening of the goldfield. That this part of the field is worth more attention than it receives is proved by the success that has attended the operations of the Auckland Company; and, with better roads, increased facility, cheapness of transit, and a more perfect method of treating the quartz, there can be no doubt much of this land now for many years unoccupied could be profitably worked.

At Karangahake, Railey's battery and plant, elsewhere referred to, seems in a great measure to have met the want hitherto experienced of a process applicable to the mixed ores of that district, containing as they do gold and silver both in the metallic form and in chemical combinations, such as sulphides, &c., and has led to the adoption of the details in other batteries in the locality. From the satisfactory trials already made of quartz from several mines, it may be confidently expected that during the next twelve months Karangahake will rank among the most regular gold-producing portions of the Hauraki District.

It is to be hoped that the endeavour now being made to obtain the assistance of English capitalists in developing the Waihi mines will be successful, as they undoubtedly contain ores of great richness, but which are, with the appliances of treating them at present in use, practically of little value. News has just been received from England that 16 tons of quartz from the Union Mine has been sold there to a German firm, and has realized £43 per ton, the assay being £50 per ton—namely, 9½oz. of gold and 55oz. silver. Quartz of the same quality by the ordinary battery-treatment is said to have yielded only 1½oz. of gold to the ton.

At Waiorongomai a more hopeful feeling prevails than has done for some time past. Two influential companies have been organized for the purpose of working large areas of land and

erecting machinery capable of dealing with the ores of the district. With a comprehensive and systematic plan of working, improved and suitable machinery, and the control of the capital necessary to carry out works of such magnitude, there is every probability of a revival of mining in this locality, and a substantial addition to the gold returns of the district.

I have, &c.,
H. A. STRATFORD, Warden.

The Under-Secretary, Mines Department, Wellington.

Mr. G. WILSON, Mining Inspector, to Mr. Warden STRATFORD.

SIR,—

Warden's Office, Te Aroha, 3rd April, 1887.

I have the honour to forward the following general report on the Te Aroha Goldfield for the year ending the 31st March last.

The return of gold from the mines at work in the Waiorongomai district shows a decrease, and mining operations have not been so successful as during the year ended the 31st March, 1886. The cause of decrease in the returns from the New Find and Colonist Mines has been that during the months of May in last year, and January and February of this year, a very small quantity of quartz was crushed, as the stamps could not be driven on account of the scarcity of water. Work has not been vigorously carried on in the other mines, and the returns are consequently much reduced. The new battery owned by Messrs. Ferguson, Fraser, and party commenced to crush in April last; but the process of amalgamation adopted does not appear to have been satisfactory, as the plant was not much used and is now idle. The reefs at Tui Creek contain ores of a complex nature, requiring a different mode of treatment from that formerly adopted, and until this mode of treatment has been decided on, no machinery will be erected. The returns have therefore been confined to the quantity and value of the ore sent to England for treatment. The returns from the claims taken up at Stoney Creek have not proved payable, and this district is at present deserted. The general depression existing in the colony has been reflected on this goldfield, and up to the present no fresh capital has been expended in mining operations during the year.

WAIORONGOMAI DISTRICT.

New Find Mine.—The new low level has not yet been driven to cut the reef, and operations in working quartz have been confined to the blocks left over No. 2 Level. There has been 3,308 tons of quartz crushed for a yield of 2,824oz. 6dwt. of gold, 420 fathoms of reef has been taken out, 260ft. of driving done on the reef, and 350ft. in the low-level cross-cut through very hard rock: 95ft. will yet have to be driven to cut the reef.

Colonist Mine.—The operations in this mine have been confined to working the ground previously opened up, and no new prospecting works have been undertaken. The Battery Company has been working the mine on terms with the Colonist Company, and 865 tons has been crushed for a return of 483oz. 3dwt. of gold, 200 fathoms of the reef stoped out, and 150ft. driven on the reef.

Galena Mine.—This mine is owned and worked by the Battery Company. The return from 396 tons of quartz crushed has been 133oz. 16dwt. of gold; and 175 fathoms of reef has been stoped out.

Waiorongomai Mine.—This mine has been chiefly worked by parties of tributors; and 78 tons of quartz yielded 41oz. of gold.

May Queen.—This mine has been lately purchased by the Battery Company, and 50ft. driven on the reef, which is payable.

Canadian Mine.—Operations in this mine have been confined to driving on the reef from the Colonist low level. Sixty tons of quartz yielded 20oz. of gold.

Success Claim.—This claim, which is situated to the eastward of the main reef, was formerly known as the Waitoki Extended, and has been worked since August last. A considerable amount of work has been done by the owners. Thirty-six tons of quartz has been crushed for a yield of 36oz. of gold; and 10 tons of quartz, estimated of better quality, is stacked at the mine ready to be sent to the battery. The reef worked varies from 6in. to 18in. in thickness. Sundry crushings of small parcels from claims yielded 120oz. 2dwt. 12gr. of gold.

TUI DISTRICT.

Champion Lode Mine.—The chief work done in this mine has been in opening a reef about 5ft. in thickness, and running in a north-easterly direction. The workings are near the surface. About 150 tons of quartz is stacked ready for treatment. Parcels amounting in the aggregate to 150 tons have been forwarded to England for treatment. Mr. C. A. Cornes, one of the owners, informs me that a return from 75 tons was valued at £11 10s. to £12 10s. per ton. Another reef, running parallel to the first, has been found, with a good show of sulphide of silver in the stone.

Surprise Mine.—A considerable amount of prospecting has been done in this mine, and a large reef, about 6ft. in thickness, discovered, which contains a quantity of galena and carbonate of lead. There is also another reef, larger in size, to the northward of the first, which also shows sulphide of silver. The reefs in this mine are running nearly east and west.

May Bell Mine.—Large masses of quartz, containing a good show of sulphide of silver, are found on the surface, but, although a considerable amount of driving has been done, the solid reef is not found.

The mines at Tui Creek may be expected to add to the returns for next year, if the furnaces proposed to be erected at Waiorongomai are successful in the treatment of complex ores, as the owners may be able to send quartz for treatment there and have returns.

The future prospects of the field now rest on the prosecution of works to develop the reefs in a systematic manner, and in reducing the expenditure for working, and also in improved methods for the treatment of the ores.

Messrs. Firth and Clarke (the Battery Company, at Waiorongomai) have during the past year taken steps to become acquainted with the best methods of ore-treatment. Mr. J. C. Firth and the battery-manager, Mr. H. H. Adams, visited the principal mining centres in California, Nevada, and other States on the Pacific slope of the United States; and the outcome of their observations has been that the most economical and practical method of treating ore such as they have been crushing at Waiorongomai is the adoption of the calcining-furnace to roast the ores after being crushed in the battery, and then grinding the roasted ore (chemically treated) in pans for the purpose of amalgamation. A much greater percentage of the assay-value of the ore is thus saved, and this will more than recoup the extra cost of treatment. The Battery Company has erected a small furnace at Waiorongomai capable of roasting 15cwt. of crushed ore at one charge, and the samples already operated on have given such satisfactory results that the Battery Company intend to erect extensive furnaces capable of treating ores in large quantities. The Battery Company have made application for a special claim of 110 acres, which will comprise the whole of the line of the main reef, from Waiorongomai Township to the New Find Mine, and there is every prospect of their being successful in floating a company in England to work the ground in a systematic manner. It is intended to drive two tunnels, one on each side of the reef, from the level of the battery northward to the New Find Mine. The reef will be cut through at stated distances, and this method will test its value, and be the means of thorough ventilation. The scheme is certainly one to recommend itself as being a thoroughly practical way of prospecting a large extent of known gold-bearing reef; and, although at the commencement of the tunnels there is not much of the reef overhead, still, when it has been driven a mile and a half there will be at least 2,000ft. of backs on the reef, and if any runs of gold are found there are vast quantities of quartz to be obtained between the tunnel and the surface. It is also intended to lay a tramway from the entrance of the tunnel to the platform at the battery, and the water-power at the battery will be employed in compressing air to work rock-drills, to be used in driving the tunnel. The Battery Company are in treaty for the purchase of the New Find, Canadian, and Colonist Mines, and they will be able to work low-grade quartz in the reefs, which the companies now holding the ground cannot do on account of the cost of crushing. They also intend to lease the tramway from the Piako County Council, and will be able to reduce expenditure in this way by working it with men in their own employment. Work will be continued from those portions of the mines at present opened during the time the tunnel is being driven along the reef.

Mr. Peter Ferguson has also marked out a special claim of extended area lying to the eastward and northward of the Battery Company's ground and the New Find Mine. Mr. Ferguson states that this claim will be worked by a company to be formed, which will also own the splendid reducing-battery erected by his party. There are numerous reefs running through this ground, and also a portion of the main reef lying to the northward of the Colonist Mine; so there is every prospect of payable quartz being obtained if the reefs are prospected in a systematic manner; and, as the reefs are chiefly at a great height above the battery, tunnelling only will be required to work them.

The excellent returns from the quartz sent to England by the owners of the Champion Lode Mine at the Tui Creek should cause them to make provision for working the mine and treating the ores locally. They also are in treaty with English capitalists to form a company with a large capital to work the mine and erect machinery.

The nature of the reefs at Tui Creek is so different from that of any previously worked in this district that gold, silver, and other metals must have special treatment for their extraction, requiring large capital. Combination of interests and extended area of claims would appear to be necessary to cause capital to be invested. The extension of area of claims will also apply to all the land previously occupied at Waiorongomai, as individual miners or small companies cannot hope to hold and work small claims to advantage.

The extension of the track from Waiorongomai towards Tui Creek, and of the track from Karangahake towards Te Aroha (for which a grant has been made by the Mines Department to the Ohinemuri County Council), will open a large extent of country for the miners, and enable prospectors to test the main Waiorongomai reefs, and also those reefs extending from the Champion Lode Mine at Tui Creek, in places which are at present inaccessible.

A deposit of gold-bearing rock has been found on the farm of Mr. J. B. Smith, at Waihou, in the Thames Valley, about six miles from Te Aroha Township. Several samples tested by Mr. J. A. Pond, of Auckland; Mr. H. H. Adams, of Waiorongomai; and Mr. Montgomery, of the Thames School of Mines, have given various results; and a parcel of 3cwt. treated at Mr. G. Fraser's works, in Auckland, yielded at the rate of £1 13s. per ton. This deposit is a most unusual rock for gold to be found in, as it is in large boulders of a kind of cement named by Mr. Montgomery a "rhyolitic breccia," and has the appearance of pumiceous drift cemented, and containing small crystals of quartz. Mr. Smith's land is outside the mining district. He is at present engaged in prospecting around where the boulders are found, and hopes to meet with valuable ore.

The population of Te Aroha District is about the same as last year—1,150. The Township of Te Aroha still continues to increase, the hot springs and baths maintaining their popularity; and many people visit Te Aroha for the purpose of rest and health.

I have, &c.,

H. A. Stratford, Esq., Warden, Te Aroha.

GEO. WILSON, Inspector of Mines.

No. 2.

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

SIR,—

Inspector of Mines' Office, Thames, 15th April, 1887.

I have the honour to forward mining report for Hauraki North and South Gold-mining Districts for year ending the 31st March, 1887. The following is a return of quartz crushed and melted gold obtained in both districts:—

				Quartz.	Tailings treated.	Gold.
				Tons cwt. lb.	Tons cwt. lb.	Oz. dwt. gr.
Hauraki South—						
April,	1886	...	...	2,713 9 43	337 0 30	3,681 1 0
May,	"	...	...	2,454 10 44	504 0 70	2,545 2 0
June,	"	...	...	2,698 3 47	509 11 72	3,461 17 12
July,	"	...	...	2,910 4 27	534 0 5	2,641 17 18
August,	"	...	...	2,565 2 25	1,005 0 0	3,089 13 6
September,	"	...	...	2,861 19 80	743 0 20	2,713 2 12
October,	"	...	...	2,172 15 13	759 10 0	2,776 15 18
November,	"	...	...	2,372 12 48	753 10 0	3,287 2 6
December,	"	...	...	2,301 18 29	461 10 0	5,035 9 9
January,	1887	...	...	1,692 18 107	225 10 0	1,707 13 6
February,	"	...	...	1,821 4 49	358 11 50	3,066 10 0
March,	"	...	...	1,658 8 70	412 0 1	4,135 10 10
Hauraki North (for twelve months)				28,223 7 22	6,603 4 24	38,141 15 1
				287 6 80	17 10 0	4,169 15 20
Total				28,510 13 102	6,620 14 24	42,311 10 21

HAURAKI NORTH (COROMANDEL).

Tokatea Mine.—The works in this mine during the year have been principally carried out by tributors, who are under the management of Mr. John Binney, formerly manager of the Bright Smile Mine, Thames. The leaders worked in this mine are generally very small, but, at the same time, the returns of quartz crushed during the year show they are very rich. In all, 24 tons 2cwt. 78lb. has been crushed, for a yield of 698oz. 17dwt. 12gr. melted gold, the average value being £2 16s. per ounce, being about 28oz. to the ton. At No. 7, or lowest level, there are three parties at work on the Tokatea leader, the direction of which is nearly east and west. The last crushing from this level paid handsomely, as the tributors obtained 108oz. from a little over 4 tons of quartz, the value in this case being £2 18s. 4d. per ounce. At No. 3 Level a north-west cross-cut has been driven 285ft. for prospecting purposes. In that distance several small quartz leaders were cut, but none of these were found to contain payable gold where they were passed through. The object of this drive is to cut the main lode of the hill, known as the Big Reef. The general direction of this Big Reef is north and south. In about another 100ft. of driving this reef should be reached. Other portions of the mine are being worked by tributors, with fair success. There is a crushing-plant in connection with this mine, consisting of fifteen head of stampers and two berdans, situated near the mouth of No. 7, or lowest level, driven by a ten-horse-power portable steam-engine.

Royal Oak.—This mine is also under the management of Mr. Binney. Like the Tokatea, the tributors in this mine are principally working on small leaders, and have generally been very successful—in one tribute (Mayn's), at the intermediate level, remarkably so. The last crushing of 850lb. quartz gave Mayn no less than 987oz. 7dwt. retorted gold. This has encouraged the company to restart operations on its own account, and a drive is now being carried in to cut the leader below Mayn's tribute block. This is now well in, and the leader should soon be to hand. Prospecting work has also been carried out by the company on No. 2 Lode at No. 3 Level, but at present this has ceased through want of funds. The total crushings during the year from this mine were 20 tons 1,210lb., which gave 1,362oz. 6dwt. 12gr. gold.

Bismarck.—The owners of this mine have done a large amount of work in driving and stoping, &c., but this year with very indifferent success.

Young American.—The owners of this mine have crushed 4 tons 360lb. stone for a return of 465oz. gold. The owners are now engaged stoping out a block of ground 40ft. high over their low level.

There are a number of other claims on the Tokatea Hill that have done very well during the year, such as Batchelor's, the City of Glasgow, Stirling Castle, and the tributors in the late Harbour View ground.

South Kapanga Mine consists of about fifteen acres of ground which has recently been taken up on the south of the Kapanga Mine by an Auckland company. A new shaft has been sunk for a depth of 97ft. At 90ft. a level has been opened out, and is now driven 115ft. It is expected, in another 50ft., to cut the reef under where some very rich gold was obtained in a winze some eighteen or nineteen years ago by a party who were then beaten out by the water, and had not the funds, or the influence necessary to raise the capital, required in the more extensive and expensive operations now in progress. The shaft is 12ft. by 4ft. in the clear, timbered throughout with 9in. by 3in. sawn heart of kauri, and 9in. by 9in. horns. It is divided into three compartments—two for winding, and one for pumping and ladder-ways; the latter are well constructed, and fitted with ½in. iron rungs.

The boiler is a vertical one, 4ft. in diameter by 8ft. high. There are two 13in. cylinders attached, which drive both winding- and pumping-gear. The pump and pump-barrels are 8in. in diameter. The winding-rope is a 9in. manila one, which has been tested up to 10 tons. The poppet-heads are substantially constructed of 12in. by 12in. sawn heart-of-kauri timbers. At present seven hours' pumping in the twenty-four keeps the mine clear of water, working six strokes per minute, with a 2ft. 6in. stroke. This mine is under the charge of William Henry Cobley, one of the original shareholders in the celebrated Shotover Mine at the Thames.

Kapanga Mine.—I mentioned in my last year's report that it was expected that English capital would be introduced for the two deep mines at Coromandel—viz., the Kapanga and the Telephone (now called "Coromandel"): these expectations have fortunately been realized, and both these mines have now started operations. The Kapanga, with a working-capital of over £23,000, started the preliminary work on the 4th August, 1886, under the charge of Mr. Francis Hodge. The machinery, &c., being in bad order, costly works had to be undertaken in repairs to pumping-engine, boilers, and flues, also alterations in flat- or sweep-rods, &c.; and after the mine was drained extensive repairs and alterations and retimberings in the shaft, and alterations to pump-rods, plunger-poles, &c. These works, though expensive, were necessary before the shaft could be sunk deeper. Regular pumping operations commenced on the 28th September, and on the 8th December the mine was wholly cleared from water, when it was found that the lower or 420ft. levels were nearly completely blocked up with silt and clay, which had all to be cleared out. It is intended to sink the main shaft a further distance of 180ft. below the present 420ft. level. At about 70ft. below No. 2. or 420ft. level, it is expected to cut through the underlie of the Kapanga reef, and 110ft. below this Scotty's reef should be cut. The sinking of this shaft is now being proceeded with. It is now 18ft. below the 420ft. level. As soon as the levels in the old portions of the mine are all cleared out and ready, Mr. Hodge proposes to let them under the tribute system. Pumping-engine is direct-acting with 24in. cylinder, supplied with steam from two 10-ton Cornish boilers. The stroke of pumps is 5ft. 10in. The winding is done by a 9in.-cylinder portable engine, which has been entirely retubed and overhauled. The reduction-plant consists of twelve head of stampers and two berdans, driven by a new 13in.-cylinder high-pressure horizontal engine. The number of men at present employed is thirty-three.

Coromandel (late Telephone) Mine.—This company's operations are also being carried on under the management of Mr. Francis Hodge. The working-capital is £25,000. The property consists of forty acres licensed from Government, formerly known as the Union Beach, Golden Pa, and Palmerston Mines, and also 126 acres of private property known as "Blagrove's Freehold." The preliminary work of cleaning and repairing the boilers, flues, engines, wharf, &c., was commenced on the 18th January, 1887, and the regular pumping-operations on the 3rd February; and on the 9th March the mine was drained. In regard to the future operations of this company, as the ground in the neighbourhood of the present shaft, which is 180ft. deep, is well worked out, and the proposed new workings in the auriferous channel of country and virgin ground would be most disadvantageously situated, and at a long distance from the shaft, it is proposed to utilize the Palmerston shaft, and make it the centre of operations. For this purpose the shaft will be deepened, and a connection made with No. 1 Shaft at the 180ft. level. A new engine will be required, and a number of alterations in the mode of pumping and winding. At present a north drive is being put in on the cross-reef at the 180ft. level, and at the same level a cross-cut is being driven to come under the Palmerston shaft. At the adit or low level an easterly cross-cut is being driven to prove any reef in that direction. In this a branch leader was cut, which showed some good specimen-stone. The cylinder of the pumping-engine is 18in., with a 4ft. 6in. stroke, steamed by two boilers, one 6ft. 6in. diameter by 29ft. long, and the other 5ft. 6in. diameter by 26ft. long. A double 8½in.-cylinder portable engine is engaged drawing and winding. The crushing-machinery consists of fifteen head of stampers and three berdans, and a 5-ton multitubular boiler. This is, however, not in use at present, the steam being supplied from the two pumping-boilers. The number of men employed at present is twenty-six.

The Tiki and Matawai portions of this goldfield have no particularly new features to note. One claim at the latter place, Vizard's, had one very good crushing—6 tons, which gave 135oz. gold; but the quartz had to be carted some five miles before it could be treated, as there has been no crushing now for over six months at Masefield's Battery, at the foot of the Matawai Creek, on account of want of water.

Manaiā.

There is little new to report in regard to this district. A shaft was sunk from the adit tunnel, and the reef here driven on for 170ft. Ten tons were tried from this, having to be packed or sleighed some nine miles. The return was good, being 36oz. gold. At this low level the inflow of water became so great that without proper pumping-appliances it could not be mastered, and this level had to be abandoned. The owners, Dyer, Lynch, and party, intend continuing work in the adit and surface-levels.

In the Waikoromiko District, which lies about two or three miles east from the Tokatea Range, a new rush has set in and a number of claims have been pegged out. This is through the discovery of a reef near the top of the range by McGregor and party, who were assisted in prospecting by the Government, and, I believe, also the Coromandel County Council. The stone brought in and shown by Mr. McGregor is estimated to go from 25oz. to 30oz. to the ton. In this district, some ten or twelve years ago, loose gold was found, and, after great difficulties and expense, a battery was got down to the creek and erected; but the gold was not permanent. Fortunately this battery is still there, the country being so rough and mountainous that it was considered it would cost more than it was worth to bring it out. A road or track from the Tokatea Saddle is very much required to open out this district.

HAURAKI SOUTH.

THAMES AND OHINEMURI GOLDFIELDS.

Thames District.

New Alburnia Mine.—This mine is under the management of Mr. William McKenzie. The work of opening up the Star of the South and Success Reefs at the 70ft. level, by means of a cross-cut 150ft. in length, was completed in April, 1886, after which driving and stoping operations were commenced. The drive on line of both reefs was extended for a distance of 100ft. east and west of cross-cut. The stopes were beaten out for 30ft. over the drive, but the class of ore obtained was barely payable, and work in this quarter was therefore suspended. The hanging-wall lode of the Sons of Freedom Reef was opened up in the month of May, 1886, and operations continued on it till September, with payable results. The extent of ground stoped out on this lode was 60ft. in length by 40ft. in height. The gold here having given out, the men were shifted to the Specimen Lode, at the 70ft. level, which was driven on for a length of 85ft. and stoped out to a height of 40ft. over the drive, the crushing of which yielded at the rate of 4oz. gold to the load, the load weighing about 1½ tons. The size of this Specimen Lode is from 4in. to 6in. A winze was also sunk on this lode 40ft. deep from the 70ft. level, and an intermediate drive extended for a distance of 30ft.; but the lode here pinched out to only 2in., and work on the company's behalf was therefore suspended in that direction, and the section let to tributors. The only work at the present time being carried out on the company's account is a cross-cut at the 70ft. level. This cross-cut has been started in the foot-wall of the Sons of Freedom Reef, immediately under the point where the gold run was formerly lost, and will be extended with the view of striking a parallel run in some of the lodes that are known to traverse the country in that direction. This cross-cut is now in a distance of 8ft., where a slide has just been cut in the face, on the hanging-wall of which there is a 6in. seam of very promising gritty quartz. The average number of hands or wages-men employed by the company has been ten men. The amount of ore obtained and crushed by these was 232 loads, which yielded 396oz. of gold, valued at £1,048. The number of men employed tributing has been thirty. The amount of ore crushed by these has been 383 loads, for the yield of 1,430oz. 9dwt. of gold, valued at £3,933 17s. The future prospects of at least half the above tributors are at present very encouraging. Tenders have been invited to let other extensive tribute sections in this mine, and I have no doubt that before long a much larger staff of tributors will find profitable employment. The yield from the tributors, as above stated, has been taken from ground that has been continuously worked during the past eighteen years. The general course of the reefs in the New Alburnia ground is north-east and south-west. There are three distinct channels of reef-country, which are divided from each other by hard bands or bars of dioritic rock. The channel on the eastern side of the mine contains the Star of the South and Success Reefs, each about 1ft. wide. These join and form one reef below the 70ft. level. The channel on the western side of the mine contains Dixon's Reef, and also several hanging- and foot-wall leaders or branches of that reef. These have been well worked on from the Whau Level upward; but, unlike the Sons of Freedom Reef, this lode and branches are quite intact below this level and unprospected, with the exception of having been passed through in one place in a cross-cut driven at the 160ft. level. From this level the New Alburnia Company intends prospecting this lode at an early date. The centre channel contains the Sons of Freedom Reef, the Specimen Lode, and also one or two other foot-wall lodes, which, as I have mentioned, a cross-cut is now being put in to intersect. This reef has been so far prospected by sinking two winzes to the low level; but there are very large blocks between the Whau and Sons of Freedom Levels, that may contain rich crushing-quartz if they were worked on and proved.

Dixon's Mine.—This mine is owned by Mr. Waite and party, Mr. Waite being manager. The reef in this mine is known as Dixon's Reef. There is also a leader known as the Hanging-wall Lode. There have been taken from these regular monthly crushings. The yields have been on the average 3½oz. to the load. From the present level (which is known as Foster's, and is situated 40ft. under the Success Level) a very large block has been opened out. Above this level the Hanging-wall Lode is almost intact, but the main or Dixon's Reef is nearly worked out. Still, there is many years' work left on this level without requiring to open out another. This mine is situated on the south-west of the New Alburnia.

Clyde Mine contains about two acres of ground, and is situated to the south-east of the New Alburnia. In this ground a very large amount of dead work has been done in reopening and re-timbering old levels, and driving on the reef; but, as the crushings did not prove payable, there is there is no work going on at present, the ground being protected.

Lincoln Castle.—This claim is working on the Sons of Freedom Reef, and during the year has had a large amount of deadwork to do. A level had to be put in 50ft. below the old Lincoln Castle level, and a rise put up to connect the two. Since this has been done stoping and crushing have been going on regularly, the average returns from which are 1½oz. of gold to the load. This lode here is very large, being over 30ft. wide, but only the best parts of this are taken.

Coliban.—The reef worked here is the same as that worked in the Lincoln Castle. There are no new features in connection with the work to note since my last report; but the crushings taken out, though not rich, have been considered satisfactory by the shareholders.

Reuben Parr.—This mine is under the management of Mr. Robert Comer. As I mentioned in my last report, a level was opened out from a winze which was sunk to 50ft. below the Point Russell Level. At this level a large amount of work has been done by tributors in driving and stoping. The quartz crushed amounted to 380 tons, for a return of 482oz. 4dwt. gold, valued at £2 13s. 6d. per ounce. The difficulty in working this level is that the water has to be pumped up, and the quartz wound up, to the Point Russell Level, which is very costly. This mine alone shows the desirability of still further carrying in or extending the main or Moanataiari tunnel to under this locality. The length of this tunnel from its mouth at the beach is 2,800ft.: another 350ft. to 400ft. would extend

it to the Reuben Parr locality. This extension would give an additional 220ft. up to the bottom of the winze. In this mine there are also a number of surface tributors, who have been getting payable returns for their crushings.

Deep Level Cross.—This mine is under the management of Mr. James Coutts. The principal work carried on up to December last was working out blocks of ground on what is termed the No. 2 or New Prince Imperial, from No. 5 to No. 3 Levels, being a height of 140ft. by 60ft. in length. The reef at this place varies in thickness from 2in. to 15in. The number of loads of quartz that were crushed from it was 276, which gave a return of 376oz. 7dwt. melted gold. The Young American was also driven on for a length of 100ft., but the returns did not prove payable. A number of blocks are let on tribute, but the great expense of getting and winding has prevented these from being payable. These tributors crushed 178 loads for a yield of 279oz. gold.

New Manukau Mine.—This small mine, which consists of about one acre of ground, is being worked from the Waiotahi Company's shaft, and is under the management of Mr. J. E. Smith. A new level is being opened up from the Waiotahi No. 4 Level with every prospect of success. 300ft. of driving and 200 fathoms of stoping work has been done, which gave 245 tons of quartz. This yielded 419oz. gold.

Saxon Mine.—This ground was formerly the London, Old Beach, and Golden Run Mines, and about three years ago was formed into a company called the Saxon Gold-mining Company. In October, 1886, being unsuccessful, the company ceased operations with wages-men, and let all the mine above No. 3 Level to tributors. One party (Connon and party), in cross-cutting at No. 3 Level, came on a highly-mineralized reef about 18in. thick, the crushings from which averaged over 3oz. to the ton. This reef is supposed to be a dropper from No. 1 main reef. Connon's tribute only extended 70ft. above No. 3 Level, and, the remainder of the reef, both above and below, being unlet, the company resumed operations with wages-men to open out on this reef, and first sank a winze 75ft. on it from No. 3 Level. Eleven loads of quartz broken out of this winze gave 51oz. 6dwt. gold. No. 4 Level is now being extended to connect with this winze: as soon as this connection is made this company will be able to employ a large staff of men. From these returns, and the appearance of this reef, there is every likelihood of it turning out a most valuable one, and this company has a most hopeful future before it. The total quartz crushed by the company is 462 tons, for a return of 422oz. 1dwt. melted gold; by tributors, 231 tons were crushed for a return of 343oz. 15dwt. gold. This mine is under the management of Mr. F. James.

Kuranui No. 1, or Turtle's Kuranui.—The principal work in this mine has been driving from the Caledonian No. 3 Level for the No. 1 Reef. After being cut 150ft. was driven on the reef, which showed good crushing-stone all the way. About 60ft. in height has been stoped out, the average returns being over 2oz. of gold to the load. The reef continues to look as well as ever, occasional specimens and picked stone being obtained from it. This work is all done by wages-men, but the upper levels are all let to tributors, most of whom are doing fairly well. The average number of men employed is twenty-four.

Kuranui No. 2, or Comer's Kuranui.—This mine is under the management of Mr. Robert Comer, late manager of the Moanataiari. Mr. Comer is also sole owner. On the average about fifty men are employed on tribute, Mr. Comer being the first to introduce that system on this goldfield. Over 1,300ft. has been driven in cross-cuts and on the course of the reefs and leaders, and a large number of the old drives cleaned out and repaired, so that Mr. Comer will be able shortly greatly to increase the number of men in his mine.

Kuranui No. 3, or Hicks's Kuranui.—When Mr. Hicks purchased this mine a great portion of the old drives, &c., were in very bad order, and coming together. The main tunnel had to be repaired and retimbered for a distance of 600ft.; also the continuation of the same tunnel through the "deep-lead" ground for a distance of 300ft. The old Oddfellows tunnel was also repaired for a length of 500ft., and a winze sunk some 60ft. deep. These works were all carried out by wages-men, and cost nearly £750. The work done by tributors is 197ft. driving, 119ft. sinking, and 982 fathoms stoping on the different leaders in the mine. Mr. T. B. Hicks (late manager of the Caledonian Mine) is manager and owner. The average number of men employed is thirty-five.

Caledonian Mine.—In the early part of the year the winze on No. 2 Level was deepened and connected with No. 3 Level. One hundred and ninety-five loads were stoped out and crushed, for a return of 100oz. gold. At this place the reef is from 5ft. to 10ft. wide. A portion of the main shaft getting very much out of repair, it was retimbered from No. 1 Level upwards for 40ft. In the Balkin's Block the ground was opened out by driving a cross-cut from No. 2 to No. 1 Reef. The trials that have been taken from this portion of No. 1 Reef have given favourable results, two loads from foot-wall giving 2oz., and four loads from hanging-wall $1\frac{1}{2}$ oz. A winze has been sunk for 120ft. on Rickards's 1ft. leader, and a cross-cut 110ft. in length driven to connect with No. 3 Level. From this leader 108 loads of quartz have been crushed, for a return of 311oz. of melted gold. This company have started to prospect the Otago section of their mine at No. 2 Level by putting in a drive on No. 1 Reef: 120ft. has been driven on this, and another 100ft. will connect with the Larnach Mine workings. Some of the stone in this drive showed good gold. A winze has recently been started to test this reef between No. 2 and No. 3 Levels. The reef varies in width from 9in. on one side of the winze to 15in. on the other. This mine is under the management of Mr. William Corin.

Larnach Gold-mining Company.—This company carries on its operations from the Caledonian shaft, and at No. 3 Level has driven about 200ft. on No. 1 Reef, the average returns being only about 7dwt. to the load, which, with cost of winding and crushing, is not payable.

Golden Crown.—Mr. T. A. Dunlop is still the manager of this mine. At the time of my last year's report he had completed the sinking of a new shaft on the Mary Ann section of the ground to a depth of 368ft. from the surface, opening up three levels—No. 1 being 235ft., No. 2 300ft., and No. 3 368ft. As the principal reefs had been successfully worked previously from the old shaft (which is situated on the south-west boundary of the mine) as low as the No. 2 Level in the new

shaft, the object sought was to test these reefs at the lower or No. 3 Level of the new shaft, this depth giving 80ft. of backs on all the reefs previously worked. Four of these reefs were passed through in a cross-cut driven in a north-easterly direction at No. 3 Level, but so far none of them has come up to expectations. While this prospecting work was in progress, a reef called the Shaft Reef No. 2 was being worked from the No. 2 Level. From this 2,563 loads of quartz have been crushed for a yield of 996oz. of gold. From April to November, 1886, a distance of 380ft. was driven along the course of this reef: 140ft. in length and 75ft. in height was stoped out, but, not proving payable, the company let it and the upper levels of the mine on tribute, and confined its operations entirely to prospecting-works. The average number of men employed in this mine, including battery-hands, is forty. The amount of work done on the company's account during the past year has been cross-cutting 750ft. at various levels, and 456ft. along the course of the reefs. This company's machinery consists at No. 1 Shaft of a horizontal steam-engine with 16in. cylinder and 4ft. stroke, one Cornish boiler 30ft. by 6ft., and usual winding-gear; at No. 2 Shaft, a horizontal steam-engine, 10in. cylinder, with 2ft. 7in. stroke, a Cornish boiler 16ft. by 5ft. diameter, and winding clutch-gear, all in good repair; also a twenty-stamper battery, with nine 4ft. 6in. diameter berdans, which are driven by a 5ft. Pelton water-wheel.

Moanataiari Mine.—Under the management of Mr. Thomas Radford, a very large amount of work has been done in this mine during the year, principally by tributors, the average number of whom and wages-men employed being about a hundred. The principal works were—a winze sunk 84ft. on Darwin Reef, a cross-cut driven from Golden Crown shaft for a length of 334ft., a cross-cut in the Redan section driven for a length of 82ft., and various other drives in Redan section, on Darwin Reef, and tunnel or adit level; the total driving and sinking being 923ft. The total crushings from this mine were 1,392 tons of quartz, which yielded 2,064oz. of gold.

New Prince Imperial Mine.—A great portion of this recently dividend-paying mine is now let on tribute. The operations on behalf of the company are being principally carried on at the 150ft. and 250ft. levels, on a large reef known as the No. 1 or Mariner's Reef. Good payable prospects have been recently met with in this reef, and, as there is a very large extent of ground to prospect both above and below the 250ft. level, the prospects of this mine again coming to the front as a dividend-paying one are very favourable. This mine has also a crushing-plant which consists of twenty-three stampers and sixteen berdans. This is kept constantly employed, as it crushes also for the public. The average number of men employed in this mine, including tributors, is fifty. For the tributors 1,761 tons of quartz has been crushed, for a yield of 2,093oz. gold; the produce of the company's men being 644 tons, which gave 517oz. gold: the total being 2,405 tons, for 2,610oz.

Waiotahi District.

Waiotahi Mine.—The principal work in this mine during the year has been the opening-up of the new No. 4 Level, and connecting same with No. 3. This has been an expensive and rather a difficult work, owing to the hard rock met with, and water and gas (carbonic-acid gas) to contend with. The work is now going on in a more favourable channel of country, and the prospects are now good that gold will soon be met with. Forty wages-men are constantly employed breaking out quartz, prospecting, and opening up new levels. During the year 1,000ft. of driving-work has been done, and about the same number of fathoms of quartz stoped out, 2,175 tons of which has been crushed at the company's own battery for a yield of 2,540oz. of retorted gold. Mr. J. E. Smith is in charge of this mine, as well as the New Manukau.

Cambria Mine.—This mine has paid dividends during the year amounting to £4,500. This, with the £72,600 previously paid, makes a total dividend for this mine of £77,100. The mine is under the management of Mr. H. W. Moore, who has constantly some sixty-eight men at work under his charge. The principal prospecting-works during the year have been a cross-cut driven north from No. 4 Level, for a distance of 350ft. from the shaft, and another cross-cut is now being driven southward at the same level 760ft. from shaft. The ground in the latter is exceedingly hard, and the compressed-air rock-drills have been used all the way. At Nos. 2 and 3 Levels a large amount of driving and stoping work has been done, from which 4,120 loads of quartz has been crushed, for the return of 5,339oz. gold. There is a crushing-plant in connection with this mine, which has twenty-one stampers and fifteen berdans, the whole being driven by water-power.

Pinafore Claim.—This claim is now under the charge of Mr. Daniel Sullivan, formerly manager of the Cambria and Darwin Mines. On the surface or top level a cross-cut has been driven southward for 50ft. This cut several small veins of quartz showing gold, which have not been yet opened out on. In the two lower levels no work has been done; but the principal work during the year has been carried on in the large reef, where it is exposed on the surface. This reef is about 20ft. wide; but only the best portion of it is taken, being about 6ft. on the foot-wall side. The returns from this claim are a little over half an ounce to the ton. This, though small, pays well, as there is a good system of working, also of tramways and shoots for conveyance. Five pennyweights to the ton can be made to pay.

Bright Smile.—There have been only tributors employed during the year in this mine, which is under the charge of Mr. Senior. These tributors have not been opening up any new levels, but have been beating out the old blocks, which had been left previously, being considered too poor to take when wages-men were employed.

There are a number of other claims working in this district, such as the West Coast, Morrison's, Wilcox's (late manager of the Eureka Mine), and others, which have been doing fairly well; but there are others, such as the Fearnought, Shamrock, Fame, Moanataiari Extended, &c., which, after expending considerable sums in prospecting, have ceased operations. If work is not resumed soon in these, they will be forfeited for non-working, in accordance with the Goldfields Regulations.

Karaka District.

Auckland Gold-mining License.—The ground held under this license was taken up in a branch of the Karaka Creek called the Lucky Hit Creek about eighteen months ago. The ground in this district had been abandoned for many years; but in the early days of the field some very rich patches of gold were obtained in the surface-levels. The cause of the abandonment was the difficulty of getting a low level driven at a moderate expense (the ground being comparatively flat, a long drive was necessary), also the belief that gold only existed near the surface, and did not go down to any depth. One of our mine-managers, Mr. Peter Hansen, did not, however, hold this view, but, believing gold would be found at deeper levels, induced some ten gentlemen to subscribe sufficient capital to meet the necessary preliminary works and drive the low-level tunnel. This tunnel, when completed, was 600ft. long: the cost of driving varied from 10s. to £2 per foot, the average being over £1; the total cost of the tunnel being £700. In this tunnel three reefs were cut, No. 1 being 2ft. wide, No. 2 8in., and No. 3 15in. All of these were gold-bearing: but, so far, No. 2 has proved the richest, having averaged 4oz. to the load, which is equal to 1½ tons; the value of the gold is £2 19s. per ounce. In this (No. 2) reef 65ft. by 50ft. of stoping has yielded seventy-three loads of quartz, for a return of a little over 300oz. of gold, valued at £900. On No. 3 Reef 83ft. has been driven and two rises put up, one 20ft. and one 35ft. in height; but the quartz proved poor in this part of the reef. On No. 1 Reef very little work has as yet been done: on it a winze has been sunk for the purpose of ventilation, which is now good throughout the mine. This low level will give backs of from 65ft. to 200ft., so that there are years' work ahead before the ground will be worked out and a still lower level required. The above works were all carried out under the management of Mr. Peter Hansen, who, with his partners, fully deserve the good fortune that has followed their perseverance and energy. There are many other places on the Thames which have been abandoned for the same reason as this ground was, which would, doubtless, prove payable if prospected in the same way; but this, of course, cannot be done by the working-miner, as capital is required.

Enterprise Claim.—This ground is situated in the same district as the Auckland License, near the junction of the Lucky Hit and Karaka Creeks. Similarly to the Auckland, this was taken up on ground long abandoned, and, strange to say, it was taken up by another mine-manager—namely, Mr. Vivian, late manager of the Moanataiari Mine. Mr. Vivian's party have been prospecting this ground for now over twelve months, the principal work being the extension of the old low-level or creek-level tunnel. At a distance of 700ft. from the mouth, a 9in. leader has been cut, in which the gold is plainly visible. Driving on this, for the purpose of opening out and stoping, is now in progress. This leader, though it cannot be the same as the No. 2 in the Auckland ground, is very similar to it in appearance, and ought to give about the same returns.

Triumph Claim is a small piece of ground recently taken up on the north-east side of the Auckland to work the same reefs. No new levels have been opened out in this claim, all the work being from the old levels, which have given some small but good crushings, some of the quartz going from 4oz. to 5oz. to the load.

At the foot or lower part of the Karaka Creek mining matters are in much the same state as at the date of my last report. The Rocky Point Mine has been let to tributors. Scott's City of Manchester and Barclay's Lone Hand continue to give handsome returns.

Waiomo District.

As I mentioned in last year's report, loose gold had been found on the surface in this district, but the question then was, Would this gold continue down into the solid rock, and make this place a permanent goldfield? This it has been since proved to do.

The owners of the Paroquet or Prospectors' claim have sunk from 25ft. to 30ft. below the cap of the reef, and found gold going down all the way. A level was then put in, and after cutting the reef it was driven on for some 50ft. or 60ft., from which the lowest crushing gave 3oz. to the ton, and the highest was a parcel of 2 tons, which gave 175oz. gold. From this level a winze has been sunk for some 14ft. or 15ft., and the gold is still proved to go down.

The Waiomo license owners are also working on the continuation of the Paroquet or Prospectors' reef, and have sunk a winze 60ft. deep from their surface-level, and also proved the gold to go down. From appearances it is expected that the quartz taken from this winze will go about 20oz. to the ton. The reef is from 2ft. to 6ft. wide. In this mine a low level is being driven to cut the reef. When cut, there will be some 60ft. further to drive along it to get under the winze.

Maori Claim.—In this claim a drive 200ft. long has been put in, and a 4ft. reef cut, which is also supposed to be a continuation of the Prospectors' reef. The reef here is very broken and disturbed; it contains a little gold, but is not thought to be payable.

There are several other claims taken up in this vicinity, the owners of which are engaged prospecting their ground. There is no battery yet erected in this district, the first arrangements for erecting one having, it appears, fallen through; but there is now another application to the Warden for a water-race and battery-site, on which it is to be hoped, for the sake of the district, a crushing-plant will soon be erected. At present there are about thirty miners employed in this district.

Tapu.

This district has been very quiet during the year. The Low-level Tunnel Association, assisted by Government, have continued steadily at work driving their low-level tunnel; but, owing to the exceedingly hard belt of country through which they have to drive, the progress has been very slow, the total distance driven up to date of last measurement, on the 19th March, being 417ft., the cost up to that date being £940 18s. 4d., or £2 5s. 1d. per foot.

Bullion.—This claim, from which such good returns were obtained in the early days of the goldfield, when it was called the Full Moon claim, now belongs to Messrs. Harrison and party,

who have obtained some very good returns from it during the year. These were obtained from ground above the old level; but it will require capital to develop or open out the mine below this level.

The total return of quartz crushed at the Tapu Battery for the year ending the 31st March were 160 tons 560lb., for 200oz. 6dw. 18gr. retorted gold.

Otanui District.

There is very little to record in regard to this district. The New Eureka Mine is the principal one in it, and the owners have done a large amount of work in stoping and working out the ground above their present level. It has long been known that a low level is required, but the tunnel must be a long one, and, as there is a hard belt of country to pass through, it must also be an expensive one. The present owners do not appear inclined to undertake the work, in which case I suppose the ground will ultimately fall into other hands, who will carry it out, for carried out it certainly will be some day. The returns from the battery in this district for the year are 1,080 tons for a yield of 535oz. 13dw. retorted gold.

OHINEMURI GOLDFIELD.

Karangahake District.

Monastery Gold-mining License.—The ground held under this license comprises about nine acres, and is situated on the east side of the Waitawheta Gorge. This ground was formerly held by the Gladys Company, who obtained some splendid stone from a reef which is supposed to be a continuation of the Golden Crown lode. Owing to the want of communication with the then existing batteries, and the great cost of making a road to these through the gorge, which was estimated at £4,000, this company did not see its way to start work, and consequently the mine was forfeited on account of not working. The present owners saw an opportunity of profitably working the mine when they learned of the position that Mr. Railey had fixed on for the erection of his reduction-plant, which is situated about 7 chains higher up on the opposite side of the gorge, and at once started vigorously to work to make the necessary connections between their workings and the battery by the construction of tramways, of which there are three sections, the first being a self-acting wire-tramway. This leads into a hopper at the head of the ground-tramway, which is 200ft. below the working-level. The second section is a ground-tramway, which winds round the face of a rocky cliff for a distance of 8 chains to a platform constructed opposite the battery. From this point another wire-tramway is connected with the battery-machinery to haul the trucks across the river. The whole of these connections are now completed, and working satisfactorily. The reef in this ground is exposed on the surface for a height of about 400ft. upwards from the river, the average width of which is 12ft. A main level has been driven for a length of 80ft. to intersect the reef, which will here give about 80ft. of backs. When the reef was cut in this level it proved to be a body of quartz 9ft. 6in. thick. This on being assayed was found to be worth £4 2s. per ton. A winze has been sunk, connecting this level with the upper workings 60ft. above, and on opening out from this winze some splendid stone has been recently taken out, with gold showing strongly through it, which gives a most hopeful future to this mine. It is expected that there will be a parcel of 50 tons ready for treatment at Railey's Battery in the course of the present month. The parcels already treated gave a result of £5 3s. 9d. per ton by Railey's treatment. One ton of ore has been sent to Freiberg for the purpose of arriving at the best mode of treating this class of ore. A parcel of 2cwt. was also sent to San Francisco for the same purpose. The return from the latter was £9 18s. 7d. per ton of 2,000lb.; the return from the former has not yet come to hand.

Woodstock Mine.—In connection with this mine there is a very complete smelting-furnace on the La Monte principle. This furnace has been connected with the mine by a very extensive system of ground- and wire-tramways and hoppers. There are two wire-tramways, which are 700ft. and 1,000ft. in length respectively. One ground-tramway 2,800ft. long is constructed round the contour of the hill to the hoppers at the head of one of the wire-tramways, and from the foot of the wire-tramway a long horse-grade tramway is constructed to the furnace. A trial of a few days was given to the furnace, when 28 tons was put through for 603oz. of bullion, which, however, was nearly all silver, as it proved to be worth only 8s. 10d. per ounce. After the trial of the same class of furnace at the Thames this was considered sufficient proof that the smelting-furnace was better adapted for galena ores than those in the Thames and Ohinemuri Districts. After this trial the mine was for some time idle, being protected; but latterly portions of it have been let to tributors, who intend to make trials of the stone at Railey's new reduction-plant. The works done in the mine are an upper level driven on the Maria Reef for a distance of 110ft. from the east side of the spur, and stoping over this level 40ft. by 24ft., leaving backs for 120ft. overhead intact. A second level 115ft. long was also driven 50ft. below the above level, and stopes 40ft. by 20ft. taken out, and a winze sunk between these two. A winze was also sunk 28ft. below the second level. There is about 500 tons of quartz to grass from this mine which has not been treated.

Imperial Gold-mining License.—This mine is being worked under the management of Mr. Robert Clements, who first prospected the ground by trenching on the surface. The cap of a reef was here found, in which gold was occasionally visible. An upper level was then driven on this reef for 50ft. This still showed a little gold, but as the best prospects were obtained from the floor of the drive, a winze was started, in which it was found that the deeper they went the stone, or quartz, became the richer. This winze was sunk 25ft., when they were beaten out by the water. A second level was then started, which will give over 200ft. of backs. This level has been driven 50ft., 30ft. of which was on the reef, with golden stone visible all the way. About another 60ft. of driving will reach under where the winze was sunk. This mine, when it is developed, has the appearance of becoming one of the leading mines of the district. A road or tramway will require to be constructed from No. 2 Level to the top of the lower section of the tramway which is being constructed between the hill-road and Railey's Battery.

Sutro License is under the management of Mr. W. Morgan. Above the road a level has been driven for 170ft. on the reef, which has proved to be poor in this part. The ground is also exceedingly hard, consequently the progress has been very slow. Fifty tons of ore have been treated at Railey's new reduction-plant, which gave about 7½oz. to the ton; but this was nearly all silver, the value being only about 11s. per ounce. As the cost of carriage was 12s. 6d., and of treatment at the battery £1 10s. per ton, this return was far from being payable.

Adeline Mine.—During the year this has been the most prominent and payable mine on the Karangahake Goldfield, profits amounting to £2,500 having been divided among the shareholders. The reef, which is about 1ft. wide, has been opened up at three different levels, in which altogether there has been 676ft. driven and timbered, 285ft. of winzes and passes made and timbered—in all, 70 fathoms of stoping work, for an output of 104 tons, which yielded 996oz. 10dwt. gold, valued at £2 12s. 6d. per ounce. This mine is being worked under the management of Mr. J. L. Hall, formerly manager of the Tokatea Mine, Coromandel.

Rose Mine.—This mine adjoins the Adeline Mine, and is also under Mr. Hall's management. The reef in this mine is the same as is worked on the Adeline. Its general bearing is 15° east of north. The first crushing from this mine went under 4oz. to the ton; but the present quartz being broken out is expected to go 5oz. to the ton.

Diamond Mine.—This mine is also working on the same reef as the Adeline, and is under the management of Mr. A. J. Poulton, who has had two levels driven, and made three crushings from the reef. The returns were 5oz., 8oz., and 7oz. per ton respectively. No. 1 crushing, of 5oz. per ton, was obtained by the ordinary stamper process, and No. 2, of 8oz., and No. 3, of 7oz. per ton, at Railey's new reduction-plant at Karangahake, the value of gold in both cases being about the same. When there is a proper mode of communication opened up between the mine and battery, this ought to be one of the foremost dividend-paying claims of the district.

There are a number of other mines on this portion of the field whose owners are busy prospecting their ground, and, where reefs have been found, getting out trial-crushings, such as the Josephine, Dubbo, Specimen Hill, &c. The quantity of quartz treated in this district at both of the batteries (Ivanhoe and Railey's) was 1,130 tons 1,220lb., for 2,447oz. 15dwt. retorted gold.

Waihi District.

Martha Mine is still under Mr. John Moore. The low or adit level has been extended for a distance of 300ft., making it a total length of 1,200ft. Of this 700ft. has been driven on the lode. Between this and the upper level stoping operations have been carried on continuously, and about 3,000 tons have been taken out and passed through the battery. The yield per ton has only been about 5dwt.; but the great size of the reef (15ft.), and the facilities for breaking out, tramway-conveyance, and battery-treatment have enabled the above small return to pay all working expenses and leave a fair margin of profit. The battery in connection with this mine consists of thirty stampers and six berdans. The tramway is one and a half miles long, and the quartz can be delivered into the battery at a cost of 9d. per ton. The long summer drought has caused a great scarcity of water, and for some months only sufficient could be obtained to occasionally drive a portion of the stampers.

Silverton.—This mine is also under the charge of Mr. John Moore. The reef is being worked from an adit-level, which is in 350ft. Where intersected, the reef proved to be 15ft. wide. It has been driven on for a distance of 250ft. on the hanging-wall side. At a point 140ft. from its intersection with the adit, a winze has been sunk 60ft. on the hanging-wall, in which about 5ft. of the reef has been taken out, which has proved to be of payable quality. At No. 2 Level, 50ft. has been driven on the reef in an easterly, and 25ft. in a westerly direction, similar prospects being obtained in both directions to what were got in the winze. At the Martha battery 160 tons have been treated by the ordinary stamper process, which gave a return of 3oz. per ton, the gold being valued at £2 18s. per ounce. Another 100 tons are now in the paddock for transit to the battery as soon as the rain comes and gives sufficient power to drive the stampers.

Union Gold-mining Company.—In this company's ground, during the last twelve months, about 200ft. has been driven on the reef at the adit-level, and a considerable amount of stoping-work done on the reef, which is about 5ft. wide. At the Martha battery 400 tons have been treated for a return of 1½oz. to the ton. Of this quartz 50 tons have been selected and exported to England and America for trial. A special claim of 70 acres has been taken up in connection with this ground with the intention of floating a company in the London market.

Rosemont.—During the last twelve months an adit-level was driven 525ft., when it cut the reef. The drive was then continued on the line of reef for a distance of 80ft. This reef is an average of 18in. wide (varying from 3in. to 3ft.), and is supposed to be a continuation of the Union Company's reef. No trials have yet been made from the reef at this level. From another part several trials have been made by the ordinary battery process, which gave almost no returns, and yet by assay it is proved to be worth £10 per ton; showing that an entirely different process is necessary for the treatment of this ore. One of the directors (Mr. Sheppherd) is now in Australia to ascertain if there is any process there that will be suitable. Trial-parcels of this stone have also been sent to England and America. From another reef a large quantity was treated at the battery, which gave similar returns to the Union Company's reef.

Winner.—This claim is the property of Mr. Kersey Cooper, who under great difficulties has most pluckily and perseveringly prospected it. In an upper level, which he drove in for 150ft., he cut two reefs, 2ft. and 7ft. wide respectively. These showed fair prospects. Mr. Cooper then started a low level, which will give about 200ft. of backs. This level is now in a distance of 500ft., and will shortly intersect the first of these reefs.

The total crushing for this district amounted to 3,811 tons, for a return of 1,598oz. retorted gold.

Owharoa.

There are only three claims at work in this district—viz., Smile of Fortune, Radical Extended, and the Me and Rowe claim.

Smile of Fortune.—The gold above adit-level is now exhausted, and capital is required for sinking- and pumping-machinery to develop the mine below this level. For this purpose the owner, Mr. Abbott, of Auckland, is endeavouring to raise the necessary capital in England.

Radical Extended.—This mine is being wholly worked by tributors. These are now engaged stoping. Their returns hitherto have not given them wages.

Me and Rowe Claim.—This is a claim of thirty acres, which was recently taken up under the new Mining Act of 1886 by Messrs. Grenville and party. The reef worked on (which is about 1ft. wide) is quite different from any other reefs found in this locality, and apparently contains sulphides of silver in quantity. A trial lot of 4 tons is now being taken out, and is to be shipped to Auckland for trial at Mr. George Fraser's new testing-plant there.

The crushings for this district at the Owharoa Battery are 57 tons, for a yield of 55oz. 10dw. retorted gold.

Waitekauri.—The Waitekauri Mine is under the charge of Mr. William Hollis. It is being wholly worked by tributors, who have done a large amount of work, principally stoping above No. 2 Level. This block being now nearly exhausted, a start has been made putting in a surface-level, which will give about 100ft. of backs. This level is now in 60ft., there being another 100ft. to drive before the reef will be intersected. This reef is a branch of the main lode, and is about 3ft. wide. It was formerly worked at a very much lower level, and gave fair returns.

Star of Hope Claim.—Messrs. Waite and party, the owners of this claim, having obtained some very good returns from a small leader (2in. to 3in. wide) that they had found near the surface, are now driving to cut it at a lower level.

In the south end of this district the Mangakara claim has an area of seven acres. In the beginning of the year the works to connect the claim with the battery were completed. These were a large hopper for storage, a horse-tramway about 12 chains long, a winze 95ft. deep, and a shoot 100ft. long, also a self-acting incline-tramway 8 chains in length.

The battery, which was formerly known as Wick's Battery, has been removed from about a mile lower down the Mangakara Creek. It consists of nine head of stampers and three berdans. The height of fall of water from race is 157ft. The machinery is driven by a Pelton water-wheel 5ft. in diameter. In the claim a low level, which will give 140ft. of backs, has been driven 150ft. from the entrance, where it intersected the reef. From this the quartz is now being stoped, and there is about 200 tons ready for crushing as soon as the present dry weather is over. The mine is wholly worked on tribute.

Welcome.—A crushing of 16 tons from the old No. 4 Reef having yielded 28oz. gold, the owners of this claim (Messrs. Birney and Goodwin) were encouraged to put in a lower level, which will give 60ft. of backs, and are now employed getting out a crushing from the reef, which is here about 3ft. wide.

Young New Zealand.—This mine is wholly worked on tribute. The present party (Tregoweth and party) have only recently started to work, and have not had time yet to take out a crushing; but the previous party of tributors were not successful.

The quartz crushed at both batteries in this district was 2,059 tons 280lb., for a return of 877oz. 5dw. retorted gold.

I have, &c.,

JAMES M. McLAREN, Inspector of Mines.

The Under-Secretary, Mines Department, Wellington.

MARLBOROUGH GOLDFIELDS.

No. 3.

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

SIR,—

Blenheim, March, 1887.

I have the honour to forward you the usual annual returns for the year ending the 31st March, 1887.

My report of last year will answer very well for this year: there is nothing of any importance to bring under your notice. The ranges remain unprospected, and a large tract of country is lying unused, because the miners here cannot afford to undertake the work.

In the Wakamarina Mr. Turner has done some good work at his river-claim, result unknown. Mr. Oliver is driving a tunnel to try and reach the supposed old river-bed.

Some tons of quartz have been brought to grass at the Old Golden Bar claim, and a company has been formed to crush this stone in order to arrive at a decision as to whether it will answer their purpose to go on working the claim.

Some twenty miles or more of quartz-ranges are waiting to be prospected, at present providing a bare subsistence for some few hundreds of sheep; and about a hundred miners are grubbing up a bare living at the foot of these ranges, waiting for something to turn up. I believe yet that this exemplary patience will meet its reward.

I have, &c.,

The Under-Secretary of Mines, Wellington.

J. ALLEN, Warden.

NELSON GOLDFIELDS.

No. 4.

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

SIR,—

Warden's Office, Collingwood, 4th April, 1887.

I have the honour herein to report, and also to transmit the usual statistics for the Collingwood and Takaka part of the Karamea Mining District for the year ending the 31st March, 1887.

My report of last year on the gold-mining in these districts would almost apply if repeated at the present time. The old workings and localities still keep their small population in work, and, as far as can be ascertained, with fair returns. The Johnson's United Gold-mining and Mineral Lease, the only claim on which machinery is used, still keeps at work, though not very regularly, or, as far as I know, very satisfactorily to the shareholders. The Redhill Leasehold, of which I made reference in my last report as having been subsidized by Government to assist the proprietors in prospecting, has, I am given to understand, been disposed of to an English company with a large capital. Nothing has, however, yet been done by the new proprietors on the ground. At West Wanganui there is still some quartz-mining carried on, but the workings have not increased. These works are all on private lands. The various pieces of road-work intended to give facilities to the miners in prospecting some of those places which without such road-making were practically inaccessible, are now being actively pushed forward out of moneys voted by Parliament, and it is generally believed that some active prospecting will result, especially on the Goulund Downs, the upper part of the Aorere Valley, and the country lying between those places and the Karamea, also the upper part of the Anatoke. The idea has long past prevailed that, when fairly accessible, some payable ground will be found in these places. These remarks apply as well to the Takaka as to the Collingwood District.

Minerals other than Gold.—The hopes of those interested in the welfare and progress of this district are centred to a large extent on the proceedings of an English company with some £150,000 of capital, who, it is understood, contemplate working the immense deposits of hematite-iron ore at the Parapara, in this district, in conjunction with the coal at Collingwood, the distance between the two minerals and the limestone necessary for smelting being very small. The favourable opinion given by Mr. Price Williams, a gentleman of large experience in such matters, who has carefully inspected these deposits on behalf of the promoters in England, leads to the hope that the usual feeling of uncertainty attending mining ventures will not apply in this case. The Wallsend Coal Company at Collingwood still keeps about the same number of men employed, and turns out a steady quantity of coal, which is in great favour both as a gas and household coal.

I have, &c.,

The Under-Secretary of Mines, Wellington.

WILLIAM GIBBS, Warden.

No. 5.

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

SIR,—

Warden's Office, Nelson, 4th April, 1887.

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

I have, &c.,

The Under-Secretary of Mines, Wellington.

OSWALD CURTIS, Warden.

No. 6.

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

SIR,—

Warden's Office, Murchison, 18th April, 1887.

In furnishing the annual returns for this district this year I cannot say that matters have improved much since my last report, although nearly all the mining ventures are still being proceeded with with more or less success, to which I referred in my last.

Lyell.

The United Alpine Company have not been so fortunate during the last few months as hitherto, not having declared a dividend since October last year, although working all the time; but up to the present time they have not found it necessary to make a call. Since my last they have started to drive their No. 7 Level tunnel, and in order to facilitate the work they entered into a contract to be supplied with air-compressing machinery and to make use of rock-borers, and have also arranged to have their mine and battery lit up with the electric light. At a meeting held lately it was decided to offer the company's mine to the London market at a price of £80,000; but it is not yet known whether their offer will be accepted.

The claims in the neighbourhood of the Eight-mile are all still being worked; but, as they are all leader-claims, it takes a considerable time to take out a fair crushing, and it is a hard matter to say what their prospects are till they have crushed. Some of the claims referred to gave some excellent returns last year, notably the Tyrconnel and Maruia Companies.

The United Italy shareholders are still as confident as ever, and have continued to work the mine ever since my last report in anticipation of good results yet. The stone met with lately, I am led to believe, presents a more payable appearance, which is a source of general satisfaction to the

company. It is to be regretted that they have not met with better success, as when in full working order both at the mine and battery they would give employment to a good number of hands.

Very fair progress has been made with Lyell Creek Extended Company's tunnel: it is now driven a distance of 2,100ft., and a contract has lately been let for a further continuation of 500ft.

Operations on the Manuka Flat Company's ground have been suspended, owing, it is alleged, to the fact that the Government and county subsidies have not been continued as was originally arranged. Since the formation of the company the shareholders have paid in calls the sum of £519 15s. 11d., and have only received £100 from the Government and £100 from the county. Why the subsidies referred to have not been paid has not been explained; but nevertheless the shareholders now refuse to pay any more calls, as they consider the arrangements entered into at the time of formation have been broken; and the ground therefore remains idle.

Not having succeeded in obtaining a reduction of rent, and having failed to pay up their arrears, the United New South Wales Company's lease was cancelled. A portion of their ground has since been reapplied for, but has not been finally dealt with yet.

There has been very little change in alluvial mining in the vicinity of Lyell; but at the Mangles River, on a tributary known as Blue Duck Creek, some very good gold has been obtained lately. It is situated about twelve miles from Murchison. Over 100oz. of gold has already been purchased by one bank alone. The appearance of the gold very much resembles cucumber-seeds, and it is of excellent quality. An idea exists that there is a lead of gold in the terraces adjoining; but up to the present no prospecting has been done. However, as there are now between forty and fifty men on the ground, it should not be very long before something definite is known.

Mining matters in the immediate neighbourhood of Murchison, Central Buller, and Matakitaiki have not changed materially, but still give about the same returns and employment to as many miners as reported for the last two or three years.

The Owen Reefs.

To enable me to report fully upon this district, I have during the last two or three days made a personal inspection of it; and, although the predictions contained in my last report have not been fully realized, still, great progress has been made. Considerable delay has been caused in the prosecution of many works that were ready to be undertaken, owing to the incomplete condition of the road leading to the reefs. The road is now available for traffic, but will require the expenditure of a considerable amount of money to make it thoroughly firm and capable of admitting wheel-traffic for heavy goods, especially machinery necessary for the erection of a battery, except at a very great risk to the contractor undertaking delivery of the same. A site for a township has been laid off about two miles below the reefs, and several large buildings have been erected, many more are being constructed, and others approaching completion. The Criterion Hotel, which has been recently built at a cost of about £2,000, is a two-story building, containing fifteen rooms, and presents a very imposing appearance, and speaks well for the confidence the proprietor, Mr. E. Carroll, has in the future prosperity of the district.

One of the most important works in a reefing district is the erection of a battery for crushing-purposes. With this object in view a company has been formed, consisting of 6,000 shares at £1 each. A contract has been entered into with Messrs. Price Brothers, of the Thames, for the supply of a twenty-head battery, with twenty berdans, and two Pelton wheels to drive same. The heavy portion of the battery is expected in Nelson within the course of a few days, and I am informed a contract has been let for the conveyance of same to the battery-site. In connection with the battery 60,000ft. of timber is required. Some of this is already on the machine-site, and the balance will shortly be delivered, as arrangements have been entered into with the proprietor of a steam saw-mill which is now in full swing. All preparations have been made for the arrival of the machinery, the site is cleared, and the necessary excavations for a solid foundation prepared. A water-race will have to be constructed for a distance of 57 chains, and when completed will give a pressure of 90ft. at the place where the Pelton wheels will be erected. A contract has also been entered into for the construction of the race. It is the intention of the company to crush for the adjacent claims at the rate of 7s. 6d. per ton. As the Wakatu United Company held the first right to the water available, it was arranged that, in consideration of the transfer of their interest to the crushing-company, they should have the first crushing of 1,000 tons.

During the last twelve months a considerable amount of work has been done on the Wakatu Company's ground. The line of aerial tramway from claim to machine-site, a distance of 32 chains, has been cleared. The wire-rope used in tramways of this description has been ordered. No. 2 Level tunnel has been driven 330ft., with cross-cuts of 110ft. and 150ft. respectively. An uprise to connect No. 1 and No. 2 Levels has been constructed a distance of 96ft. Several other works in connection with the mine have also been executed. Sixteen men are at present employed, and I have no doubt but that they will be in a position to deliver the 1,000 tons of stone mentioned when the crushing-battery is erected.

The Bulmer Creek Lease.—Some delay has taken place in the works on this ground, but the company still have two men prospecting, and have a considerable quantity of stone to grass. The total length of tunnels already driven amounts to 900ft. The stone from this lease will also be crushed at the battery mentioned.

The next claim visited was the Murchison. As this is a new venture, extensive prospecting has not yet been done; but a tunnel is being driven, and is now in a distance of 70ft., and very fair results are anticipated.

The Comstock and Golden Crown leases are just being opened up, and it is intended to push the work ahead as rapidly as possible, in order to have a crushing to test the value of the stone showing on the ground.

The Zealandia Lease.—Prospecting on this company's ground is now being vigorously pursued. There are several large outcrops now exposed on different portions of the lease from which very fair

prospects can be obtained. From the general opinions expressed it is considered that this property will become one of the most valuable on the field.

The Enterprise Lease.—In my last report I made favourable mention of this claim, but up to that time no work had been done; but since then, to prove the width and course of the reef, No. 1 Tunnel was driven a distance of 65ft.; that proving satisfactory, they commenced No. 2 Level, 54ft. lower down, and drove it for a distance of 271ft., which proved the existence of the reef at that depth, and it was found to be about 40ft. in width, and has been followed 50ft. on its course. A winze has been commenced in No. 2 Level, which it is proposed to continue for a distance of 80ft.; they then propose to drive No. 3 Level to intersect it. No. 3 Level will connect with their battery. Negotiations have been entered into for the erection of a battery for this company similar to the one already described. They have 250 tons of stone ready to be put through the mill. From the quality and quantity of the stone, the comparatively easy way of delivering it to the battery, and the short length of water-race (about 19 chains), I consider this the most valuable property on the field, more especially as the claim embraces an area of over sixty acres. These were the only leases I had time to visit: on the remainder very little prospecting has yet been done.

Up to the present time there have been fourteen leases granted, and there are now about eighteen more pending.

Before concluding I would again draw attention to the state of the road, and would point out to the Government the urgent necessity of placing a sufficient sum on the estimates to make it passable for all descriptions of traffic, as I think the requirements of the district fully justify the expenditure.

As I only returned from the reefs this evening, and you instructed me to furnish my reports not later than the 20th instant, I have been compelled to compile this one in a hurried manner, in order to catch the mail which leaves at 7 o'clock in the morning. In conclusion, I might state I consider that a large field is developing at Owen, and during the next twelve months there will be a considerable increase in the population and revenue; altogether, the prospects of this field indicate signs of a permanent gold-producing district.

I have, &c.,

The Under-Secretary of Mines, Wellington.

FRANK BIRD, Warden.

No. 7.

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

SIR,—

Warden's Office, Westport, 14th April, 1887.

I have the honour herewith to transmit the statistical returns compiled for the financial year just closed at the Westport and Charleston offices, and to report as follows upon goldfields matters within those subdivisions of the district under my charge. It is my intention to report upon the Lyell and Murchison sub-districts when I visit those localities in the course of a few days, and I purpose making a special trip to the Owen reefs as soon as I can arrange to go there, to enable me to furnish a full and exhaustive report upon that important part of my district. There being no officer of the Mines Department stationed at the Owen, I have no means, except by inquiry and inspection personally, of collecting the data and information requisite for a satisfactory report upon the progress and prospects of mining matters in the locality.

WESTPORT.

The alluvial branch of gold-mining has been carried on during the past twelve months in much the same manner as for many years past—without undue exaltation or depression, but with a fairly-remunerative return for the labour and capital expended; the number of miners employed being about 220, which, speaking approximately, is the number engaged in alluvial gold-mining for many years past. I may remark here, *en passant*, that the reduction of the miner's right fee to 5s. has resulted in a considerable increase in the number issued, 128 having been taken out during the past three months of 1886.

Gold-miners working at Addison's and Croninville continue to obtain fairly-remunerative returns for their labour, and it seems probable that for many years to come the present population will be recouped for their outlay. I have been informed recently that a large area at Addison's will be applied for shortly by a substantial party or company, with a view to carry on operations by the hydraulic system of raising washdirt or tailings, which has been successfully carried on in Otago for many years. Should it be found that this system can be profitably applied here in operating upon auriferous washdirt, a great impetus will be given to ground-sluicing at Addison's, Fairdown, and Charleston, where there are large areas of low-lying ground not sufficiently rich to yield profitable returns when worked under the expensive tail-race system.

The Fairdown Company are actively engaged in preliminary operations, and expect to start washing within three months from now. Water is being brought in from the right-hand branch of Wareatea Creek, and to connect the head-works with paddock a column of wrought-iron piping, No. 12 B.W.G., 15in. in diameter and nearly 20 chains long, is now being erected. The vertical pressure thus obtained between head of column, intake end, and floor of paddock, is 262ft. The flat itself underneath which the auriferous alluvium is known to exist in quantities more or less payable cannot be advantageously worked by drainage tail-race, and so it is intended to raise everything by hydraulic pressure. It is calculated that for every 100ft. of fall the wash, gravel, stripping, &c., can be elevated 12ft., so that with the pressure available this company should be able to command a direct elevation of 32ft. The works are being carried on under the direction and superintendence of Mr. William Fitzgerald, who has had several years' practical experience in Otago of this system of ground-sluicing.

During the past year the Great Republic Quartz-mining Company have unfortunately been involved in litigation, extending over a considerable period of time, during which mining operations

were practically suspended; and further delay was occasioned by the inability of the company to secure the services of Mr. Wright, mining engineer, to inspect and report upon their special claim, and suggest the best method of working it. The legal proceedings which had been hampering the operations of the company have been recently adjusted by compromise, and, the plans and report of Mr. Wright having been received, there are now eight or nine men employed in prospecting operations, in accordance with Mr. Wright's recommendations, and present indications warrant the belief that a permanent reef may yet be discovered in the company's special claim.

The Red Queen claim has been in full work throughout the past year, and several crushings have taken place. The reefs or leaders operated upon have been so small, and the surrounding rock so hard, that the results have been unprofitable, and no dividends have accrued to the shareholders. Work has been suspended for two or three weeks past, and a meeting of shareholders has been convened to consider the future operations of the company.

The Mokihinui Company have done nothing except keeping their battery and water-race in repair. This company owns the only crushing-machine in the district, and, though maintaining the same and keeping a long water-race in repair at a loss of money, they generously place these conveniences at the disposal of other companies at a very reasonable rate of charge.

The Southern Light Company has for some considerable time been busily engaged in opening up their mine. Under the direction of an able manager this work has been carried on with great success, as is evidenced by the fact that the connections with the battery are near completion and a quantity of stone ready for crushing, which is expected will be commenced in about a month. The reef is on the same line but above the Red Queen claim, but the ground is good soft working, and can be wrought at far less cost than that of the Red Queen.

The Guiding Star Company is in a peculiar position. In order to work their stone the company would have to drive a long tunnel, which would be a direct advantage to many claims beside their own. The cost of this work would be greater than one company could bear, and those claims which would benefit thereby are unable or unwilling to co-operate with the Guiding Star. The company has £300 lying at fixed deposit, which would be spent in carrying out the necessary operations if other companies deriving a direct benefit from the work would contribute proportionately.

The Nile Company have discontinued prospecting operations of late owing to financial troubles. When a proper understanding has been arrived at among the shareholders work will be resumed, as the prospects in the mine are exceptionally encouraging.

The Smile of Fortune Company have during the period in which they carried on the operations in the past term kept solely to surface-prospecting. Their ground adjoins that of the Great Republic Company on the south, whose operations and the results obtained are taken as a guide for the direction of the Smile of Fortune Company's affairs.

The South Pacific Company have extended their main tunnel about 85ft. during the past twelve months, and have also done some general prospecting; but no encouraging developments have rewarded the company so far.

Sulphate of barium has been found recently at Cascade Creek, and a prospecting-license has been granted. This mineral is known to exist in considerable quantities, and the discoverers are now endeavouring to ascertain the value of it, and whether a market can be found for large quantities. No doubt if they are favourably advised upon these two points they will lose no time in turning their discovery to profitable account.

Gold-mining Leases.—During the past year four gold-mining leases have been applied for at Westport, fourteen have been granted, and six cancelled or forfeited; at Charleston, three applied for and three granted.

Population.—There has been a small increase of population in and around Westport, and possibly a slight decrease at Charleston.

Coal-mines.—The Koranui Mine has been closed since December last, resulting in a diminution of population at Waimangaroa and a corresponding depression in business in that neighbourhood. On the other hand, mining operations have been carried on with greater energy and activity at Denniston, and many of the coal-miners thrown out of work by the closing of the Koranui Mine have been taken on at Denniston, the net result being that the output of coal has not decreased despite the closing of the Koranui Mine.

The Westport Harbour Board have shown great energy in carrying on works in connection with harbour improvements. Three quarries are now being worked, and the average quantity of stone placed *in situ* daily amounts to fully 500 tons. As the bridge about to be constructed across the Buller River is to be made available for ordinary traffic, there can be no doubt it will prove a great boon to the district generally, and its value would be immeasurably enhanced by the construction of a road along the western bank of the river to the Nine-mile Crossing, which would open the bridge for all up-country traffic, and do away with the danger, delay, and expense which travellers must inevitably submit to when dependent upon the present ferry system.

School of Mines.—As one of the results of Professor Black's visits to this district, and the lectures delivered by him at Westport, great interest has been created in mineralogy and cognate branches of science, and a School of Mines comprising forty-two members has been in existence for some time past. Weekly meetings are held, at which lectures are delivered and the usual tests and analyses practised. A small building has been obtained by the members, but it is found to be quite unfitted for their requirements, and they are now taking steps, in conjunction with the Public Library and Athenæum Committee, to erect a commodious building at a cost of about £500 for their joint purposes, including accommodation for a geological museum. A good site has already been secured for the building, and I understand that the public are responding liberally in the way of subscriptions. An institution of this sort is calculated to assist materially in the development of the mineral resources of the district, as it cannot fail to diffuse a wider knowledge of metals and minerals amongst those engaged or interested in mining pursuits. The movement, therefore, seems to be deserving of every encouragement, and one which would undoubtedly be carried to a speedy and successful issue if aided by the Government.

CHARLESTON.

A considerable amount of prospecting has been done by Messrs. Turner and party in the country lying between Charleston and Croninville, and by Messrs. Powell and Andrews south of Brighton. The results obtained were not very satisfactory; but the latter party, who received assistance from the Buller County Council, still have hopes, I believe, of opening up a payable field in that locality. Up to the present time nothing really payable has been found; but I was shown a splendid sample of rough gold obtained by Powell and mate, which I consider should encourage them to proceed with their prospecting operations; and I hope the County Council will render them further assistance in this important undertaking. There is little or no change to be reported in the general mining operations at Croninville, Charleston, and Brighton: there are about 250 miners scattered through the district, who are making on an average very good wages.

The Under-Secretary of Mines, Wellington.

I have, &c.,
FRANK BIRD, Warden.

No. 8.

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

SIR,—

Warden's Office, Reefton, 16th April, 1887.

I have the honour to forward to you herewith statistical returns for the year ended the 31st ultimo, together with a report on the Inangahua District during the same period.

It is pleasing to be able to say that, although the operations for the past year have hardly come up to expectations, still, they may fairly be considered as satisfactory, and the results bear favourable comparison with former years. The event of the year was the discovery of good payable stone in the Globe Mine, at Devil's Creek, which has had the effect of completely changing the aspect of affairs in that part of the district from abandonment and disappointment to activity and prosperity, and affords another instance of the wonderful changes that occur in mining. This discovery was quickly followed by another in the adjoining claim, the Progress, where good stone has also been found.

Influenced by the success attained in other parts of the colonies in floating mining ventures upon the English market, preliminary steps were taken to transfer some of the local mines to English companies. The first companies in this district to take such steps were the Globe and Progress; and to carry out the objects proposed these companies were to be amalgamated, the prices fixed upon the shares being, Globe £3, Progress £1, to be paid partly in cash and partly in shares. At the meeting of the Progress Company called for the purpose of sanctioning the sale of the property, &c., the shareholders, having every confidence in the value of their claim, declined to enter into such a scheme; and that their confidence was well placed is borne out by the fact that the mine declared a shilling dividend out of the first crushing, and shares are now saleable at £1 7s. 6d. The Globe Company also declined to entertain the proposal, and consequently the scheme fell to the ground. A somewhat similar scheme has been proposed in connection with the Welcome, Homeward Bound, and Specimen Hill Companies, at Boatman's, which it is proposed to float as one company. The companies interested have held meetings, at which the scheme has been approved, although some opposition was shown in the Specimen Hill Company. I am not aware of the precise terms upon which the sale is to be effected, but the consideration will be paid partly in cash and partly in shares in the new company, and the arrangement is considered very satisfactory to the present shareholders. If the scheme is carried to a successful issue, and the concern proved a profitable one, it will have a very beneficial effect upon the district, as it will doubtless induce other English capitalists to invest, thereby helping to further develop the field.

Calls have been made in the different companies in the district during the year, amounting to £21,596, and dividends for the same period amount to £33,450, the dividends thus exceeding the calls by £11,754. The quantity of stone crushed amounts to 23,930 tons, yielding 21,143oz. of gold, valued at £83,170 15s. 5d. The yield of alluvial gold does not vary very much, that for last year amounting to 3,620oz., value £13,756. The total yield therefore for the year is 24,763oz., valued at £96,926 15s. 5d. From the opening of the district to the 31st ultimo 381,553 tons of quartz has been crushed, yielding 307,458oz. of gold, of a value of £1,191,710, out of which sum £405,294 has been paid in dividends. I am not in a position to state positively, nor can the information be obtained as to the actual output of alluvial gold; but 43,998oz. has been obtained since the 1st April, 1879, and the value of same is £159,615; and it will not, I think, be unreasonable to assume that quite as much more was obtained prior to 1879. This, then, would give 87,996oz., valued at £319,230. The total output of gold, then, from the opening of the district, would be 395,454oz., and the value £1,510,940.

The revenue for the year, of which returns have already been sent to you, is in excess of the estimate. I will follow the course usually adopted, and endeavour to furnish a slight insight into the works carried on by the principal companies during the year.

Welcome.—The shaft has been sunk 60ft. below No. 8 Level, and will be continued until a depth of 150ft. is reached, and this work, it is calculated, will occupy about three months. On the completion of this work a cross-cut will be driven to cut the reef and open up No. 9 Level, which will take another three months. A winze has been sunk on the north end 120ft. upon stone of a fair width, and carrying good payable gold. It is estimated that four months' crushing still remains upon the present level. The company have had many difficulties to contend against, not the least amongst which is the want of good ventilation.

Specimen Hill.—The period of protection granted to this company expiring, prospecting was started, and, after working a short time, some highly payable stone was found upon the surface. A tunnel was driven, and the stone struck 25ft. from the surface, and now a winze is being sunk to

follow the stone down to a lower level. The stone is about 3ft. in width, and is very rich. A couple of tons from the surface were taken out and crushed, and gave a return of 3oz. to the ton. Immediate steps are to be taken for getting out and crushing 200 tons, to give the stone a fair trial.

Just in Time.—Stone has been plentiful, and crushings have been continuous for some months past, and dividends have been declared. It is thought that there is still twelve months' work on the present level, so that, the mine being in good order, regular dividends may be expected for some time to come.

Eureka.—Before the term of protection granted to this company had expired the shareholders determined to start work again. The tunnel was driven a considerable distance and other works done, without, however, meeting with the reef. Prospecting for the reef is still being carried on, and if success is to be attained in the direction of the present workings it should be an accomplished fact very soon. The company are certainly deserving of success.

Fiery Cross.—Crushing was maintained for a lengthened period during the past year, from which good results have been obtained, enabling dividends to be declared to the extent of 5s. 6d. per share. At present the works being carried on are of a progressive character, and with the view of developing the deep ground in the mine. A winze has been sunk on the reef to a depth of 70ft.: in this, stone of a highly payable character has been followed the entire distance. An uprise has been constructed to connect with the chamber at the 450ft. level, and sinking an incline on the reef is now being carried on. The works in connection with the opening of this level, it is estimated, will be completed in about nine weeks, when regular crushing may be relied on for a long time to come. The dividends would have been large, but the directors, profiting by past experience, deemed it advisable to purchase a winding-engine for the shaft, and to largely augment the tailings plant. This, of course, entailed a large outlay; but everything is now complete, and in good working order.

Lone Star.—A trial-crushing of 20 tons from this claim gave a return of 33oz. of gold. A company was floated to work this ground, the original owners retaining a large interest. The company have been sinking a winze and driving a tunnel to strike the reef. Other stone has been discovered on the surface in a different portion of the lease, upon which some prospecting has been done. A large number of claims have been taken up on the supposed line of the Lone Star reef, and prospecting is being done upon several of them.

Keep It Dark.—The sinking of the main shaft for the purpose of opening a new level has been completed. A tunnel has been driven from the bottom of the shaft a distance of 470ft., and 30ft. remains to be driven to strike the reef, which, when met with, will be driven on 20ft.; from which point an uprise of 50ft. will be constructed to connect with the winze sunk on the stone from the present level. These works will occupy about five weeks. The company has been crushing and declaring regular monthly dividends throughout the year. The old overshot wheel, giving signs of weakness, was taken down and two Pelton wheels erected, which work very easily and smoothly. The total value of gold obtained from this mine is £180,464, out of which dividends to the amount of £87,083 have been declared, £13,000 of which is the result of the past year.

Wealth of Nations.—The erection of the winding-machinery being completed, the sinking of the main shaft was recommenced, and it is now down 190ft. After sinking another 10ft. a cross-cut will be driven to strike the reef, which it is expected will be met with in 30ft. or 40ft. The progress of this work is being watched with much interest, and should the company be successful in picking up payable stone at this low level it will do much towards establishing confidence in the permanency of the district. From the time the company started crushing the tailings from the battery have been stacked. The manager some time since proved that these tailings could be profitably treated by putting them through the berdan. There are eight berdans now so employed, from which gold is collected to the value of £100 per month. The stone from which these tailings were obtained averaged about 11dwt. to the ton.

Nil Desperandum.—This company has been in existence for many years, and small crushings were taken out from time to time. About eighteen months or two years ago it was determined to place the mine in proper working order: accordingly, winding-machinery was erected, and the winze was baled and straightened and converted into a main shaft. The company intended sinking this shaft 150ft.: before doing so, however, they prospected near the old workings, and discovered the block of stone now being worked, which has been driven on over 100ft. The company have now been crushing about three weeks at the Wealth of Nations battery, the stone yielding about 8dwt. to the ton. It is proposed to continue sinking the main shaft at an early date, and, as there is 300ft. (in length) of stone underfoot, it only needs a small improvement in the yield to make the mine a prosperous one.

Pandora.—This claim was taken up some five years ago; nothing, however, was done upon it, owing to difficulties in connection with the title, and other causes, until the end of last year. The Keep It Dark Company, in cutting their race through this ground, bared some quartz, upon which the company started sinking a winze: the stone, however, proved to be only quartz-boulders. After sinking the winze some 70ft., stone carrying good gold was struck, and this has now been sunk upon a distance of 39ft., and it averages 2ft. in width and is estimated to yield 1½oz. to the ton. A trial-crushing will shortly take place at the Wealth of Nations battery. The prospects of the mine are encouraging.

No. 2 South Keep It Dark.—This claim adjoins the Pandora. As soon as the contract for driving is finished, steps will be taken to pick up the stone now being worked by the Pandora, and the work will not be of any great magnitude. This claim is well situated, being between the Nil Desperandum and the Pandora.

Venus.—Stoping stone between No. 1 and No. 2 Levels and crushing-operations have been carried on for some months during the year. The reef has been driven on 325ft., 175ft. of which was done during the past year. A winze has been sunk 100ft. on the reef, the stone from which was recently crushed, and turned out very well, yielding about 25dwt. per ton. The width of the

stone is 2ft. No. 3 Level has been started at a perpendicular depth of 175ft., and the tunnel is now in 350ft. Another 300ft. has yet to be driven to strike the reef underneath the winze. These works will take some little time yet, but when completed crushing will be recommenced.

In the Inglewood the low-level tunnel is still being driven, and small crushings may be obtained from time to time. A few hands are being employed in the Phoenix, Lucid, North Venus, and Inangahua Low-level Tunnel Companies, but there is nothing in connection with any of them calling for special mention.

Globe.—On the failure of the crushing of stone from No. 2 Level work was suspended, two men only being kept on to prospect. Early in September last a call was made to continue prospecting, and it was contemplated making another call before the end of the month to pay off all the liabilities, when proceedings would have been taken to wind up the company. "It is a long lane that has no turning;" and so it proved with this company, for, after many disappointments and failures, a new block of stone was discovered 1,000ft. from the old workings. Not much attention was at first paid to the new find, for the finding of reefs was of frequent occurrence in this ground. After stripping off the moss a reef of large dimensions was found, and a little work being done on it proved it of value. Stone was taken out and sent, under some difficulties, to the battery, where 86 tons was put through, which gave the splendid return of 2oz. per ton. Permanent works were immediately taken in hand, and were pushed through in a very short time, and a winze was started on the reef. On the completion of the tramway stone raised from the winze and from another face of stone some distance away was sent to the mill, and yielded about 13dwt. per ton. As the stone was being obtained under disadvantages, it was decided to cease crushing until the mine was better opened up. The winze was sunk 123ft., showing good payable stone all the way. At the same time a tunnel was being driven to strike the reef, which was reached in 200ft. A drive was then taken into the winze, 55ft. The reef has now been driven on 100ft., and averages 12ft. in width, and has been traced on the surface 1,300ft. The company has now been crushing a fortnight, and has put through the battery 380 tons, obtaining 927oz. of amalgam, equal to about 310oz. of gold. A prosperous career is now before the company, as, judging from appearances, it should give regular dividends for a long time to come.

Progress.—The Oriental Company, meeting with ill success, and being in financial difficulties, was placed in liquidation. The mine and machinery was sold to Mr. Perotti, of Greymouth, who has been associated with the district from its early days, for £320. He endeavoured to get a few private individuals to join him in the venture, and, although the amount asked was only slightly in excess of the amount he paid for it, yet he met with no response. On the discovery in the Globe Mine, which adjoins this claim, prospecting was commenced, and it was very soon ascertained that the Globe reef ran into the Progress. A company of 24,000 shares was floated at 2s. per share in a few hours, Mr. Perotti retaining a large interest. Work was commenced immediately on stone found by the Oriental Company, which was, however, left by them, not being considered payable. After driving a few feet the quality of the stone improved; and 132ft. has now been driven on the reef, which averages 9ft. in width. Sixpence per scrip only of the company's capital was called up, when a crushing of 310 tons was put through, 400oz. of gold being obtained. This enabled the company to declare a dividend of 1s. per share. It is now proved almost beyond doubt that this will be a regular dividend-paying claim.

Big River Extended.—The erection of the battery will soon be out of hand, when crushing will be commenced. Some exceedingly rich stone has been found in the mine; the reef, however, I understand, is small and broken, so that it is possible crushings will not be continuous.

Having thus given a short account of the different mines and the works performed and in hand, I will now give the results obtained; and the annexed table will show the calls made, the quantity of stone crushed, the yield, the value of the gold obtained, and the dividends declared during the past year. I would take this opportunity of expressing my thanks to the managers of companies, who have upon this and all other occasions kindly rendered assistance and information.

Upon the suggestion made, I believe, by Professor Black upon one of his visits here, it was determined to start a local School of Mines. A few energetic individuals collected money, and sent for necessary chemicals, &c. Later on the Hon. the Minister of Mines, recognizing the value of such an institution, and the importance of the district, consented to grant a subsidy of pound for pound up to £150 for the erection of a building. Those who took the matter in hand went properly to work, collected subscriptions, and erected a building suitable for the purposes required. The room will shortly be lined and fitted up with all the necessities. Mr. Fenton has been in charge for about six weeks, and a good number have attended his classes. I understand a petition is to be forwarded to the Government, asking that Mr. Fenton may be retained in the Reefton District.

There is one matter to which I wish to draw particular attention, and that is, the saving and treatment of tailings. Unfortunately, too little attention is given to this question, but few companies taking the trouble to stack their tailings, and, as a consequence, thousands upon thousands of pounds' worth of gold have been allowed to flow down the rivers and become irrecoverably lost, not only to the owners, but to the colony. The Welcome Company early learnt the necessity of saving their tailings, and have for a long time past kept thirteen berdans at work on them, which give good profits. Even where the stone is not rich, good profits can be obtained from the tailings (*vide* report on Wealth of Nations Company).

Much attention has, in consequence of the good prospects of the Globe and Progress, been directed towards the Devil's Creek district, and a large number of leases have been applied for in that locality, and stone has been found in many; but so far nothing has been found demanding special mention. Prospecting, however, is still being carried on: indeed, a large amount of prospecting is being done all over the district, in Big River, Devil's Creek, Rainy Creek, Merrijigs, Murray Creek, and Boatman's. It will therefore not be surprising if important finds are made during the current year. There have been 120 leases and special claims applied for during the year. Deeds of

lease have been issued for a considerable number, and over sixty are held under certificates of occupation. The current year opens with every indication of success, and, as far as may fairly be judged from present appearances, will show a marked improvement upon last year.

I have, &c.,

The Under-Secretary of Mines, Wellington.

FRANK BIRD, Warden.

Name of Company.	Calls made.	Dividends declared.	Quartz crushed.	Yield.	Value.
	£ s. d.	£	Tons.	Oz.	£ s. d.
Welcome Quartz-mining ...	...	6,750	2,002	4,530	17,877 0 0
Hopeful Extended Quartz-mining ...	...	...	95	222	838 0 0
Specimen Hill United Quartz-mining ...	333 6 8	...	...	...	...
Phoenix Extended Quartz-mining ...	200 0 0	...	...	...	...
Big River Extended Quartz-mining ...	2,750 0 0	...	...	...	...
Progress Quartz-mining ...	600 0 0	1,200	310	400	1,585 0 0
Lone Star Quartz-mining ...	600 0 0	...	20	33	127 0 0
Multum in Parvo Quartz-mining ...	200 0 0	...	...	...	...
Nil Desperandum Quartz-mining ...	1,437 10 0	...	...	...	...
Eclipse Quartz-mining ...	600 0 0	...	...	...	...
Bannockburn Quartz-mining ...	...	...	...	...	...
Happy Valley Gold-mining ...	200 0 0	...	...	...	...
Gladstone Extended Gold-mining ...	...	...	...	...	...
Homeward Bound Extended Quartz-mining ...	1,200 0 0	...	...	...	...
Venus Extended Quartz-mining ...	600 0 0	2,100	3,603	2,212	8,610 17 6
North Venus Quartz-mining ...	100 0 0	...	...	...	...
No. 2 South Keep It Dark Quartz-mining ...	400 0 0	...	...	...	...
Golden Point Gold-mining ...	...	...	...	...	...
Dauntless Extended Quartz-mining ...	100 0 0	...	...	...	...
Wealth of Nations Extended Quartz-mining ...	1,625 10 0	...	100	62	240 16 2
Wealth of Nations Extended Quartz-mining ...	...	...	Tailings	229	900 4 0
Keep It Dark Quartz-mining ...	...	13,000	9,072	5,254	20,622 0 0
Globe Gold-mining ...	1,800 0 0	...	420	408	1,611 0 0
Rainy Creek Extended Quartz-mining ...	700 0 0	...	...	...	...
Eureka Extended Quartz-mining ...	600 0 0	...	...	...	...
Suez Gold-mining ...	100 0 0	...	...	...	...
Inglewood Extended Quartz-mining ...	1,000 0 0	300	920	495	1,908 0 0
Reform Gold-mining (no liability) ...	1,150 0 0	...	328	224	878 0 0
Chicago Gold-mining ...	150 0 0	...	...	...	...
Britannia Extended Gold-mining ...	50 0 0	...	...	...	...
Fiery Cross Extended Quartz-mining ...	...	6,600	3,227	4,212	16,668 13 7
Inkerman Quartz-mining ...	1,833 6 8	...	800	262	1,034 19 2
Just in Time Quartz-mining (registered) ...	233 6 8	3,500	3,033	2,600	10,269 5 0
Inangahua Low-level Tunnel Quartz-mining ...	600 0 0	...	...	...	...
South Hopeful Quartz-mining ...	666 13 4	...	...	...	...
Britannia Quartz-mining ...	416 13 4	...	...	...	...
Royal Oak Quartz-mining ...	250 0 0	...	...	...	...
Walhalla Quartz-mining ...	100 0 0	...	...	...	...
Morning Star Quartz-mining ...	200 0 0	...	...	...	...
Golden Treasure Gold-mining ...	800 0 0	...	...	...	...
	21,596 6 8	33,450	23,930	21,143	83,170 15 5
Alluvial gold ...	...	...	...	3,620	13,756 0 0
				24,763	96,926 15 5

No. 9.

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

SIR,—

Nelson Creek, 4th April, 1887.

I have the honour, in conformity with your instructions, to make the following report on inspection of the quartz-mines.

BOATMAN'S.

Homeward Bound Quartz-mine (3rd March, 1887).—This claim has a long tunnel—2,225ft.—driven from the face of the hill to the supposed line of reef. At the end of this tunnel there is a large chamber lately constructed, where it is intended to sink a shaft 500ft. or more, to open out on the reef traced to the south boundary by the Welcome Company. It was in this chamber, while under contract, that F. Coveny was killed on the 26th February last. The chamber is a substantial piece of work, is quite dry, and well ventilated by tubes leading from the mouth of the tunnel, where a jet of water having a good pressure does the work very efficiently. The tunnel is well timbered, and in good order. There is a turbine water-wheel and air-compressor at the mouth of the tunnel.

LYELL.

United Alpine Quartz-mine (5th March, 1887).—This mine was not, at the time of my visit, working full shifts, there being only four working-faces. The immediate cause of this was, I understand, a break in the reef in the north end, and there not being sufficient room in the stopes now opened between Nos. 5 and 6 Levels to put more men on. I found the air exceedingly bad in places, and urged the manager to remedy this at once, which he promised to do, and pointed out to me how he purposed doing it. The ladders leading from No. 6 to No. 5 Levels were very much worn, and nearly through in many places. One or two of the rungs were broken out. These defects make a fifteen-stone man feel uncomfortable when climbing near the top of a 150ft. winze, nearly perpendicular. Everything is exceedingly wet and slippery. The manager promised to make the necessary repairs at once. The present workings are 530ft. below the surface. No. 6 Level is 700ft. below the surface. A new tunnel is now being driven, called No. 7 Level, and is now in 400ft. When it is completed it will open the mine 960ft. below the surface. There are in all twenty-eight men now employed, and there will be forty-five when the mine is in full working order, which is expected at an early date. Preparations are being made to erect a dynamo machine at the battery, by which it is intended to work a rock-borer in No. 7 Level, and also light the mine by electricity. The mouth of No. 7 Tunnel is distant about a quarter of a mile from the battery. Several cross-cuts have been put in in search of the reef where it had pinched out, and in one, quite lately put in, a very large body of good stone was met with. The mine is exceedingly well timbered throughout. The dynamite is carried to the workings in proper warming-cans. A good changing-house is quite handy to the mouth of No. 5 Level. The working-plan has been removed to the legal manager's office, Lyell. The battery-plant is very complete, under the able management of Mr. Waters.

Lyell Creek Extended Quartz-mine (5th March, 1887).—To open this claim a low-level tunnel is being driven from near the level of the Lyell Creek, and is now in a distance of 2,100ft. The workmen say they are now getting into reefing-country, and expect to find the underlie of the Alpine reef shortly. The tunnel is well timbered.

Tyrconnel Quartz-mine (6th March, 1887).—This mine is on the Eight-mile Creek, on the opposite side of the range from the Alpine. There are six men engaged following up some leaders of only a few inches thick, which, however, yield an average of 12oz. per ton. These leaders, it is thought, will eventually be found to join the Alpine reef. The work is being carried on on a very small scale.

Maruia Quartz-mine (6th March, 1887).—This mine is close to the Tyrconnel, has an equal number of men, and is doing similar work, in the hope of finding a solid reef some day.

United Italy Quartz-mine (6th March, 1887).—In this mine there are only two men engaged, driving a tunnel, and they expect to find a reef 20ft. or 30ft. further ahead.

Bon Accord Quartz-mine (6th March, 1887).—This claim joins the Maruia, and is being worked by two men, who are following a small leader which yields 3oz. per ton, in the hope it may develop into a reef further on.

The four last claims get their quartz crushed at the Ceresus battery.

REEFTON.

Eclipse Quartz-mine (16th March, 1887).—There are four men only prospecting in this mine. I saw nothing worth noting.

Wealth of Nations Quartz-mine (16th March, 1887).—There are eleven men employed in this mine and battery. A tunnel from the face of the hill, and nearly on a level with the battery, has been driven in to near the supposed line of reef, a distance of 800ft., where a chamber has been excavated and well timbered. Here a shaft has been sunk 200ft., and the sinking is to be continued to a considerable depth, with a view of finding the belt of stone now being followed to near the south boundary by the Keep It Dark Mine. All the tunnel, chamber, and shaft are well timbered, and the ventilation good to the bottom of the shaft. The winding from the shaft is being done by a new overshot water-wheel at the mouth of the tunnel, and is under complete control of the brackman in the chamber. The work in the mine at present is confined to sinking the shaft.

Keep It Dark Quartz-mine (16th March, 1887).—This mine is in full work of three shifts. The shaft is down 503ft. A new level is being opened at 374ft. Stopping is being done at the 300ft. level, and a winze sunk 150ft. The ventilation is good throughout the mine, and all the timbering good. The old stopes are being filled up from the surface. There are thirty-four men in the mine and six at the battery, which is now worked by a Pelton wheel.

Nil Desperandum Quartz-mine (16th March, 1887).—This mine, after a stoppage of about three years, I am informed is again in full swing, working three shifts. There is not yet room for many men. The motive-power and winding-gear work very smoothly, and are similar to those used in the Wealth of Nations. The tunnel from the face of the hill is 300ft. in length, ending in a chamber, in which a shaft is sunk 210ft., to the level of the workings. There are no sliding-gates at the shaft, neither are there cage-covers. The mine-manager promised that these things would be fixed in position at an early date. The stone from this mine is being crushed at the Wealth of Nations battery.

Pandora Quartz-mine (16th March, 1887).—This mine is a continuation of the Nil Desperandum, and south of No. 2 Keep It Dark. A prospecting-shaft is being sunk on a low terrace near the river; and after following some leaders a short distance down they enlarge to a reef nearly 2ft. thick at 79ft. deep, and look equal to an ounce per ton. The stone was being lifted by a windlass and bucket.

No. 2 South Keep It Dark Quartz-mine (16th March, 1887).—This claim is being prospected for a reef by driving a long tunnel from the face of a low terrace near the river, and the Pandora shaft.

Progress Quartz-mine (17th March, 1887).—This mine has made a fresh start on a newly-discovered reef, running nearly east and west. At the time of my visit the reef measured from 7ft. to 10ft. thick, with well-defined walls, giving promise of many years' work and good returns. Stopping is going on, and all the workings are remarkably well timbered. The air, however, was very bad in the stopes; but the mine-manager promised to give it his immediate attention. There were eleven men working in the mine, and about the same number on the surface and at the battery, which is undergoing a thorough repair. It is intended to add to the power and the number of stampers in this battery at an early date. The stone is conveyed from the tunnel-mouth by tramway to the battery-shoot.

Globe Quartz-mine (17th March, 1887).—This mine has been worked at a heavy loss to the shareholders for some time, till a cross-reef was discovered on the surface, from which a prospect was obtained that almost immediately made it a valuable property. When the cross-reef was first discovered a winze was put down 100ft., and then a tunnel driven from the face of the hill to within a few feet of the bottom of the winze, when the reef was found to be 13ft. thick and bearing nearly east and west. This reef is believed to be the same now being worked in the Progress Mine. The two workings in the reef are about 800ft. apart. The stone is much alike in appearance and value. The ventilation was bad at the end of the tunnel when the mine was being opened out, but, as one drive was within a few feet of the bottom of the winze, into which an opening would be made in a few days, this, it was anticipated, would give a fine draught of good air through the present workings. A new plant is being erected to lift the quartz from the tunnel-mouth to a level where it can be conveniently trucked to the aerial-tram bins or paddock. The mine-manager was not present when I visited the mine, but I afterwards saw and spoke to him about the bad ventilation, when he promised to give this his immediate attention. The timbering is very good.

Venus Quartz-mine (18th March, 1887).—This mine was not in full work when I visited it, through a large tree having fallen on and carried away the aerial tramway. A low-level tunnel is being driven, which will soon be in to the line of stone. A winze is also being sunk to the level of the tunnel. There are eighteen men on just now, but on completion of the low-level tunnel and the shifting of part of the aerial tramway the full number (forty) will again be put on. The timbering appears good and the ventilation good. The general rules appear to me to be fairly complied with.

North Venus Quartz-mine (18th March, 1887).—In this mine there is only a prospecting-tunnel being driven, which is now in 110ft.

Inglewood Extended Quartz-mine (18th March, 1887).—There is very little doing in this mine just now. There are six men employed opening out on what is known as the old North Star block. The company is driving a low-level tunnel, which is now driven 600ft. There are six men employed at this work. No crushing has been done for the past six months.

Golden Fleece Quartz-mine (18th March, 1887).—This mine has not been working for some time past. At the time of my visit two or three men were engaged removing the winding-engine from a landslip, which had done much damage, having broken nearly all the working-parts. Preparations are being made for a new company to start this mine again at an early date.

BOATMAN'S.

Fiery Cross Quartz-mine (19th March, 1887).—This mine is preparing to open out on a new level, No. 5, which is about 150ft. below the old workings. An incline-shaft is now down 180ft., and will be 300ft. when finished. There are fifteen men at present employed, but when in full work there will be thirty-five. The mine is very dry. The underground gearing is distant from the mine-shaft 800ft., and works well. The timbering and ventilation is good. The winding has been done till quite lately by a water-wheel only; but there is now a steam-engine to do the work when there is not sufficient water to drive the wheel. All the gearing works smoothly, and the mine appears to be carefully worked.

Welcome Quartz-mine (21st March, 1887).—I visited this mine on the 19th, but found nothing doing and the engine not at work. I again visited it on the 21st, and found it in full work. The shaft and winze are being sunk to another level. All the workings were in good order, and appeared to be carefully looked after. The shaft had slide-gates, and the cages were covered. There was good ventilation throughout the mine. The engine-shaft is still very hot.

Just in Time Quartz-mine (21st March, 1887).—This mine is now being more carefully worked, the timbering being kept closer up to the work. The workings are very dry and the ventilation good. The winding-gear appears to be in good order.

South Hopeful and Reform Quartz-mines (21st March, 1887).—In these two mines there are only prospecting-tunnels being driven. The timbering and ventilation are good.

GENERAL REMARKS.

I think the mine-managers should be now, or very soon, familiar with all the general rules; and the necessity of their being complied with must, I think, be apparent to them all. I fear, however, that little attention will be paid to the rules generally, unless the Inspector visit the mines more frequently than has been the case in the past. I think some of these mines should be visited at very short intervals to keep the mine-managers up to the rules, and particularly to keep the mines well ventilated.

I have, &c.,

The Under-Secretary of Mines, Wellington.

J. Gow, Inspector of Mines.

WESTLAND GOLDFIELDS.

No. 10.

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

SIR,—

Warden's Office, Greymouth, 27th April, 1887.

I have the honour, in obedience to your circular, to forward under separate cover the statistical returns required by you. The contents of these returns comprise nearly all the information I could embody in the customary annual general report. Mining matters have remained *in statu quo* during the twelve months ending the 31st March. I cannot report a new discovery, or any incident or movement worthy of note. The district generally lost a few of the old and experienced miners about June last, who were induced to leave for the scene of the discoveries at Kimberley, West Australia; but only a few took this premature step, and these have nearly all returned, sadder and perhaps wiser men.

Greenstone.—A large area was applied for early in the year as a special claim, which, after delays occasioned by the hearing of objections raised by other mines on the hackneyed ground of "monopoly," was granted in December last. The necessary preparations to work the ground were very costly: a race containing many heads of water had to be brought a great distance, and to secure the requisite fall a long and expensive tail-race had to be constructed. The prospects of the party are very good, and, so far as can be seen, pretty well assured. The locality, Duke's Terrace, has been worked for the last twenty years so far as the local available water could command it; and this remaining portion has continued unworked to a great extent owing to the extent and magnitude of the necessary preliminary works. At Cape Terrace the mines are steadily at work; and I believe the yield in this sub-district (Greenstone) will be about the same as last year.

Barrytown and North Beach.—I have no change or improvement to report here. About the same amount of population is employed, sluicing in small claims and working the beaches.

Paroa and South Beach.—The same remarks apply here. The increase of numbers at Cameron, mentioned in last report, has gradually dwindled, though there are still claims at work with tolerable results.

Marsden.—The anticipated discoveries in the deep land at Irishman's have not yet been fulfilled, though the work is still persisted in. The claims in this neighbourhood are few in number, and scattered, worked by either men singly, or in parties of two; and the returns are difficult to arrive at.

Dunganville.—Nothing fresh has occurred. The sittings of the Warden's Court have been, since September, reduced to alternate months, instead of monthly. All the old-established sluicing-claims have continued working, and with steady fair returns. There is a part of country towards, and in the vicinity of, Lake Brunner, going from Dunganville, that has never yet been prospected, and has, it is believed, very good indications of good auriferous deposits; and I think it probable that the works of the Midland Railway, bringing a large number of men in this direction, and the excavations and cuttings made during the progress of their contract, may lead to some discoveries of payable country.

Arnold.—The Warden's Court at this subdivision was closed for a time at the beginning of the year; but afterwards, on the representation of the miners, it was reopened in September, with quarterly sittings, instead of alternate months, as before. There is little doing here. The small rush reported at Stillwater was never of much importance, and was of short duration, and only two or three parties are now working there. The New Zealand Steam Sluicing Company (Victorian), which about two years ago commenced operations on the large deposit of tailings in the bed of the creek at Arnold, has suspended work—I understand, only for a time; but I do not think the work they did led to encouraging results.

No Town.—Mining matters have been dull, judging from the business done in the Courts, which is often a good test, though not infallible. No miners have left the district, and I believe most of them are employed at steady remunerative work, though returns are small.

Ahaura.—The Warden's Court has been occupied at length on several occasions with disputes from the River View District, and I believe that there is a large extent of auriferous land there, which would be at once profitably occupied if the extension of the Nelson Creek Water-race, so long looked for, was made in this direction; at present, though many claims are working, it is only in a small way, owing to the want of sufficient water. The Brian Boru party is still working, and I hear are satisfied with the result, and look forward to a long and profitable occupation of their land. At Orwell Creek the Napoleon Hill claim is still working, and yielding good dividends.

Nelson Creek.—The Band of Hope Gold-mining Company have been unfortunate, and, their capital becoming exhausted, have increased it by a new issue of scrip; and I hope to hear will ere long be in full work on their claim, which promises good returns when properly worked. A small find was made in this sub-district by the county prospectors, and several men set in in consequence, but nothing was found payable beyond the original claim, which is still working with four men, and yields £2 per man per week.

Blackball and Moonlight.—A little activity has been shown lately in these portions of the Ahaura District. In the former two large licensed holdings have been applied for, and water-races to work them. The land may be said to be new, so little has it been prospected. The party appear confident, and certainly they give an earnest of their belief, judging from the large outlay the preliminary works they are about to undertake will cost them. Water in sufficient quantity is obtainable, though it has to be brought some distance, and many difficulties have to be contended with. When in position, however, it will be available for working a very extensive tract of country over and beyond the particular ground to which it is at first to be applied. This venture, therefore, is of importance. Should this party be successful their enterprise will encourage an occupancy of a considerable area of land hitherto entirely overlooked. Indeed, it is not surprising that even good

paying sluicing-ground remains unworked, when in so many instances it requires as much capital and skill to commence operations—conveying water from other watersheds, and tail-races to be made of great length, and often tunnelled through deep ground—as in opening up some quartz reefs; so in this case I do not doubt that when twenty-five to forty heads of water are brought to command this country it will be readily employed, and a large quantity of land now lying idle will be profitably mined. At Moonlight a number of new claims have been taken up. It is an out-of-the-way tract of country, not much in favour; but, judging from the many applications received, I have reason to believe that it supplies remunerative employment to a great many.

The Mining Act of 1886 was looked forward to as making a great concession to the miner in the reduction of the miner's right; but considerable doubt exists as to the advantages gained by the substitution of the five-shilling water-license for the water-rights of the Mines Act of 1877, which, though it had to be renewed annually, cost only 2s. 6d. With this exception the new Act appears in favour with the miners.

The Under-Secretary of Mines, Wellington.

I have, &c.,

JACKSON KEDDELL, Warden.

No. 11.

Mr. Warden GILES to the UNDER-SECRETARY OF MINES.

SIR,—

Hokitika, 8th April, 1887.

The general condition of this mining district is much the same as at the time of my last annual report, and a brief statement will suffice to show the chief changes, whether for the better or worse, during the past year.

Kumara.—The completion of the subsidiary main tail-race, commonly known as No. 2 Sludge-channel, is the most prominent event in the history of the Kumara diggings during the year. This channel has been placed in the hands of a body of miners representing the claim-holders who make use of the channel, who manage it under a code of rules constructed for the purpose. The channel is now in full working order, and has had the effect of relieving the main (No. 1) channel, of obviating to a large extent disputes and litigation, and of facilitating the smooth working of all the claims concerned. The only difficulty now to be apprehended in the near future, so far as I am aware, is the filling-up with tailings of the flat near the bend of the Teremakau River, a process which is now in very rapid operation. Several new claims have recently been taken up northward of the present workings, which are to discharge by tail-races opening on private land belonging to Messrs. Keech and Molloy; and steps are contemplated for the purpose of obtaining resumption of this land under the clauses of the Mining Act framed for that purpose. Upon the whole the Kumara goldfield is in a fairly prosperous condition, and single shares in a claim have sold for as much as £200 and upward.

Waimea.—The principal points of interest in this sub-district are the progress of the Kelly's Terrace Company and the Wheel of Fortune Company, at Stafford. The former company have brought in a tunnel more than a mile in length at various points, in which they have tested the ground, and have met with fairly good washdirt in several places. Some of these finds, however, being below the level of the tunnel, would require constant pumping to work them, and the company is now sinking a working-shaft at a point where apparently good washdirt has been found on the bottom of the drive. I should think there is a reasonable prospect of this claim turning out remunerative. The Wheel of Fortune Company, mentioned in my last year's report as Murphy and party, have constructed a substantial tail-race 1,200ft. in length, with a water-wheel and inclined tramway for the purpose of hauling everything taken out to an elevation, which will give fall to their tailings. I understand they consider their prospects good, but the claim is not yet in complete working order.

Hokitika and Kamari.—The principal subject of interest in this part of the district is the operations of the Humphrey's Gully Company; but there is nothing special to report concerning these, except that, although they have been energetically carried on whenever circumstances have permitted, yet the water-supply does not seem to have been sufficiently plentiful and continuous to produce the most satisfactory results. It is now contemplated to increase the capital of the company to an extent sufficient to enable them to extend their race to the Arahura River, and so obtain an unfailing supply of water at all seasons.

Totara.—The hopeful account which I gave last year of the Ross United Company's operations has unfortunately not been justified by the result. The gold which was found in the deep workings, although very considerable in quantity, yet was never enough to do much more than pay the working-expenses from week to week; and as the driving went on it became apparent that the powerful pumping-machinery was becoming barely able, when doing its utmost, to keep down the water which was constantly finding its way into the workings. At last, about two months ago, there was so great an influx of water that the pumps could no longer contend with it, and the men had all to be discharged, and the works stopped. It is now proposed to raise additional capital, and to place another set of pumps in a new shaft; and negotiations for this purpose are now on foot. It seems uncertain whether the water which has now filled the workings comes from the old Cassius ground or not, but I should think it highly probable that it does. In this case the danger from this source, which has been so long a cause of apprehension, is, of course, removed, and by sinking the new shaft on the site of the old workings the real extent and value of the much famed "Cassius layer" may be directly ascertained. Should it prove anything like what sanguine persons imagine it, the company may yet partly recoup itself for its heavy outlay; but, should nothing be found better than what the company has been working for the last twelve months, even this has been proved to be well capable of paying wages, and the ground may be turned to good account by letting it on tribute, as has already been done with other areas within the company's boundaries, as well as with the Elevator claim on Jones's Flat.

The Mont d'Or Company has been carrying on at the same time the working of its own ground together with that of the Mount Greenland Company, of which it has held a lease. This company has been working prosperously and paying dividends to its shareholders. The lease being now at an end, I understand the Mount Greenland Company is about to resume its ground and work it on its own account.

I cannot conclude my remarks upon the Totara sub-district without expressing my sense of the great loss sustained by the death of Mr. William Blane, for so many years Mining Registrar and Clerk of the Courts at Ross. Mr. Blane's long and intimate acquaintance with the district and its requirements, and his uniform courtesy and desire to assist all who required his help, have caused his loss to be a very sensible one both to myself and to the public; and all who were acquainted with his unfailing integrity and strict conscientiousness must feel that the community in which he lived has lost one of its most worthy and valuable members. I am glad to be able to say, in addition, how well I am satisfied with the manner in which Mr. Blane's place is filled by his successor, Mr. C. A. Barton.

Schools of Mines.—The chemistry classes have received from a recent visit of Dr. Black the stimulus which his scientific enthusiasm and masterly method of handling his subjects never fails to impart. The stay of Mr. McLymont upon the Coast, although his energies have to be distributed over a wide area and amongst many centres, is, I think, producing good fruit in the greater and more steady attention to the subject which is discernible in the different localities. I was unfortunately absent when Dr. Black was at Hokitika, but I am glad to hear that he expressed surprise and pleasure at the progress made by the Hokitika Chemistry Club. This progress has been due to the energy of one or two local amateurs, and to the systematic and scientific help of Mr. McLymont. The club now possesses a laboratory which, if not complete in its appliances, is yet orderly in its arrangements, and permits experiments to be carried on with some degree of efficacy. The collection of minerals also lately supplied through the Mines Department has proved a valuable acquisition and a source of much useful information.

I have, &c.,

The Under-Secretary of Mines, Wellington.

J. GILES, Warden.

No. 12.

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

SIR,—

Warden's Office, Okarito, 4th April, 1887.

I have the honour to forward herewith statistical returns for the year ended the 31st March, 1887, together with general report on the mining district under my charge during the same period.

Mining in this district is mostly confined to the old workings, and nothing during the past year has arisen to cause a change in the general aspect of affairs. Three parties have been out prospecting during the year—viz., Black and party, on Cook's River; Reider and party, Okarito Flat; and McFettrick and party, on the Waiho River; the two last being subsidized by the Westland County Council. Black and party after three weeks' exploration returned, having found the river too high to allow of working with any hope of success. Reider and party prospected by boring part of the Okarito Beach, and are now working ground that will pay about £2 per week per man. McFettrick and party are at work on the Waiho River—result not known, no report having been received since they went out. Tracks to give access to out-of-the-way diggings, and to open up land for settlement, are progressing slowly. A further judicious expenditure in this direction would greatly facilitate the work of the miner and prospector. The population remains about stationary, with this exception: that a few Chinamen are settling about the forks of the Okarito. It is to be regretted that, notwithstanding the great number of idle men said to be in other parts of the country, this district should be actually suffering for lack of what appears to be a chronic evil in other parts of the colony, when such extensive tracts of country in south Westland would give at least a good living to any one able and willing to work, and often something more. The black-sand beaches, so numerous and extensive in this district, out of which such rich returns were obtained by the first workers, will, I have reason to hope, be utilized in such a manner as will inaugurate a new era in our mining history.

I have, &c.,

The Under-Secretary of Mines, Wellington.

D. MACFARLANE, Warden.

No. 13.

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

SIR,—

Jackson's Bay, 12th April, 1887.

I have the honour to forward herewith annual report on mining districts under my charge for the year ending 31st March, 1887, together with statistical returns for the same period.

During the past year a considerable increase in our mining population took place, due to the discoveries made last year in the southern part of the district. A number of leases were taken out on the Gorge River to work the nickeliferous deposits found there. This metal—named awaruite by Dr. Hector—is a compound of nickel and iron—two of nickel to one of iron; and at the time of discovery it was said to be worth 8s. per pound. It is found associated with great quantities of magnetite, or the black sand of our beaches, together with gold, platinum, and other metals; but great difficulties have been met with in working the river-bed owing to the number and size of the boulders, the heavy floods, and immense landslips that have prevailed during the past year. Another difficulty has arisen in trying to separate the magnetite from the awaruite, both being highly magnetic, and of about the same specific gravity. In the interest of those concerned I forwarded to a firm in Germany about 100lb. of the metals, and ores as found, for treatment, but

have not yet obtained a reply. In a communication received from a firm in New York in answer to inquiries as to demand and price, I find that large quantities are used—quotations, \$1 per pound; consequently, the men at work are somewhat disappointed. The metal awaruite has been traced to the Olivine Range, where it occurs in varieties of greenstone, associated with olivine and serpentine. The matrix is very hard, but I am hopeful of finding the metal in a softer variety of the same rock.

Notwithstanding the promising outlook in the southern portion of this district with which the year opened, and the efforts made by the various parties of diggers to discover and open up payable ground, the results have not been quite satisfactory. Durward and party, representing a Christchurch company, were prospecting on and about the Red Hill, but found no gold. I understand they came across considerable quantities of chrome-ore, and heavy dikes of greenstone containing awaruite, but not in sufficient quantities to pay for extraction. The Big Bay party, although assisted very materially by the Government, has not, so far as I know, been a success, most of the party, after a very cursory examination of the country around Big Bay, having gone back. I am informed that most of the work done was confined to the beach-workings between Brown's Refuge and Big Bay. However, some good has come out of it, as other parties were induced to visit the district—amongst others, Pauline and party, who came round to the Bay from Dunedin in a cutter, and have been prospecting in the Hope Ranges with promising results. Pauline reports having got payable gold ten miles up the Fork River, and another party report gold in the terraces on both sides of the same river down to the sea-beach. This block will be come-at-able next summer, as the Cascade and Pyke Valley Road, now in course of construction, will give access to this promising piece of country. The back country is yet almost untouched, none of the prospecting-parties having gone east of the Olivine Range, nor south of the Red Hill on the same parallel. No doubt, when the south road is finished through to the head of Lake Wakatipu, men will take advantage of it to examine this block of country.

That gold is to be found in the quartz reefs of the main range has been demonstrated by recent tests made by Mr. McLymont, Professor Black's assistant, showing 2½ oz. of gold to the ton. A prospecting-claim has been applied for on one of the reefs, which is of great thickness. Further tests will be made as the reef is opened up. In connection with the foregoing I may be allowed to say a word as to the value of Professor Black's classes on the goldfields. So far as his efforts apply to this district, I consider they are invaluable. It is well known that throughout the whole of Westland we have not only coal and gold, but combinations of metals and minerals so complex that only by expert manipulation can we learn anything of their value, and how to work them to advantage—more so in this district than in any other, where new and unexpected compounds of metals and ores occur. But, whilst recognizing the importance and value of the knowledge imparted by Professor Black and his able assistants in the class-room, I would point out that, although we may be well up in all that relates to the treatment of metals and ores, it is applied knowledge we must look to for results. I therefore trust the Hon. the Minister of Mines will carry out what he has so well begun in his efforts to educate the miner, so as to enable him to distinguish the various mineral ores he comes in contact with.

In the northern part of the district mining matters are much the same as last year. On Haast Beach a party of men are prospecting with a portable boring-machine for black-sand leads. The Abbey Rock Ranges are nearly deserted, owing to the difficulty in getting provisions on the ground; otherwise a fair number would settle down to work. The County Council are having a reconnaissance survey made of a pack-track to open up the block. Communication by sea is now fairly regular; but the most important factor in the successful working of the country is good pack-tracks. We are greatly indebted to the Hon. the Minister of Mines for the energetic manner in which the Cascade and Pyke Valley Road is being pushed forward. The completion of the road between Jackson's Bay and the head of the lake will be an immense boon to diggers and others, and will, I trust, result in great benefit to the country at large by opening up new and important mining centres. During the latter part of the year great and destructive landslips and floods have taken place, doing great damage, and causing much inconvenience to all concerned.

The Under-Secretary of Mines, Wellington.

I have, &c.,

D. MACFARLANE, Warden.

OTAGO AND SOUTHLAND GOLDFIELDS.

No. 14.

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

SIR,—

Warden's Office, Lawrence, 12th April, 1887.

I have the honour to furnish herewith the statistical return for the past twelve months, and to submit the following general report on that portion of the Otago Mining District under my supervision during the same period.

Mining operations remain in much the same position as at the date of my last report. A fair amount of prospecting has been carried on in various localities throughout the district, but no new discoveries or valuable find have been reported.

TUAPEKA SUB-DISTRICT.

The works at the Blue Spur claims have been steadily maintained during the year.

Messrs. Kincaid, McQueen, and Co. have just completed the erection of McQueen's new patent roller cement-crushing machinery for the Nelson Company, on their lease at the Blue Spur, at a cost of £1,500. In the beginning of March the machinery was started to crush, and the result proved the crushing-capabilities of the rollers to be highly satisfactory, and far superior to the stamper-heads. The machine is driven by a powerful turbine wheel, and is computed, when in full work, to crush 200 tons of cement daily; but before the company can do this they find that they must enlarge their tunnel and tail-race to enable them to keep the crushing-plant clear. After a few months' trial of this roller crushing-machine there is little doubt but other companies will find it imperative in their interests to erect similar machinery for crushing.

The Blue Spur and Gabriel's Gully Tailings Company also made fair progress, and turned over a large quantity of tailings. They have a fair balance to their credit in the bank.

The owners of all the Blue Spur claims have agreed, upon certain conditions, to amalgamate, and form their claims, and all water-rights in connection therewith, into one large company, and have intrusted J. C. Brown, Esq., M.H.R., with full power to proceed to London and float the company. The amalgamation of these claims in one block of forty-five acres, and the adoption of more extensive and systematic appliances, should tend to the greater development of the auriferous deposits in that locality, and at the same time put an end to the disputes and costly litigation that hitherto have been one of the greatest drawbacks to the successful working of many of these claims.

The large claims at the head of Munroe's Gully have been regularly worked. Varcoe and party, and three or four other parties, continue working in the bed of the gully, which is also the main tail-race; but these parties convey the tailings along a side-channel past their claims.

Several parties of Chinese are working in the low flats along this gully, and in the Tuapeka River above its junction with Munroe's Gully.

A few Europeans and several Chinese parties hold extended and ordinary claims at Wetherstone's Gully, and on the mining reserve on the Tuapeka River, to its junction with the Clutha River. They are making ordinary wages.

There is only one dredge at present working on the Clutha River—at the Beaumont, owned by Cowan and party, making good wages. The other dredge has suspended work.

One application has been made for a special claim, one mile in length, on the Molyneux River, just below the Island Block, as it is expected that Mr. Gibson's new dredging-machine now being erected on the river near Alexander will give a fresh impetus to that class of mining. I believe other claims have been applied for at the Warden's office, Roxburgh, on the river, above the Island Block.

At Waitahuna mining operations have been fairly maintained throughout the year, but there is nothing calling for any special remarks. Two of the alluvial gold-mining leases have been surrendered, the ground being now worked out. The Chinese occupy some very good claims in this locality, whilst other small parties in and about the gullies around Waitahuna, Manuka Creek, Adams Flat, and Old Woolshed Creek are making fair wages where water is available.

At Waipori eight old quartz gold-mining leases were cancelled, either for abandonment or non-payment of rent. Two quartz leases were applied for, taking up portions of the old ground on the Lammerlaw Range. Two quartz leases and two ordinary quartz claims are now being worked in this part of the district, employing about twenty men. There has been from 150 to 200 tons of quartz crushed, estimated to yield from 18dwt. to 24dwt. to the ton.

The Deep Lead Prospecting Association has suspended operations on the Waipori Flat, having spent all their funds, including Government subsidy, amounting to £300, in the erection of one of Ashbury's patent pumps, and sinking a shaft 19ft. The failure of this work was due in a great measure to incompetency and mismanagement.

At Tapanui some prospecting has been carried on in different localities; but, although gold was found in many places, the prospects were not sufficient to induce the men to set in steadily to work.

The Prospecting Association formed by the business people at Tapanui about eighteen months ago have suspended operations. About thirty Europeans and a number of Chinese have been employed, on and off, mining during the wet season, and when other labour was not obtainable. Mining on the beaches of the Pomahaka River and adjoining creeks, and also on the Scrubby Terraces and other localities, when water was available, has taken place.

The gold returns for this part of the district show that over 400oz. of gold had been sold locally, whilst other small parcels were known to have been disposed of outside the district.

Gannon and party, who started a new dredge on the Pomahaka River in February, 1887, after working for three or four months, were compelled to abandon dredging-operations, as it did not pay ordinary repairs.

As this part of the Tuapeka District is situated forty miles from the Warden's Court at Lawrence, it would be advisable to establish a Warden's Court at Tapanui in conjunction with the Resident Magistrate's Court, so that miners' rights and other mining forms could be supplied in the locality.

WAIKAIKAI SUB-DISTRICT.

The following mining centres—viz., Waikaka, Welshman's and Moffatt's Gullies, Winding Creek, Gow Creek, Upper Waikaka, Whitecombe, Dome and Muddy Creeks, Nokomai, Waikaka, and Chatton—are attached to the Warden's office at Waikaka, Constable Maher holding the office of Clerk of the Court and Receiver of Gold Revenue.

In November last five or six extended claims were taken up on the Hospital Spur, adjoining the Township of Waikaka, some fair prospects having been found on the face of the spur. Three or four shafts were sunk from 16ft. to 25ft., but the yield was not considered rich enough to work except by ground-sluicing.

One party of Chinese, who are in possession of the Argyle Water-race, have opened out a claim on the west end of the spur, and are making fair wages. The other parties are at a standstill until they can obtain a supply of water. The Argyle Race having been extended to Moffatt's Gully, the Chinese hold the greater portion of Moffatt's and Welshman's Gullies and adjoining terraces, making average wages. Winding Creek still continues to give employment to several miners during the wet months, and other parties are employed on the terrace adjoining Muddy Creek, tunnelling out the ground, as there is no water available in these terraces for sluicing. There are also some claims being worked in the Dome Creek and Scrubby Terrace adjoining, making small wages.

On the Upper Waikaia, including the Whitecombe, Timber, and Nuggety Gullies, and Gow Creek, several claims have been taken up, principally by Chinese in the Waikaia River and on the adjoining spurs, paying fair wages. The best claims are those in the river-bed; but they can only be worked when the river is low, and are subject to much damage by floods.

Two or three of the old claims in Piano Flat are still being worked with fair results, and it is thought that, from the general appearance of the locality, better ground will be found further back on the flat.

At the Nokomai three gold-mining leases were granted in May, 1886, on the Nokomai Flat, adjoining the lease taken up the year before. The ground is very deep and wet, varying from 35ft. to 70ft., and is worked by shafts and driving out the washdirt below. The quantity of water is so great that powerful engines have to be kept constantly at work to keep the shafts clear. Three of the companies—Paddon and party, Hunter and party, and McKay and party—have steam-engines and pneumatic pumps at work; but, having many unforeseen difficulties to contend with, the returns have been small: still, good prospects have been obtained, and the ground is considered very rich. Paddon and party are now constructing a large head-race at the upper end of their lease, to drive all the machinery by water-power instead of steam, which has been found to be a very expensive item in the working of the lease. Cameron and party, who hold an extended claim of six acres at the head of the Upper Gorge, have completed the construction of their deep tail-race, and have begun to draw out the washdirt with very fair results.

WAIKAWA GOLDFIELD.

This portion of the Otago Mining District is situated on the south coast between the Waikawa Hundred and the Six-mile River. This district, as well as Haldane Bay, is attached to the Warden's Office at Waikaia, a distance of eighty miles or more, in consequence of which many delays and difficulties occur in the granting of registered rights and other privileges, owing to informalities and vague descriptions, as the business is all transacted by letter. Mr. Archibald Butler has been residing on the Six-mile River for several years: he is in the possession of small water-rights and other privileges which yield fair wages, principally by ground-sluicing. He informed me on my visit to that locality last month that if a good supply of water was brought to work the sandy terraces along the beach good dividends would be obtained. Gold in payable quantities is known to exist in the black-sand layers along the sea-beach, but the miners are unable to contend with the water, the working being several feet below the sea-level.

Out near the limits of this goldfield, between Haldane Bay and Waipapapa Point, there are four or five parties of miners engaged in ground-sluicing on the low terraces near the beach, making fair wages; but they complain of the scarcity of water. These miners obtain their registered rights and privileges from the Commissioner of Crown Lands at Dunedin. It would be better if the boundaries of the Waikawa District were extended to Waipapapa Point; then all would come under the jurisdiction of the Warden and the provisions of the Mining Act. There are also some miners working on the beach and low terraces at Port Molyneux, and on the sea-beach near Catlin's River, making small wages.

About eight or ten parties have been engaged during the wet season working on private property at the Waimumu Creek, Mataura. These men pay a rental of 2s. 6d. a week to the owner when at work. A few miners have also been engaged during the slack time prospecting on the beaches of the Mataura River, making small wages, but leave when other work can be obtained.

GENERAL.

The Mining Act of 1886, which came into operation on the 1st January last, has hardly had sufficient time to be fairly understood by the miners. Many of the provisions of the Act, especially those relating to the issue of licensed holdings in lieu of gold-mining leases, and also the leasing of small areas on the mining reserves, will prove beneficial; whilst the provisions requiring the annual renewing of all registered rights and claims will be the means of enabling the Wardens to cancel and strike off from the registers the numerous water and other rights that have been either wrought out or abandoned.

Sittings of the Resident Magistrate's Court are held fortnightly at Lawrence, Milton, and Gore; monthly at Balclutha, Tapanui, and Waikaia; and alternate months at Kaitangata and Clinton. The Warden's Court is held fortnightly at Lawrence, and monthly at Waikaia.

The yield of gold for the Tuapeka District is estimated at 14,730oz., and for Waikaia at 2,190oz.

The attached returns show the number of miners' rights, licenses, registrations, &c., issued during the twelve months; the number of cases disposed of, and the revenue collected in the several Courts; and the estimated population of the district.

RETURN of Miners' Rights, Licenses, Registrations, &c., issued during the Twelve Months ending the 31st March, 1887.

	Tuapeka.	Waikaia.	Total.
Miners' rights, at £1 ...	387	133	520
" " 5s. ...	276	158	434
Business licenses, at £5 ...	1	2	3
" " half-year, at £3 ...	...	2	2
" " annual, at £3 ...	...	...	...
" " half-year, at £1 10s. ...	...	...	...
Water-race licenses, at 5s. ...	29	15	44
" " 2s. 6d. ...	86	60	146
Registration, at 10s. ...	7	...	7
" 5s. ...	4	...	4
" 1s. ...	119	107	226
Applications for gold-mining leases ...	5	1	6
Gold-mining leases granted ...	2	3	5
Applications for agricultural leases ...	...	...	...
Agricultural leases granted ...	...	...	...
Licensed holdings issued ...	...	...	...
Special claims granted... ...	...	...	...
Mining applications applied for and granted ...	145	128	273

RETURN showing the Revenue collected during the Twelve Months ending 31st March, 1887.

	£	s.	d.
Warden's Department ...	1,092	13	11
Rent under deferred payments ...	2,316	18	7
Resident Magistrates' Courts, goldfields districts ...	498	1	0
" " outside goldfields ...	861	10	0
Licensing fees ...	67	13	0
Total ...	4,836	16	6

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

Courts.	Civil.	Criminal.	Warden's	Total.	Receipts.
					£ s. d.
Lawrence ...	249	165	14	428	295 2 0
Waikaia ...	42	43	11	96	67 1 0
Tapanui ...	148	78	...	226	161 10 0
Outside goldfields—					
Milton ...	149	57	...	206	113 1 0
Balclutha ...	101	74	...	175	127 12 0
Kaitangata... ..	37	56	...	93	36 14 0
Clinton ...	61	50	...	111	66 2 0
Gore ...	563	74	...	637	486 18 0
Mataura ...	50	16	...	66	31 3 0
Total ...	1,400	613	25	2,038	1,385 3 0

THE population of the district is estimated at 24,985 souls, and is located as follows:—

Districts.	European.	Chinese.	Total.
Tuapeka	3,865	404	5,910
Waipori } Tuapeka ...	305	60	
Waitahuna } ...	1,126	150	
Waikaia ...	1,013	188	1,201
Tapanui ...	2,500	100	2,600
Milton ...	4,600	39	4,639
Balclutha ...	3,700	...	3,700
Kaitangata ...	1,500	...	1,500
Clinton ...	1,561	...	1,561
Gore ...	2,000	70	2,070
Mataura ...	1,800	4	1,804
Total ...	23,970	1,615	24,985

I have, &c.,

The Under-Secretary of Mines, Wellington.

W. H. REVELL, Warden.

No. 15.

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

SIR,—

Warden's Office, Clyde, 7th April, 1887.

I have the honour to submit the following report on the Dunstan and Wakatipu Districts, under my charge, for the year ending the 31st March, 1887, together with the usual statistics for same period.

Clyde and Alexandra.—Since my last report all the available portion of the River Molyneux, from two miles below Alexandra to about the same distance below Cromwell, has been pegged off as special claims for dredging with Wellman's patent steam dredgers, one of which is now almost completed at Alexandra; and should it prove a success (which the patentee is confident of), there will in all probability be at least twelve of these dredgers placed on this part of the river within the next twelve months. The old dredges are still working actively and paying moderate dividends. In alluvial mining there is nothing new to report: a good number of miners are working in various localities around, and earning fair wages.

Old Man Range.—In this part of my district, including Bald Hill Flat, immediately below, a good few miners are working with more than average success, one party of two, it is rumoured, making as much as £20 per man per week. Two more claims have been pegged off adjoining them, but as yet the quality has not been tested. From prospects I have myself witnessed in this locality, and judging by reports, it is matter for surprise to me that a larger number of miners are not settled here.

Cromwell.—In this sub-district alluvial mining is carried on actively, in some cases with very satisfactory results, especially at the Bannockburn, where the parties have a good supply of water. The sludge-channel at the latter place is not yet completed, but is expected to be so shortly. There are two dredges on the Upper Clutha, between Cromwell and Albert Town; but I am informed that neither are paying more than working-expenses at present. The dredge placed on the Kawaru River, near Cromwell, last year has been very unfortunate in the constant breakage of machinery and consequent loss of time, which, up to this time, has prevented any dividends being paid.

Mount Criffel.—The season opened here earlier than the previous year, in consequence of so little snow being on the mountain; and all the parties holding claims have been working vigorously, and with very handsome results in some cases. Several water-races are in course of construction, which, when completed, will give a fresh impetus to these workings. No new ground has been opened up here since my last report. The yield of gold has been fully equal to last year, but it is impossible to obtain reliable information as to the actual quantity taken out. Some time during the year a quartz reef was discovered not far from the main workings, and several leases have been applied for. From what I can learn there is some probability of its turning out well.

Macetown.—The alluvial workings on the terraces have been very good, most of the parties at work doing well, and some obtaining large returns, which would, in all probability, have been much greater but for the prevailing dry weather and consequent scarcity of water. In other places in this neighbourhood, and along the banks of the Arrow River, mining matters look fairly well. At Cardrona a few parties are making average wages. The Cardrona Prospecting Association has been at a standstill since December last, not being able to obtain men to continue the work.

QUARTZ.

The New Cromwell Company, Bendigo.—This company during the past year have accomplished a considerable amount of work, and incurred heavy expenses in preparing sites and in the erection of extensive machinery and plant of the most approved kind, to insure the utmost efficiency in conducting their operations, which shows that the company intend to open out and thoroughly prospect their property in a systematic manner. Near the new main shaft is erected the winding, air-compressing, and pumping machinery, the whole of which is mounted upon substantial cross and longitudinal framing, securely fixed to a solid rock foundation. The motor for working consists of a reaction turbine. The winding and air-compressing machinery is enclosed by substantial houses of large dimensions. Contiguous to the winding-plant is the new main shaft, comprising two winding and one pumping compartment, securely timbered to the present depth—viz., 290ft. The company has purchased two rock-drills of the latest construction, which have been subjected to severe tests during sinking operations in the shaft. To facilitate blasting operations the company purchased an electro-dynamic exploding apparatus. The sinking of the new main shaft has been stopped for a time, pending the arrival of pumping-gear: as soon as it is fixed in position sinking operations will be resumed. The company has purchased and erected four new berdans for treating tailings, &c. The twenty-head battery has been overhauled, and additions made thereto; the water-races have been repaired, and other work of a miscellaneous character has been done. At present the men on the mine are employed opening out an auriferous cross-leader, from which trial-crushings have proved remunerative.

White's Reef, at the Obelisk Range.—This is still the principal quartz-mine in operation. Since my last report a change has been made in the management, and, judging by subsequent results, it would appear that the company has reaped considerable benefit by the change. About 600 tons of stone intermixed with mullock has been crushed, yielding 520oz. of retorted gold, or an average of slightly under 18dwt. to the ton. Out of this the company has been enabled to clear off all liabilities, including the machinery, declare a dividend of 6d. per share, and carry a considerable balance forward to meet future possible contingencies. There are seventeen men and boys employed at this mine.

Upper Skipper's.—The Annette Louise Company is composed of six shareholders, and was formed to work the slip known as Skipper's, and situated at the head of Skipper's Creek. The plan of operations is to drive a low-level tunnel under the slip up the old bed of the creek, covered by the slip, until the bottom is reached; and by so doing the great difficulty of water will be over-

come. To carry out the object a contract to drive a tunnel 250ft. was let in January last, the estimated cost of which will be £300. The tunnel is now driven a distance of 150ft., and so far no serious difficulties have arisen. The cost of water-race and fluming for sluicing-purposes is £150, making a total present expenditure of £450.

The Phoenix Company.—This company has done a large amount of work in the mine during the past year, having crushed 7,000 tons of quartz, producing 5,278oz. of smelted gold, or 15dwt. per ton. During the year many difficulties were encountered with the electric machinery and the scarcity of water. By an accident in January last the electric power broke down, and it will take to the end of April current to effect repairs, when it will be worked with new wheels of laminated type, with the expectation of a large increase of power. In the meantime a portion of the battery (twenty heads) is being driven by steam. During the year this company has erected a pair of air-compressors for the purpose of driving a winding-engine (which is fixed in a chamber within the mine); a Tangye pump (which is fixed in pump-shaft); a rock-drill; also a stone-breaker above the battery, through which the whole of the quartz passes, except what is riddled out on its passage to the breakers; making the plant now fairly complete: and should the electric plant come up to the company's anticipations, with its thirty heads, they expect to have good returns in future. In the claim a pump-shaft has been sunk 80ft. below the adit level, and the middle lode has been cut with a cross-cut of 137ft., but 150ft. west of the run of gold in the adit level. In driving east the company passed through a short run, and are now entering on the main shoot coming from the levels above. The run of gold in this reef is apparently gone below this level, and will have to be followed by sinking deeper. This will probably be done in the next year's work. In the upper ground in this lode the company found its rich lode suddenly cut off by a crosscourse, which apparently has heaved the lode a distance of 350ft. This has been a matter of great difficulty and expense, and appears to have been a most extraordinary heave, the second only that the manager (Mr. Fred. Evans) has seen in the colonies. This crosscourse passes through the whole of the mine in a north-westerly direction. A large extent of ground has been opened on the company's Promised Land lode, with varying results, and will probably produce a large quantity of low-quality stone. The crushings at present are of quartz from three different lodes. The gold at the battery is saved by plain blanket-tables, and from careful test of tailings the loss is found to be exceedingly small.

The Phoenix Extended.—This company, after the preliminary work of repairing the tunnel had been effected, let a contract to drive 200ft. at £1 4s. per foot. This distance was driven, and a little gold showed, but not payable. Another contract was let to extend the north drive 50ft. at £1 7s. 6d. per foot; and it has been driven to a distance of 137ft., but the north lode is not yet reached, although indications show that they are getting close to it. Two men have been employed in driving to look for the south lode; and at a distance of 30ft. the reef was found, with good walls, but no gold in them. Two men are also driving to start to cut the north lode 275ft. west of where No. 1 north drive is going for the same reef. The north lode has been prospected on the top of the hill about 1,000ft. west of the mouth of the tunnel, and good payable prospects obtained. The shoot of gold worked by the original holders of this mine runs so flat that a long distance will have to be driven before it will be cut; but prospects are being obtained at the end, going west, that are sufficiently good to indicate that the company is near something payable. The tram-road has been repaired and laid with iron rails; the battery has also been repaired; and everything will soon be in readiness for crushing. The only drawback is that all the pipes are not in position for the water-supply, which is hoped soon to be completed. The water-supply has been and still is an expensive matter, the amount of pipes required being about 3,700ft. When complete, however, there will be a perpendicular pressure of 170ft. The cost of piping and labour is estimated at £800, and, with Pelton wheel, will bring it up to nearly £1,000; but the power it will give will enable the company to sink, crush, pump, and work the mine to the greatest advantage, and cheaply. The company has, up to the 31st March last, expended about £2,500 in improvements in the mine, driving, &c., and hopes shortly to reach payable stone.

Maori Point (the Maori Point Quartz-mining Company).—This company—a Melbourne syndicate—purchased the rights of A. Southbury and others, who drove a tunnel (at a depth of 80ft. from the cap of the reef) a distance of 60ft., when they struck the reef, which was gold-bearing. Previous to this they crushed 5 tons from the cap of the reef, which yielded slightly over 17dwt. to the ton. They then drove east along the course of the reef 80ft., and the same distance west, the reef showing payable gold the whole distance. After it was taken charge of by Mr. Nicholls for the new company, 6cwt. of quartz was sent to Melbourne for crushing (taken from different parts of the drive), which yielded at the rate of 6oz. to the ton. A winze was then sunk on the west side of the tunnel to a depth of 45ft., when it was found that the reef improved in quality from a soft mullocky reef to a hard blue-and-white stone, with splendid walls. In consequence of meeting with a strong body of water the intention of sinking the winze to a depth of 100ft. was not carried out. A lower-level tunnel (120ft. deeper than the old tunnel) 400ft. in length was decided to be driven at a cost of £600. The company purchased a ten-head battery at a cost of £550, delivered on the claim, which is now in a forward state of preparation. The company secured two water-rights; but, as they would pass over very rough country and take a long time to bring in, and as the company wished to test the ground without delay, they purchased the water-rights of Messrs. Leyden and O'Connor for £500, and have repaired the race at a cost of £100. This was a heavy piece of work, as the water had to be brought down from a height of 1,000ft. to the pipes leading to the turbine, which are 400ft. in length, and give about 150ft. of perpendicular pressure. The total cost of the various works when complete will exceed £2,000.

Head of the Lake (the Invincible Quartz-mining Company—Limited).—This company has also done a considerable amount of work during the past year, having crushed 2,167 tons of quartz, which yielded 1,517oz. 18dwt. of retorted gold, or equal to 14dwt. to the ton. The working-expenses for the year amount to £3,920 19s. 1d., or equal to 9dwt. 9gr. to the ton; leaving a surplus of 4dwt. 15gr. to the ton for division amongst the shareholders. The company employed twenty-four men in the

mine during the year, and are still working in their upper and machine-site levels. The quantity of stone crushed from the commencement or first opening-up of the mine to the 31st March is 10,897 tons, which has yielded 5,857oz. 8dwt. retorted and smelted gold.

In conclusion I am glad to say the mining industry is looking healthy and prosperous, and that, notwithstanding the dry season just passed, the agricultural industry will have little to complain of, the crops throughout the entire district having been fairly good.

The Under-Secretary of Mines, Wellington.

I have, &c.,

JOHN S. HICKSON, Warden.

No. 16.

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

SIR,—

Warden's Office, Naseby, 8th April, 1887.

I have the honour to forward you herewith statistical returns and annual report for that portion of the Otago Mining District under my supervision.

Macrae's.—There is nothing new to report in connection with mining at this place. Water has been very scarce, which has retarded sluicing operations.

Hyde.—Mining at this place is almost at a standstill. A shaft has been sunk in the deep ground which was subsidized by the county for the purpose of finding a supposed deep lead; but the prospects obtained therefrom were not satisfactory, and the slabs were drawn after sinking to a depth of 130ft. and driving a short distance at the bottom.

Hamilton, Sowburn, and Serpentine.—In the two former places no new finds have been made, nor has there been any change since last report, except the natural changes in the population. At Serpentine a large company has been formed, known as the Golden Gully Quartz-mining Company, to work Turnbull's old reef, that gave such good prospects a few years ago; and, as they seem to be going to work in the right direction, they have every prospect of success.

Naseby.—Very little alteration has taken place in this subdivision of the Mount Ida District. The taking of the Mount Ida Water Trust's race to the east side of the Hogburn has developed the resources of the watershed of the Kyeburn, and confirms the opinion always held, that an extensive auriferous area existed there, which only required water to develop it. The water available from the Trust's race is quite inadequate to supply the requirements when water is plentiful; and in dry seasons, such as the two last summers have been, it is semi-starvation, all the water the Trust has been able to supply its customers with.

The Rough Ridge, on its western slope, has a small population, carrying on quartz-mining in three registered companies; but the work they have at present done may be termed merely prospecting.

St. Bathans, &c.—The only new discovery in this subdivision during the year has been on the western side of Blackstone Hill, about two miles from the township of that name, and six miles from St. Bathans. Two men, with no better appliances than a tub and cradle, obtained 130oz. in seven weeks, having obtained as much as 10oz. in one day; but none of the considerable number attracted by their discovery have done so well. Many of them have pertinaciously stuck to prospecting in the neighbourhood for the last two months, with the result that a large amount of ground has been discovered that will pay for sluicing. The quantity of water, however, available is very limited.

In former reports the large works undertaken in the locality of St. Bathans proper to enable ground to be worked profitably have been commented on—undertakings such as have nowhere else been entered upon by private enterprise. One of these—the Muddy Creek Channel Company—has been finished during the year, and work commenced on the holdings at its head. This channel is four miles in length, 18ft. wide on the bottom at the lower two miles, and 12ft. on the upper portion. The cutting was from a few feet at its lower end to 45ft. at the upper; and in its construction one and a half millions of cubic yards of solid material were removed, and two millions of cubic yards of earth coming from the claims in operation passed along it, it being a condition of the Channel Company's grant that they must put up with everything that came. Eleven years were occupied in its construction, and the cost has been £12,000, exclusive of interest. The company that first started the work failed five years ago, when two of the water-companies—namely, the Scandinavian and United M. and E.—holding the largest areas of ground to be benefited jointly purchased and carried the work to a successful conclusion. This channel is said to open up ground that will last for twenty-five or thirty years, and without it the large area of country on the eastern slope of the spur of Mount St. Bathans which divides the St. Bathans workings would now be abandoned. In the progress of this work £600 was obtained as subsidy from the County Council, and £1,000 from the Government.

The workings on the western side of the spur, an auriferous area of about 130 acres known locally as the St. Bathans Basin, are for five-sixths of their circumference bounded by hills. The new Deep Level Channel Company, to work this area, is progressing slowly, owing to a succession of unfavourable seasons for water. This channel will be a mile and a half long, of which a mile is nearly completed; and, though the deepest ground remains to be dealt with, the owners are sanguine that their worst difficulties are over. Those difficulties arose chiefly through the great quantity of stones that have been encountered in traversing the low terrace near Dunstan Creek, in what must have been at one time the bed of the creek; but it is expected that 10 or 12 chains further will see the last of the stones. This channel has been four years under construction, and is 12ft. wide in the bottom, with stone walls 3ft. high, coped with sod and scrub. It will give the lessees of the auriferous area a fall to work 70ft. below the present level of their tail-races. It is being carried up in an open cutting, and a large water-race owned by the constructors carries water to remove the material. The grade is low—only 1 in 100; but the white-drift formation—that

chiefly found at St. Bathans—contains few stones of any size, and the large amount of water used (30 to 70 Government heads) carries great quantities of such material even at this grade. There has so far been £3,050 spent on this work by the constructors, in addition to £711 contributed by the Government during the past eighteen months by way of subsidy on the expenditure. It is estimated that the channel, when finished, will provide remunerative employment for fifteen or twenty years for the present claimholders. The company is composed of the owners of the holdings to be benefited by its construction, who hold shares in proportion to the benefit each is estimated to derive. No gold of any consequence is expected to be met with while constructing the channel. Many of the holdings are worked to the lowest depths attainable until the channel is constructed; but the water that was formerly employed upon them is now, through the construction of the Muddy Creek Channel, profitably used on the other side of the spur.

At Cambrian's, or Welshman's Gully, but few miners are now working, and results are poor; but on Vinegar Hill and Flat some parties do fairly well, one party having given a steady yield for about two years of £8 per week per man. Mr. John Ewing, who carries on work on a large scale at Vinegar Hill, is stated to have obtained a large amount of gold during the past year. A party of miners have opened some new ground at the head of the Welshman's Gully with fair prospects, and it is at a considerable distance from the former workings.

The company to construct the tail-race, for which the Government recently bought a strip of freehold land running through Sections Nos. 13 and 9, Block VII., Blackstone, has not yet been formed. Some applications for claims in new ground, to be worked by means of this tail-race, have been made; but I understand the parties chiefly interested cannot come to terms as to how the construction is to be undertaken and the proportion in which its cost is to be borne. A large area of payable auriferous ground is known to exist in the locality, though nothing better than good wages-ground has yet been discovered.

The number of miners in this division of the district is about 110, distributed as follows—Blackstone Hill, 25; St. Bathans, 50; Cambrian's and Vinegar Hill, 35—and the gold obtained averages about 4,500oz. per annum, or, say, £153 for each man employed. As nearly half the number are during part of the year employed otherwise, and as a good many fossickers are included in the foregoing, as well as the men employed on the Channel works, it follows that some of the miners are getting a great deal of gold—and they require to do so, for some of the companies and individuals who employ labour and carry on operations on a large scale have very heavy expenses outside of the item "Wages." The capital invested on the Cambrian's and St. Bathans's portion of this district in water-races, tail-races, and hydraulic plant is little short of £60,000. Interest on that sum is not now expected, for the enterprises undertaken in what are called the "good times" of twenty to twenty-three years ago have paid for themselves over and over again. During the past five years (the period of channel-construction) the leading companies have paid no dividends—have even got somewhat into debt—but they have paid for their channels mostly out of profits.

Nature has done much for St. Bathans in surrounding it with high mountains, on which the snow lies far into the summer; but the ground operated on for years past has been very poor, and were it not that the place numbers among its population miners very much above the average in skill and enterprise it would have ere this been deserted. I am assured that an extensive area of ground was recently worked in this locality the returns from which averaged only one-sixth of a grain per cubic yard; and yet this paid all expenses, including wages at then current rates—viz., 10s. per day. Wages during the last six months have been reduced to 8s. 6d. per day of ten hours, which is the length of day worked here, and appears long; but the work is usually light—the directing of a hydraulic jet. This is the first reduction of wages since 1876 (ten years), and I am informed the cost of living is not now more than half what it was then. About fifty men are employed on wages in this division of the district, and the reason given for the reduction was that wages had fallen in all other industries, and the rate paid was beyond what employers could, under existing circumstances, afford.

All over the Mount Ida District small parties are at work. They keep on year after year without looking elsewhere, and the inference to be drawn is that they are being remunerated for their labour. There is little doubt that where two or three work there is room for thirty were water available, and there is just as little doubt that the water-supply of the district might be doubled. During the spring and early summer water runs to waste in every creek, and during the summer and early autumn the water-supply is short, and work often suspended. No attempt has yet been made at storage, though sites for reservoirs are plentiful. Reservoirs could be constructed to supply water at far less cost than the average water-race depending on the flow of streams. During the melting of the winter snow from the mountains as much water sometimes runs to waste in one day as would supply mining requirements for two or three weeks. It only requires some one to set the example and show how a supply of water for mining purposes can be obtained by storing flood-water, and many would do likewise. Those who invest their capital now in mining ventures require large areas of ground on conditions that are reasonable, and surety of tenure so long as conditions are carried out. These the Mining Act of last session provides for, and I look forward to greater enterprise in consequence. To those who possess skill and capital there are plenty of good investments in gold-mining, as safe as are to be found in any other industry, but not in many of the large mining companies being floated on large promoters' shares.

On the Black's subdivision of the Dunstan District, under my charge, I have nothing of moment to report. The washings-up at Tinker's were considered satisfactory, the Undaunted Company being at the head with nearly 2,200oz. The channel is nearly completed; but the results from it have not been satisfactory.

I have, &c.,

The Under-Secretary of Mines, Wellington.

J. NUGENT WOOD, Warden.

No. 17.

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

SIR,—

Courthouse, Oamaru, 31st March, 1887.

I have the honour to report that mining affairs have been very quiet in the district under my charge during the past year. There has been no change in the number of miners employed in the field, and but little to note in the way of new works or discoveries. The only item of special interest in mining work has been the opening of a channel, or main tail-race, in Long Gully, which was completed in October, 1886, and has been in work ever since. This channel had long been required for the working of the east side of the spur leading up to Livingstone, but there had always been a difficulty, as to reach the Maerewhenua River, where the water and tailings would have to be discharged, it must be constructed in part through private property. By an amicable arrangement between the miners and the owners of the land this difficulty was obviated, and the race has been carried through the freehold land to the river. It is hoped that the effect of the opening of this channel will be to give permanent work to several small parties of miners for years to come. The yield of gold, so far as I can learn, has been about up to the average. As I have had to state in former reports, there is no escort from Maerewhenua, and gold finds its way from there to different places. Any estimate of yield must therefore be mere guesswork. The same people stay on year after year at Maerewhenua, and it must be presumed that they find it worth their while to do so. Most of them own a few cattle, and, as a rule, they seem to be fairly well off. There is a disposition on the part of some to take up small areas under section 60 of "The Mining Act, 1886," and some applications have been lodged, but none have as yet been dealt with. I forward the usual statistical returns.

I have, &c.,

The Under-Secretary of Mines, Wellington.

H. W. ROBINSON, Warden.

No. 18.

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

SIR,—

Warden's Office, Dunedin, 19th April, 1887.

In forwarding the annual returns for the Hindon District for the twelve months ended the 31st March last, I have the honour to inform you that little or no change calling for special remark, so far as mining is concerned, has taken place in the district during the year.

In alluvial mining about the same number of miners as formerly have been and are still working in various parts of the field, the fact that almost the same individuals have been mining there continuously for years being a good indication that gold is still to be obtained in the district.

With respect to quartz-mining, two or three parties are at present working, the principal one being Lyders and party, who own the crushing-plant lately the property of the Don Company. Several hundred tons of stone, I am informed, have been crushed during the year, yielding from 4dwt. to 15dwt. to the ton. Operations have not been resumed, as was anticipated, at the Game Hen Reef, although it is still the intention of McQueen and party to do so.

The settlers on the deferred-payment and perpetual-lease lands are doing fairly well, and are steadily improving their selections.

The total population of the district is estimated at about 250.

It may, perhaps, be as well to mention in this report that a number of applications for mining privileges have been received and entertained at this office, as being more convenient for the applicants than any other, in connection with the recent alleged gold-discoveries by Sutherland and party on the West Coast, north of Milford Sound; but, pending the receipt of an official report relative to Sutherland and party's application for a special claim, there is no further evidence as to the precise nature or probable extent of such alleged discoveries. I may also state for your information that a license to search for asbestos in the vicinity of Milford Sound, and two others to search for antimony in the Silver Peak and Mount Hyde Survey Districts respectively, have been issued from this office during the year.

RETURN of the Area of Land held in the Hindon District as Special Claims, Mining Leases, Licensed Holdings, &c. (as per Circular No. 121).

Class of Holding.	Area.		
	A.	R.	F.
Special claims	0	0	0
Gold-mining leases	51	0	36
Licensed holdings	0	0	0
Mining claims not included in the above (approximate)...	40	0	0
Total	91	0	36

I have, &c.,

The Under-Secretary of Mines, Wellington.

E. H. CAREW, Warden.

No. 19.

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

SIR,—

Invercargill, 14th April, 1887.

I have the honour to forward herewith the statistical returns for that part of the Otago Mining District formerly known as the Orepuki and Longwood District, under the Act of 1877.

I have to report that mining matters and operations in this part of the mining district remain in the same position as at the date of my last report. Since then there appears to have been no diminution of the population nor, as far as I can ascertain, any falling-off in the yield of gold; and there has been no change or event of sufficient importance to call for any notice.

I have, &c.,

The Under-Secretary of Mines, Wellington.

HENRY McCULLOCH, Warden.

WATER-RACES.

No. 20.

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

SIR,—

Kumara, 14th April, 1887.

I have the honour to forward my annual report in connection with the working of the Waimea-Kumara Water-races and Sludge-channel for the year ending the 31st March, 1887.

Waimea Race.—The sales of water from this race for the year amount to £1,675 19s. 4d., and the expenditure on maintenance and contingencies for the same period to £1,116 10s., leaving a credit balance on the year's transactions of £559 9s. 4d. The average number of miners employed during the year was 102, and the approximate amount of gold obtained by them was 3,021oz., representing the value of £11,479 16s. Notwithstanding that the number of men employed has a tendency to decrease I fully anticipate that the revenue to be derived from the race during the next twelve months will equal that of the past. The race has been kept in good working order, and flume and tunnel-timbers repaired where necessary. A number of old legs in the Kawhaka Flume have been renewed during the year, and a supply of new ones obtained to replace any that should show decay. There are also a number of legs being prepared for the purpose of replacing any that need renewing in the flumes towards Stafford.

Kumara Race.—The sales of water from this race for the year amount to £6,470 14s. 4d., and the expenditure on maintenance and contingencies to £1,398 18s. 10d., leaving a credit balance of £5,071 15s. 6d. for the year. The reduction made in the price of water in May last from £2 10s. to £2 per head per week, together with the free water allowed to each party to enable them to pay for their water in advance, makes the revenue less than the estimate for the year; but the returns may still be considered satisfactory. The average number of miners employed during the year was 215, and the approximate amount of gold obtained by them was 13,640oz., of the value of £51,832. Of the forty claims that were supplied with water during the year three have been worked out recently, and in twelve months' time others will follow; but as the old claims get worked out a corresponding number of new ones are likely to be opened up, and the demand for water to continue. The owners of a claim abutting on the Teremakau River, south of the Greenstone Road, have lately obtained a very good washing, in consequence of which several claims have been marked off in the vicinity, and the holders, before commencing mining operations, only await the adjustment of a demand made by the owners of private property on the bank of the river that is liable to injury from the discharge of tailings from the claims taken up: when this question is settled there is every probability that, with a good supply of water at hand, a large area of ground will be profitably worked for a number of years. The race and its branches are in good repair, and the dams have been frequently examined and found in good order.

Sludge-channel.—The channel-fees and value of gold-dust obtained for the year amount to £2,262 2s. 8d., and the expenditure on maintenance and contingencies for the same period amounts to £5,957 11s. 5d., showing a debit balance of £3,695 8s. 9d. The cost of working the channel, though less than the year previous, is still large; but I have hopes of reducing the expenditure considerably during the coming twelve months, as the channel is in very good repair, and with a smaller number of parties using it the wear and tear will not be so great, and the extension of the different branches that have been costly to maintain will be less rapid. There were thirty parties using the channel during the early part of the year, twelve of whom opened tail-races into the new channel (which was constructed by the miners with the assistance of the Government) when completed in July last; thus reducing the number to eighteen, and shortening the working portion of the channel by 15 chains. On completion of the new channel hopes were entertained of the daily working-hours being shortened from twelve to nine hours during the winter months; but, water not being available to supply a sufficient number of parties each shift, to admit of this the four shifts of three hours each have been continued.

Channel-paving.—Eight chains at the top end of the channel and the branches are paved with wood blocks, the remainder being paved with stone blocks varying from 10in. to 14in. deep, 14in. stone being used only in places exposed to the heaviest wear.

Tailings-site.—The constant discharge of tailings during dry weather raised the bed of the river considerably; but the frequent freshes of late have scoured out a broad and deep channel, which will take some time to fill up.

I have, &c.,

The Under-Secretary of Mines, Wellington.

JAMES DAND, Manager, Water-races.

No. 21.

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

SIR,—

Nelson Creek Water-race, Hatter's Terrace, 4th April, 1887.

I have the honour to forward the following remarks respecting the maintenance of the Nelson Creek Water-race, and mining generally under its control, for the year ending the 31st March, 1887:—

The good yield from the claim in what may be termed the bed of Nelson Creek—referred to in my last annual report—did not continue so good as anticipated, and subsequent washings led many of the miners holding the adjoining claims to believe that the first washing was only a patch; consequently nearly all the large claims taken up in the immediate vicinity were abandoned, after much work had been done in cutting up tail-races and erecting water-power and pumps. The tail-races were not completed, and the water-power abandoned after a short trial. As the original claim is still working, and the prospects of late are improving therein, it is just possible a further opening of the claim may develop a defined lead of payable ground up and down the flat, in which case the unfinished tail-races would again be occupied and completed with possibly good results. A party of miners, who pegged out a claim at the same time, never did lose faith in there being a lead of payable ground in or near the creek-bed, and have stuck manfully to their task of constructing a tail-race from a little above Drennan's farm to near Claughesy's paddock. They have completed about 26 chains of open cutting (on south side of the creek) and about 26 chains of tunnel, which is now approaching R. Potts's hotel. They are hopeful of finding payable ground at an early date; and should Claughesy's paddock prove payable, as many believe, the working of it and the adjoining ground would extend over many years.

Mr. Roche's work—Perry's hydraulic system—in No. 3 Creek, referred to in my last, has had many stoppages since it was first started, sometimes by floods, but more frequently by breakages in the castings for the nozzle, which were too light for the work required of them. The experience of the past has given him a fair knowledge of what is required to do the work, and the plant now in position may be considered fairly good, and capable of sluicing away a large quantity of gravel in a short time. There is, however, I think, room for improvement—viz., to enlarge the pipes conveying the water from the race to the nozzle. This would, in my opinion, allow of a much larger quantity of gravel being put through in a given time. It was thought at one time that this system of working low ground hereabouts would be generally adopted, but I find that the miners do not admire it, and decline to take up ground to be worked in that way. Perhaps the cost of a long length of pipes, and the uncertainty of procuring water from the race, may be considered a bar to this kind of work.

The upper end of Try Again Terrace is nearly all sluiced away, and the miners are gradually moving to the lower end and opening out new claims. Several of the houses on the south side of the road have lately been removed, and the ground occupied by them, together with the gardens, is now being sluiced away, and the road is being deviated for the same purpose.

Much prospecting has been done during the past few months on the terraces near the bridge in No. 2 Gully; but nothing very encouraging has yet been met with. I am, however, of opinion that a lead of payable ground does exist between No. 2 Gully and Callaghan Creek, and I am therefore continuing to give free water to some miners to further test that locality. Much more could be done, and done quickly, if the race was at a higher level.

New ground is being opened on the terraces in Surprise Creek; but there has not been sufficient work done yet to enable me to give an opinion of its value or probable extent.

Several of the Chinese claims up No. 3 Creek are worked out, and they (the Chinese) do not appear to readily find encouraging prospects in other places where I could supply them with water; consequently the number of Chinese taking water is gradually getting less.

The Brian Boru claim, where first opened (high up the gully), had a short life. The payable ground between the top of the tail-race, where it touched the bottom, and the old worked-out ground high up the gully was very short; consequently all the work so far—extending over many months—did little more than test the value of the solid ground behind that just then worked; and in order to get at this solid ground now left behind, a new tail-race between 60 and 70 chains long had to be cut up from lower down the gully, at a much lower level, with a view of commanding as much ground ahead as possible. By the construction of this new work so soon—which occupied ten months—I lost seven months' sales of water to that claim—say £350. This sum, with the calculated sales to Roche's claim, not being realized, through breakages, floods, stoppages, and extra free-water allowance, will very nearly account for the deficiency in the estimated revenue for the past year. The Brian Boru claim is now in good working order, with a considerable extent of payable ground ahead. In Mr. Roche's claim there is a considerable extent of creek-bed to work, but its value so far is not very encouraging; it is, however, probable that it will improve on approaching Welshman's Gully, a few chains higher up the creek.

Many of the bridges and flumes require constant attention and renewal of posts. There are two men constantly getting and dressing timber, by templet, of the size required, to be in readiness to place in position on first opportunity when the water is turned out of the race. The timbered tunnels are examined every week, and timber renewed in bad places.

Trial-water is being constantly given at different places along the line of race, to open out on new ground, or further test old blocks that were left as unpayable years ago. As there is no certainty of all or any of these claims paying for water for any time, a most liberal allowance must be made in order to arrive at a fair estimate of revenue; and this has been done to the best of my judgment.

The Under-Secretary of Mines, Wellington.

I have, &c.,

J. Gow, Manager.

No. 22.

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

Charleston, 5th April, 1887.

I have the honour to forward report for the twelve months ending the 31st March, 1887, on the working and maintenance of the Argyle Water-race.

The receipts have not come up to my expectations at the beginning of the financial year, owing to several causes, namely—the reduction in the charge for water from £2 15s. per head to £2 5s., commencing on the 1st May, 1886, and also the long intervals that ensued without parties using water from the race, the average time worked being only 77·61 days per man for the twelve months. This record is below the time worked for the twelve months ending March, 1886, and there have been more men employed using the water; therefore I had to use very strict economy in the expenditure on maintenance to show a small balance of profit for the year. If anything like reasonable time had been worked, the returns from the water-race would have shown a fair amount of profit.

The water from the tail-races of those who use water out of the race form feeders for the parties lower down the Darkies' Creek. If the men on the top terraces were knocked off to-morrow, all those parties in Darkies' Creek who gain their livelihood saving the gold in the tailings sent down from the top workings would be virtually thrown out of employment. As I may say, there would be neither water nor tailings but for Government water and Butterworth's. These are the principal feeders. To show the value of the tailings going down and over their tables, there has been a large amount of money spent in litigation the last six years, as they are continually in Court, or in Court of Appeal. And yet they pay nothing for the use of the tail-water; but the men, in the first instance, taking water from the Government race or Butterworth's have to pay all. The present year I expect to see the revenue in a better condition, as there is every appearance of the men working more regularly.

In the earlier portion of the past year tenders were called for the extension of 39 chains of race; but it was not finished until the end of November, owing to the heavy and broken ground it had to be cut through. It turned out to be a very costly portion of race, far exceeding anything like what appeared on the surface—so much so that its protection absorbed a great quantity of timber-work—viz., 505ft. of fluming and boxing, 239ft. of timbering for tunnels, 276ft. of covered timber protections to ditching, and 150ft. of open timber protections to ditching—or a total length of nearly 18 chains. This portion, I may say, is now in a very fair working condition.

For the distance between the reservoir and Ballarat Creek there are four parties now working old ground, the principal portion of the solid ground being worked out. Parties will be working here from time to time, earning small wages, to enable them to get better in some other place.

There have been a number of small landslips on the race during the year, which, except in two instances, were cleared without incurring any outside expenditure. In the two cases mentioned the fluming was broken down, and had to be cleared and repaired.

The outside supply-races have given considerable trouble during the year, as several breakages have taken place, especially after the dry weather, which necessitated the employment of outside labour on two occasions to repair damages; but all the races in connection with the workings are now in a fair state of repair.

I applied for a branch race, which was granted, leading from the main race within 3 chains of the end of Section No. 13, the last portion finished (4 miles 52 chains). This had to be done, as there was no outlet for water to supply the Back Lead, and, besides, it acts as a by-wash for storm-water. The last 3 chains of Section No. 13 is useless at present, owing to the whole sidling slipping into the gully below, and carrying the race with it.

I have, &c.,

DENIS DOYLE, Manager.

The Under-Secretary of Mines, Wellington.

No. 23.

The CHAIRMAN, Mount Ida Trust, to the Hon. the MINISTER of MINES.

Naseby, 30th April, 1887.

SIR,—

In compliance with section 25 of "The Mount Ida Water-race Trust Act, 1878," I have the honour to forward the annual report of the Trust for the year ended the 31st December, 1886, together with copy of balance-sheet for same period.

The receipts from water sold and channel-fees during the year amounted to £1,445 7s. 1d., being an increase of £552 0s. 8d. over the sales for the preceding year. This is due almost entirely to the extension of the race to Spec. Gully. Far better results would have been obtained had last summer not been exceptionally dry. The demand for water continues to exceed the supply, and the Trust is of opinion that this will be the case for years to come, as the area of known auriferous country commanded by the race is of considerable extent. If the large reservoir at the head of the Eweburn were constructed to conserve the storm-waters which now run unprofitably into the Taieri River—a work which the Government has been urged on several occasions to construct, or assist to construct—the Mount Ida works scheme, as originally devised, would be completed, and an almost inexhaustible supply of water obtained, which would not only give steady employment to our present mining population, but largely increase the number, and greatly augment the revenue.

The expenditure for the year has been £1,613 1s. 4d., exceeding last year's by £274 18s. 11d. During the year several severe floods have taken place, which did considerable damage in the shape of slips and breaks on the head-race and sludge-channel. The revenue also suffered a serious loss while the damage was being repaired, through the Trust being unable to sell water at a time when a full supply was available. The new extension works, about twenty-five miles in length, require careful attention, and cost a considerable sum—over £100—in extending, maintaining, repairing and cleaning out. The Trust anticipates that with anything like an ordinary year a better result will be shown in next report, as the works are at present in good order, and the liability to breaks and slips is getting less as the new works are becoming more secure.

The number of claims in full work dependent on the water from the Trust is forty-three, giving employment to about 130 men. A large supply of water would be required before this number could be increased.

The quantity of gold obtained in the County of Maniototo for the year ending 31st March last, and on which duty has been paid, was 12,360oz., equal to £46,350, the works of the Trust being instrumental in contributing no inconsiderable amount of that sum.

I have, &c.,

The Hon. the Minister of Mines, Wellington.

J. NUGENT WOOD, Chairman.

BALANCE-SHEET of the MOUNT IDA WATER-RACE TRUST for the Year ending 31st December, 1886.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To Balance at Bank of New Zealand, 1st January, 1886	16	16 0	By Maintenance, head-race	564	14 0
Water sold and channel-fees, twelve months	1,445	7 1	Extra labour, cleaning head-race	334	13 0
Cash received from Government	350	0 0	Maintenance of channel	259	15 6
			General management	290	3 9
			Extension of race	16	9 6
			Timber and carpenters' work	60	9 7
			Tools	8	5 0
			Blacksmiths' work	2	15 6
			Office-rent	28	15 0
			Clerk, salary	15	0 0
			Printing and stationery	16	16 6
			Cheque-book	1	4 0
			Compensation	14	0 0
				1,613	1 4
			Balance at Bank of New Zealand, 31st December, 1886	199	1 9
	<u>£1,812</u>	<u>3 1</u>		<u>£1,812</u>	<u>3 1</u>

Water Account.

	£	s. d.		£	s. d.
To Balance owing for water, 31st December, 1885	1,125	18 6	By Cash received for water for year ended 31st December, 1886	1,445	7 1
Water sold for year ended 31st December, 1886	1,454	11 11	Balance owing for water, &c., 31st December, 1886	1,135	3 4
	<u>£2,580</u>	<u>10 5</u>		<u>£2,580</u>	<u>10 5</u>

<i>Assets.</i>		£	s. d.
Balance in bank, 31st December, 1886 ..		199	1 9
Balance owing for water and fees ..		1,135	3 4
		<u>£1,334</u>	<u>5 1</u>

Liabilities.
Nil.

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, 1886.

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 ..	31 0 0	..	..	221 0 0	1 2 6	1 7 0	9 4 6	263 14 0
Te Aroha ..	33 0 0	5 0 0	..	1,030 10 0	29 10 6	1 12 0	26 10 0	1,126 2 6
Thames..	266 0 0	..	94 0 0	2,296 0 9	49 1 6	19 2 0	204 19 0	2,929 3 3
Totals ..	330 0 0	5 0 0	94 0 0	3,547 10 9	79 14 6	22 1 0	240 13 6	4,318 19 9
NELSON.								
Collingwood ..	94 0 0	..	6 15 0	44 0 0	13 6 0	4 15 0	5 15 6	168 11 6
Westport and Charleston ..	366 0 0	14 0 0	29 7 6	480 12 11	16 16 0	19 5 1	211 12 0	1,187 12 6
Ahaura ..	364 0 0	16 0 0	16 5 0	142 10 0	27 8 0	15 6 0	23 6 0	604 15 0
Reefton ..	311 1 0	244 5 0	16 17 6	1,433 19 7	16 15 0	8 14 0	846 12 9	2,878 4 10
Wangapeka ..	13 0 0	..	..	..	..	..	0 3 6	13 3 6
Dunganville ..	120 5 0	..	10 18 0	5 0 0	4 14 0	1 5 0	..	142 2 0
Lyell ..	138 0 0	..	12 7 6	307 13 4	12 14 0	3 6 0	107 17 0	581 17 10
Notown ..	96 0 0	5 0 0	7 2 6	10 0 0	5 15 0	5 11 0	0 2 0	129 10 6
Totals ..	1,502 6 0	279 5 0	99 13 0	2,423 15 10	97 7 0	58 2 1	1,195 8 9	5,655 17 8
WELLINGTON.								
Wellington ..	..	..	..	..	..	..	..	..
MARLBOROUGH.								
Havelock ..	64 0 0	5 0 0	3 15 0	17 0 0	5 12 0	1 16 0	0 9 0	97 12 0
CANTERBURY.								
Christchurch ..	..	..	..	..	..	..	..	..
WESTLAND.								
Hokitika ..	151 0 0	13 0 0	5 10 0	..	5 2 0	3 15 0	29 3 6	207 10 6
Kanieri ..	130 0 0	27 0 0	11 0 0	32 0 0	8 0 0	2 0 0	35 2 0	245 2 0
Greymouth ..	423 0 0	27 0 0	28 0 0	93 8 0	12 13 0	10 0 0	11 2 6	605 3 6
Ross ..	117 1 0	3 0 0	9 10 0	329 12 0	3 4 0	14 8 0	23 19 0	500 14 0
Stafford ..	137 0 0	..	10 7 6	13 1 0	9 3 0	4 14 0	23 10 0	197 15 6
Greenstone ..	114 0 0	3 0 0	3 10 0	11 2 6	6 11 0	2 15 0	..	140 18 6
Maori Gully ..	..	..	..	..	..	..	..	..
Clifton..	..	..	..	..	..	..	..	..
Kumara ..	415 0 0	23 0 0	1 7 6	40 6 3	12 0 0	16 7 0	27 17 0	535 17 9
Jackson's Bay ..	24 0 0	..	1 2 6	..	0 18 0	..	0 2 6	26 3 0
Goldsborough ..	132 0 0	..	21 12 6	..	15 7 0	5 11 0	0 1 0	174 11 6
Arnold..	33 0 0	..	2 2 6	..	3 8 0	1 10 0	0 17 6	40 18 0
Totals ..	1,676 1 0	96 0 0	94 2 6	519 9 9	76 6 0	61 0 0	151 15 0	2,674 14 3
OTAGO.								
Hindon ..	49 0 0	5 0 0	2 0 0	13 16 8	0 8 0	0 11 0	14 12 0	85 7 8
Naseby ..	497 1 0	18 0 0	51 12 6	1,125 0 3	14 7 0	44 2 0	25 7 0	1,775 9 9
Black's and St. Bathans	101 0 0	10 0 0	9 0 0	58 0 0	3 12 0	5 18 0	73 7 0	260 17 0
Manuherikia ..	145 0 0	10 0 0	6 15 0	41 0 0	4 2 0	4 18 6	3 0 6	214 16 0
Clyde ..	54 0 0	..	9 7 6	27 19 0	1 18 0	1 16 0	90 10 0	185 10 6
Mount Benger ..	150 0 0	..	8 17 6	5 0 0	3 10 0	3 18 0	7 19 6	179 5 0
Cromwell ..	444 0 0	30 0 0	27 0 0	10 0 0	18 19 0	13 12 6	30 13 0	574 4 6
Queenstown and Arrowtown	354 0 0	27 0 0	27 15 0	481 3 4	13 1 0	8 2 0	164 16 6	1,075 17 10
Lawrence ..	491 1 0	5 0 0	17 0 0	164 3 4	10 14 0	11 5 0	25 1 0	724 4 4
Switzer's ..	39 1 0	..	3 15 0	..	0 15 0	7 16 0	0 3 0	51 10 0
Orepuki and Longwood	205 0 0	8 0 0	10 2 6	5 10 0	1 6 0	2 0 0	..	231 18 6
Totals ..	2,529 3 0	113 0 0	173 5 0	1,931 12 7	72 12 0	103 19 0	435 9 6	5,859 1 1
Grand Totals..	6,101 10 0	498 5 0	464 15 6	8,439 8 11	331 11 6	246 18 1	2,023 15 9	18,106 4 9

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

	£ s. d.		£ s. d.
Auckland ..	3,227 2 0	Marlborough ..	39 18 0
Wellington ..	5 4 0	Westland ..	11,117 10 0
Nelson ..	407 16 0	Otago ..	7,910 8 0

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, 1887.

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 ..	13 0 0	..	..	22 0 0	0 1 0	..	..	35 1 0
Te Aroha ..	15 10 0	..	..	182 0 0	2 12 6	0 10 0	0 5 0	200 17 6
Thames..	67 10 0	..	18 0 0	126 0 0	3 18 6	3 0 9	2 2 0	220 11 3
Totals ..	96 0 0	..	18 0 0	330 0 0	6 12 0	3 10 9	2 7 0	456 9 9
NELSON.								
Collingwood ..	12 0 0	..	8 15 0	17 0 0	1 11 0	1 10 0	..	40 16 0
Westport and Charleston	54 5 0	..	13 5 0	217 12 6	6 8 0	2 4 0	9 3 0	302 17 6
Ahaura ..	61 5 0	3 0 0	8 17 6	5 0 0	4 1 0	5 14 0	2 14 0	90 11 6
Reefton..	72 5 0	120 0 0	7 10 0	465 1 8	2 15 0	1 4 0	184 3 0	852 18 8
Wangapeka ..	4 0 0	4 10 0	0 5 0	47 1 8	0 4 0	..	7 14 0	63 14 8
Lyell & Murchison	39 15 0	16 10 0	4 0 0	15 0 0	0 5 0	1 10 0	161 1 0	238 1 0
Notown ..	20 0 0	1 10 0	4 17 6	5 0 0	0 8 0	0 10 0	..	32 5 6
Dunganville ..	..	..	..	..	..	..	..	..
Totals ..	263 10 0	145 10 0	47 10 0	771 15 10	15 12 0	12 12 0	364 15 0	1,621 4 10
MARLBOROUGH.								
Havelock ..	9 0 0	3 0 0	1 10 0	5 0 0	0 12 0	0 12 0	0 12 0	20 6 0
CANTERBURY.								
Christchurch ..	..	..	..	..	..	..	..	..
WESTLAND.								
Hokitika ..	33 10 0	7 10 0	6 15 0	..	2 9 0	3 6 0	1 6 0	54 16 0
Kanieri ..	17 10 0	..	..	32 10 0	..	0 2 0	5 10 0	55 12 0
Greymouth ..	92 0 0	3 0 0	14 17 6	29 15 0	3 9 0	..	0 4 0	143 5 6
Ross ..	24 15 0	..	5 10 0	29 2 6	0 16 0	0 10 0	0 4 0	60 17 6
Stafford..	27 15 0	..	5 5 0	..	1 19 0	0 4 0	0 13 0	35 16 0
Okarito ..	..	..	..	..	..	..	..	..
Greenstone ..	17 0 0	..	1 10 0	8 11 3	1 1 0	3 19 0	0 5 0	32 6 3
Maori Gully ..	..	..	..	..	..	..	..	..
Clifton ..	..	..	..	..	..	..	..	..
Kumara ..	69 0 0	4 10 0	1 2 6	25 6 3	6 14 0	3 3 0	0 15 0	110 10 9
Jackson's Bay ..	3 0 0	..	..	..	0 4 0	..	..	3 4 0
Goldsborough ..	21 10 0	..	8 12 6	..	2 16 0	2 16 0	1 11 0	37 5 6
Arnold ..	..	..	..	..	..	..	..	..
Tota ..	306 0 0	15 0 0	43 12 6	125 5 0	19 8 0	14 0 0	10 8 0	533 13 6
OTAGO.								
Hindon ..	15 15 0	3 0 0	0 5 0	..	0 7 0	..	2 17 6	22 4 6
Naseby ..	105 10 0	..	26 5 0	254 8 9	5 6 0	4 8 0	34 2 0	429 19 9
Black's and St. Bathans	30 5 0	..	2 0 0	25 0 0	0 14 0	0 19 0	20 17 9	79 15 9
Manuherikia ..	11 10 0	..	3 12 6	6 10 0	0 15 0	0 17 6	0 15 0	24 0 0
Clyde ..	28 5 0	3 0 0	1 0 0	2 12 6	0 3 0	0 11 0	0 14 0	36 5 6
Mount Benger ..	11 10 0	..	3 2 6	2 10 0	0 16 0	0 5 0	0 15 0	18 18 6
Cromwell ..	44 5 0	6 0 0	7 7 6	..	3 4 0	19 15 0	13 19 0	94 10 6
Queenstown and Arrowtown	74 0 0	9 0 0	16 0 0	59 15 0	3 9 0	1 12 6	9 15 0	173 11 6
Lawrence ..	69 0 0	..	5 5 0	3 10 0	2 9 0	3 8 0	0 3 0	83 15 0
Switzer's ..	210 1 0	29 0 0	9 0 0	50 16 8	6 12 0	12 13 0	64 4 6	382 7 2
Orepuki..	31 0 0	..	3 5 0	..	0 2 0	..	..	34 7 0
Totals ..	631 1 0	50 0 0	77 2 6	405 2 11	23 17 0	44 9 0	148 2 9	1,379 15 2
Grand Totals ..	1,305 11 0	213 10 0	187 15 0	1,637 3 9	66 1 0	75 3 9	526 4 9	4,011 9 3

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

	£ s. d.		£ s. d.
Auckland ..	966 8 0	Marlborough ..	..
Wellington ..	0 6 0	West Coast ..	3,081 14 0
Nelson ..	101 12 0	Otago ..	2,361 12 0

T. H. HAMER,
Accountant.

No. 3.

COMPARATIVE RETURN of REVENUE derived from the GOLDFIELDS in the several DISTRICTS of NEW ZEALAND during the Years 1885 and 1886, 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 1885	545	..	60	5,430	60	40	652	4,603	11,390
Year 1886	330	5	94	3,547	79	22	240	..	..
Increase .. ..	..	5	34	..	19	..	..	..	..
Decrease	215	..	..	1,883	..	18	412	..	..
WELLINGTON—									
Year 1885 .. ..	..	..	..	..	..	..	..	2	2
Year 1886 .. ..	..	..	..	..	..	..	..	..	..
Increase .. ..	..	..	..	..	..	..	..	..	..
Decrease .. ..	..	..	..	..	..	..	..	..	..
NELSON—									
Year 1885	1,467	170	81	1,472	88	43	176	2,146	5,643
Year 1886	1,502	279	99	2,423	97	58	1,195	..	..
Increase	35	109	18	951	9	15	1,019	..	..
Decrease .. ..	..	..	..	..	..	..	..	..	..
MARLBOROUGH—									
Year 1885	63	5	4	5	6	..	4	54	141
Year 1886	64	5	4	17	6	1	..	..	..
Increase	1	..	..	12	..	1	..	..	..
Decrease .. ..	..	..	..	..	..	..	4	..	..
CANTERBURY—									
Year 1885 .. ..	..	..	..	..	..	..	..	..	..
Year 1886 .. ..	..	..	..	..	..	..	..	..	..
Increase .. ..	..	..	..	..	..	..	..	..	..
Decrease .. ..	..	..	..	..	..	..	..	..	..
WESTLAND—									
Year 1885	2,002	162	105	510	78	72	132	9,366	12,427
Year 1886	1,676	96	94	519	76	61	151	..	..
Increase .. ..	..	..	..	9	..	..	19	..	..
Decrease	326	66	11	..	2	11	..	..	..
OTAGO—									
Year 1885	2,792	178	147	1,717	72	243	873	7,136	13,158
Year 1886	2,529	113	173	1,981	72	103	435	..	..
Increase .. ..	..	..	26	214	..	..	..	..	..
Decrease	263	65	..	..	..	140	438	..	..
Total Increase .. ..	..	..	67	..	26	..	184	..	..
Total Decrease	768	17	..	697	..	153	..	..	..

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 1885 and 1886, and the Quarters ending 31st March, 1886 and 1887, showing the INCREASE or DECREASE in respect of each District.

District.	Years 1885 and 1886.				Quarters ending 31st March, 1886, and 31st March, 1887.			
	1885.	1886.	Increase.	Decrease.	1886.	1887.	Increase.	Decrease.
AUCKLAND.	£	£	£	£	£	£	£	£
Coromandel	490	263	..	227	55	35	..	20
Te Aroha	1,632	1,126	..	506	225	200	..	25
Thames	4,665	2,929	..	1,736	985	220	..	765
NELSON.								
Collingwood	173	168	..	5	56	40	..	16
Westport and Charleston	644	1,137	493	..	281	303	22	..
Ahaura	624	604	..	20	195	90	..	105
Reefton	1,500	2,878	1,378	..	404	853	449	..
Wangapeka	8	13	5	..	2	63	61	..
Dunganville	221	142	..	79	52	..	..	52
Lyell	177	582	405	..	39	238	199	..
Notown	148	130	..	18	47	32	..	15
MARLBOROUGH.								
Havelock	87	97	10	..	33	20	..	13
WESTLAND.								
Hokitika	168	207	39	..	38	54	16	..
Kanieri	315	245	..	70	59	56	..	3
Greymouth	604	605	1	..	194	143	..	51
Ross	645	500	..	145	117	60	..	57
Stafford	231	197	..	34	44	35	..	9
Okarito .. ..	..	..	..	..	..	..	..	..
Greenstone	182	40	..	142	52	32	..	20
Maori Gully (Arnold) ..	98	..	..	98	27	..	..	27
Clifton .. ..	..	..	..	..	..	..	..	..
Kumara	567	535	..	32	154	110	..	44
Jackson's Bay	26	26	..	..	3	3	..	..
Goldsborough	223	174	..	49	58	37	..	21
OTAGO.								
Hindon	71	85	14	..	40	22	..	18
Naseby	2,112	1,775	..	337	527	430	..	97
Black's and St. Bathans	311	260	..	51	55	79	24	..
Manuherikia	213	215	2	..	63	24	..	39
Clyde	139	185	46	..	71	36	..	35
Mount Benger	302	179	..	123	49	19	..	30
Cromwell	640	574	..	66	140	94	..	46
Queenstown and Arrowtown	756	1,076	320	..	178	174	..	4
Lawrence	766	724	..	42	160	83	..	77
Switzer's	277	51	..	226	176	382	206	..
Orepuki	432	232	..	200	105	34	..	71
WELLINGTON.								
Wellington .. ..	..	..	..	..	..	..	..	..
CANTERBURY.								
Christchurch .. ..	..	..	..	..	..	..	..	..
Totals	19,447	17,954	2,713	4,206	4,684	4,001	977	1,660
Total decrease .. ..	..	..	..	1,493	..	..	..	683
Net increase .. ..	..	..	..	..	..	..	..	..

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, 1886.

Product of the Goldfields in the District of	Entered for Duty at the Port of	During the Quarter ended 31st December, 1886.		Entered for Exportation to the 30th September, 1886.		Total entered for Exportation from New Zealand to the 31st December, 1886.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Auckland	Auckland	Oz. 6,130	£ 24,522	Oz. 1,506,907	£ 5,597,880	Oz. 1,513,037	£ 5,622,402
Wellington	Wellington .. ..	..	..	188	706	188	706
Marlborough	Picton .. ..	..	..	53,779	207,751	53,779	207,751
Nelson	Nelson	313	1,252	1,641,841	6,515,255	1,642,154	6,516,507
West Coast ..	Nelson	217	868	3,257,931	12,931,997	3,283,971	13,036,152
	Westport	4,314	17,251				
	Greymouth	13,945	55,780				
	Hokitika	7,564	30,256				
		26,040	104,155				
Canterbury	Dunedin .. ..	..	..	24	96	24	96
Otago	Dunedin	19,859	79,772	4,501,996	17,761,206	4,523,576	17,847,862
	Invercargill	686	2,744				
	Riverton	1,035	4,140				
		21,580	86,656				
	Totals	54,063	216,585	10,962,666	43,014,891	11,016,729	43,231,476

Department of Trade and Customs,
Wellington, 8th January, 1887.

WILLIAM SEED,
Secretary and Inspector.

No. 6.

RETURN of the QUANTITY and VALUE of GOLD ENTERED for DUTY for EXPORTATION from NEW ZEALAND for the Years ended 31st December, 1885 and 1886.

Ports.	During the Quarter ended—				Totals for Year 1886.		Totals for Year 1885.	
	31st March, 1886.	30th June, 1886.	30th September 1886.	31st December, 1886.	Quantity.	Value.	Quantity.	Value.
Auckland	Oz. 9,884	Oz. 9,263	Oz. 6,994	Oz. 6,130	Oz. 32,271	£ 128,140	Oz. 42,989	£ 170,416
Wellington .. ..	..	47	5	..	52	189	20	80
Picton .. ..	..	..	399	..	399	1,420	530	2,120
Blenheim .. ..	..	..	..	..	..	..	10	39
Nelson	1,470	515	1,563	530	4,078	15,868	3,966	14,905
Westport	5,123	6,123	3,206	4,314	18,766	74,870	16,408	65,618
Greymouth	13,432	15,926	18,448	13,945	61,751	242,899	64,563	258,252
Hokitika	6,950	8,993	7,146	7,564	30,658	122,630	35,702	142,807
Dunedin	21,437	10,872	21,690	19,859	73,858	296,559	67,043	270,186
Invercargill	315	549	415	686	1,965	7,860	5,495	21,578
Riverton	1,003	813	430	1,035	3,281	13,124	645	2,614
Totals for 1886 ..	59,614	53,106	60,296	54,063	227,079	903,569	..	..
Totals for 1885 ..	63,917	49,341	59,313	64,800	..	..	237,371	948,615

Department of Trade and Customs,
Wellington, 8th January, 1887.

WILLIAM SEED,
Secretary and Inspector.

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, 1887.

Entered for Duty at		Produce of the Gold-fields in	During the Quarter ended 31st March, 1887.		Entered for Exportation to the 31st December, 1886.		Total entered for Exportation from New Zealand to the 31st March, 1887.						
			Quantity.	Value.	Quantity	Value.	Quantity.	Value.					
Auckland	..	Auckland	..	Oz. 9,664	£ 38,290	Oz. 1,513,037	£ 5,622,402	Oz. 1,522,701	£ 5,660,692				
Wellington	..	Wellington	..	..	..	188	706	188	706	
Nelson	..	Marlborough	..	75	280	53,779	207,751	53,854	208,031				
Dunedin	..	Nelson	..	115	458	1,642,154	6,516,507	1,643,182	6,520,298				
Nelson	..			913	3,333								
				1,028	3,791								
Wellington	..	West Coast	..	3	12								
Nelson	..			28	104								
Westport	..			3,463	13,853								
Graymouth	..			17,965	72,218								
Hokitika	..			8,889	35,557								
				30,348	121,744	3,283,971	13,036,152	3,314,819	13,157,896				
Dunedin	..	Canterbury	..	..	..	24	96	24	96	
Dunedin	..	Otago	..	20,838	82,907	4,523,576	17,847,862	4,547,077	17,941,016				
Invercargill	..			2,248	8,587								
Riverton	..			415	1,660								
				23,501	93,154								
Totals				64,616	257,259	11,016,729	43,231,476	11,081,345	43,488,735				

Department of Trade and Customs,
Wellington, 18th April, 1887.

WILLIAM SEED,
Secretary and Inspector.

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, 1887, and 31st March, 1886.

District of	Quarter ended 31st March, 1887.		Quarter ended 31st March, 1886.	
	Quantity.	Value.	Quantity.	Value.
Auckland	Oz. 9,664	£ 38,290	Oz. 9,834	£ 39,040
Marlborough	75	280	2	8
Nelson	1,028	3,791	952	3,804
West Coast	30,348	121,744	26,021	104,085
Otago	23,501	93,154	22,755	91,291
Totals	64,616	257,259	59,614	238,228

Department of Trade and Customs,
Wellington, 18th April, 1887.

WILLIAM SEED,
Secretary and Inspector.

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, 1887.

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 3 1 6 }	8s. to 14s.	..	..
South Hauraki	{ 2 10 0 to 3 1 6 }	8s. 6d. to 10s. 6d.	£3	40in. by 1in.
Ohinemuri .. ..	..	10s. to 14s.	30s. to 60s.	Railley's treatment.
Te Aroha	{ 2 13 0 to 3 5 0 }	6s. 8d.	..	..
MARLBOROUGH—Pelorus and Wairau ..	3 12 6	..	£1	20in. by 2in.
NELSON—Wangapeka	{ 3 10 0 to 3 15 0 }	..	..	..
Charleston	3 17 0	..	£2 15s.	40in.
Inangahua	{ 3 16 0 to 3 19 1 }	8s. to 10s.	..	..
Collingwood	{ 3 12 6 to 3 13 6 }	10s. to 15s.	..	..
Westport	3 17 0	10s.	£2	40in.
Lyell	3 15 0	£1	10s.	40in.
WESTLAND—Hokitika and Kanieri }	..	..	..	..
Waimea	3 16 0	..	1s.	40in.
Totara .. ..	..	..	..	..
Notown, Arnold, and Dun- ganville	3 16 6	..	15s.	60in.
Greymouth	3 16 6	..	£3	40in.
Greenstone	3 16 6	..	£3	40in.
Kumara	3 16 6	..	£3 to £4	40in.
Ahaura	3 16 6	..	15s.	40in.
OKARITO and Jackson's Bay	3 16 0	..	..	..
OTAGO—Hindon	3 15 0	15s.	..	..
Tuapeka	3 15 0	..	£1 4s. to £1 10s.	40in.
Dunstan	3 15 0	£1	£1 to £2	60in.
Longwood	3 8 0	..	14s.	8in. by 1in.
Orepuki	3 16 6	..	12s.	40in. by 1in.
Arrow (Wakatipu Goldfield) and Queenstown	3 14 6	12s. 6d. to 15s.	£1	20in. by 2in.
Mount Ida	3 15 0	..	£1 to £1 10s.	16in. by 1in.
Macrae's, Hyde Hamilton, Serpentine }	3 15 0	..	£1 13s. 4d.	..
Maerewhenua .. ..	..	..	..	..
Cromwell	3 15 0	12s. to 18s.	£4 10s.	..
Waikaia	{ 3 10 6 to 3 17 0 }	..	10s.	60in.

No. 10.
RETURN showing the AVERAGE PRICES of PROVISIONS and LIVE STOCK for the Year ending 31st March, 1887.

Mining District.	Beer.	Brandy.	Bread— Wheaten.	Butter— Fresh.	Butter— Salt.	Cheese.	Coffee.	Flour.	Grain— Wheat.	LIVE STOCK.				MEAT.				Rice.	Salt.	Sugar.	Tea.	Tobacco.	Wine.
	Per. bhd.	Per gall.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per 100lb.	Per bushel.	Cattle— Horned.	Goats.	Horses.	Sheep.	Pork.	Beef.	Mutton.	Swine.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per gallon.
AUCKLAND—																							
North Hauraki	100/	25/	2 1/2	1 1/6	1/	1/	1/9	12/6	..	5-15	10/-20/	3-50	10/-18	d. 6	d. 6	d. 6	30/-60/	d. 3	d. 3	d. 3	3/	6/6	24/
South Hauraki	88/-100/	25/-30/	2 1/2	1 1/2	1/11	1/8	2/	12/	4/6	5-8	6/	5-25	10/	d. 4	d. 3-5	d. 4	30/	4	1 3/4	3 1/2	2/-3/	6/	15/
Te Aroha	100/-105/	25/	2 1/2	9/-1/6	1/	1/8	2/	8/	5/6	4-8	5/	4-20	10/	d. 4	d. 3-5	d. 4	15/-30/	4	1 3/4	3 1/2	2/-3/	6/	18/-40/
MARLBOROUGH—																							
Queen Charlotte's Sound	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pelorus	150/	..	..	1/	1/	1/10	2/	18/	..	6-8	10/	..	18/	..	..	..	..	..	..	..	..	..	..
Wairau	..	..	..	1/	1/	1/10	2/	18/	..	6-8	..	..	18/	..	..	..	..	..	..	..	..	..	..
NELSON—																							
Wangapeka	120/	25/	2	1/	1/9	1/8	1/9	14/	4/3	1-5	..	5-30	7/-13/6	d. 3	d. 3	d. 3	10/-50/	d. 3	d. 3	d. 3	2/6	6/	..
Collingwood	100/	23/	2 1/2	1/	1/7	1/8	2/	16/	5/6	3-7	..	5-15	8/	d. 4	d. 4	d. 4	15/	4	1 1/2	5	2/6	6/	..
Inangahua	130/	23/	2 1/2	1/9	1/3	1/	2/	21/	7/6	6-9	30/	10-35	20/	d. 6	d. 8	d. 7	60/-80/	5	3	6	3/6	8/	20/
Lyell and Murchison	150/	28/	2 1/2	2/	1/6	1/	2/	20/	12/	10	20/	15	16/	d. 9	d. 6	d. 9	80/	5	4	6	3/6	7/6	20/
Westport	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Charleston	120/	26/	2 1/2	1/6	1/3	1/9	2/	16/	5/6	..	20/	15-30	15/	..	..	..	..	..	..	..	..	..	..
Albura	150/	25/	2	1/3	1/	1/9	1/9	16/	6/	2-12	..	10-15	14/	d. 8	d. 5	d. 8	50/	4	2	6	3/	6/	16/
WESTLAND—																							
Waimaea	140/	24/	2	2/	1/6	1/9	2/	16/	6/6	5-12	20/	10-20	20/	d. 8	d. 8	d. 6	40/	4	2	6	3/6	6/	30/
Totara	110/	26/	2 1/2	1/6	1/	1/9	2/	16/	7/	8-15	20/	10-20	14/	d. 8	d. 5	d. 8	40/-90/	4	2	5 1/2	3/	7/	20/-30/
Hokitika and Kanieri	100/	25/	2	2/	1/6	1/	2/	15/-20/	5/6	7-10	10/-15/	10-20	15/-20/	d. 6	d. 8	d. 6	20/-60/	4	2	6	3/	25/	..
Okarito	120/	23/6	2 1/2	1/6	1/3	1/	1/	40/	6/6	10	..	12-16	30/	d. 7	d. 5	d. 6	90/-100/	5	3	5	2/9	6/6	16/
Kumara	100/-130/	24/-28/	2 1/2	1/3-2/	1/6	1/	1/8	20/	6/	7-12	30/	10-30	15/-20/	d. 5	d. 8	d. 5	80/-120/	6	2	6	3/6	8/	22/
Greymouth	120/-140/	22/-26/	2 1/2	2/	1/6	1/	1/9	16/	5/6	8-12	10/-15/	10-60	12/-16/	d. 5	d. 5	d. 8	60/-120/	6	2	6	3/6	6/	12/-50/
Arnold	..	..	..	1/6	1/6	1/	2/	20-22/	6/6	7-11	15/	12-30	15/-20/	d. 5	d. 5	d. 5	55/-100/	4	2	6	3/	6/	16/-20/
Jackson's Bay	..	..	..	2/	1/6	1/3	2/	19-24/	5/	5-12	..	5-25	20/	d. 6	d. 4	d. 6	25/	4	2	6	2/6-3/	6/	..
Greystone	120/	25/	2	2/	1/6	1/3	2/	24/	6/	8-16	20/	10-30	15/-22/	d. 6	d. 6	d. 9	40/-100/	4	3	6	3/	6/-7/	20/-30/
ORAGO—																							
Hindon	100/	25/	2	1/3	1/3	1/10	1/9	15/	..	..	..	6-40	9/	d. 5	d. 4	d. 6	5/-50/	3	2	6	3/	6/6	..
Tuapeka	80/-120/	25/-27/	2 1/2	1/10	1/9	1/8	1/6	11/6	3/8	5-7	..	5-25	1/7-7/6	d. 3	d. 3	d. 2 1/2	5/-50/	3 1/2	1 1/2	3 1/2	2/-2/6	5/6-6/	15/-30/
Cromwell	130/	26/	2	1/6	1/3	1/9	1/9	14/	5/	4	5/	5-40	5/	d. 4	d. 4	d. 7	..	4 1/2	2	4 1/2	2/6	6/	18/
Glyde	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Alexandra	120/	26/-30/	2 1/2	1/3	1/	1/9	1/9	15/	5/9	2-7	..	7-20	1/-10/	d. 5	d. 3 1/2	d. 8	40/-80/	5	2	4 1/2	3/	6/	18/-20/
Black's	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Roxburgh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Queenstown	110/	28/	2	1/6	1/	1/10	1/9	13/	4/	5-10	..	10-30	5/-15/	d. 6	d. 5	d. 7	20/-100/	3	2	4-5	2/6-3/	6/	16/-32/
Orepuki and Longwood	100/	25/	2 1/2	1/9	1/8	1/6	1/9	12/	3/6	4	..	9	5/6	d. 6	d. 8	d. 4	20/	4	1	3 1/2	2/6	5/6	20/
Arrow (Wakatipu Gold- field)	120/	30/	2	1/6	1/	1/10	2/	13/	4/	5-10	..	10-30	5/-15/	d. 6	d. 6	d. 7	20/-100/	4	2	5-6	2/6-3/	6/	16/-30/
Mount Ida	90/-120/	27/	2	1/-1/6	1/3	1/8	2/	26/	3/9-4/	3-9	15/	10-25	1/-14/	d. 6	d. 4	d. 5	20/-60/	5	2	4	2/9	6/	16/
Maerewhenua	100/	26/	2 1/2	1/8	1/	1/7	1/6	10/	3/6	3-6	..	5-21	4/6	d. 4	d. 4	d. 5	15/-20/	4 1/2	1	4 1/2	2/9	6/	24/
Waikanae	180/	30/	2	1/	1/10	1/10	1/10	15/	3/6	3 1/2-6/12	..	6-15	6/-10/	d. 4 1/2	d. 5	d. 4	20/-50/	3	3	4 1/2	3/9	6/6	22/

No. 11.
TABLE showing the AVERAGE RATE of WAGES for the Year ending 31st March, 1887.

Mining District.	General Managers.	Legal Managers.	Mining Managers.	Engineers.	Engine-drivers.	Stokers.	Blacksmiths.	Carpenters.	Miners.	Labourers.	Boys.	Chinese.	Agricultural Labourers.	Domestic Servants.
AUCKLAND—	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	10/ to 15/
North Hauraki ..	10 0 0	10/ to 20/	£3 to £5	£3 to £4	£2 10/ to £3	3 0 0	£2 10/ to £3	3 0 0	£2 10/ to £3	£2 8/ to £3	15/ to 20/	..	2 2 0	8/ to 12/
South Hauraki ..	..	1 0 0	£4 to £6	£4 to £5	£2 10/ to £3	..	£2 10/ to £3	2 14 0	£2 2/ to £2 8/	2 2 0	15/ to 20/	..	1 16 0	8/ to 12/
Te Aroha ..	..	1 0 0	4 0 0	..	..	..	3 0 0	2 14 0	2 8 0	2 2 0	1 0 0	..	..	..
MARLBOROUGH—	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wairau ..	4 0 0	..	..	6 0 0	3 0 0	..	3 0 0	..	3 0 0	2 8 0	..	..	..	..
Pelorus ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Queen Charlotte Sound ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nelson—	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wangapeka ..	..	1 0 0	5 0 0	3 0 0	2 8 0	..	2 14 0	2 14 0	2 14 0	2 2 0	0 12 0	..	20/ to 25/	10/ to 12/
Collingwood ..	..	£1 to £3	£5 to £6	£4 10/ to £5	3 10 0	3 0 0	£4 10/ to £5	2 10 0	3 0 0	3 0 0	2 0 0	..	1 10 0	20/
Inangahua ..	7 0 0	..	5 0 0	..	..	3 0 0	3 10 0	3 10 0	3 0 0	£2 to £3	20/ to 40/	..	1 0 0	10/6 to 15/
Charleston ..	..	..	5 0 0	..	..	3 0 0	4 0 0	3 12 0	3 3 0	3 0 0	5/ to 20/	..	25/ to 30/	10/ to 20/
Westport ..	..	1 0 0	5 0 0	..	3 15 0	3 0 0	4 0 0	3 12 0	3 3 0	3 0 0	2 0 0	..	2 0 0	20/
Lyell and Murchison ..	6 0 0	1 10 0	6 0 0	6 0 0	..	..	5 0 0	3 10 0	3 3 0	£2 8/ to £3	0 15 0	30/ to 36/	2 10 0	15/ to 20/
Ahaura ..	..	1 10 0	..	..	..	..	3 10 0	3 10 0	3 0 0	..	..	..	..	..
WESTLAND—	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Waimea and Stafford ..	..	..	4 0 0	..	..	..	4 0 0	4 0 0	3 0 0	3 0 0	1 10 0	2 10 0	3 0 0	20/
Totara ..	7 0 0	1 5 0	5 0 0	4 0 0	..	..	4 0 0	4 0 0	3 0 0	3 0 0	20/ to 40/	2 0 0	3 0 0	15/ to 20/
Hokitika and Kanieri ..	£3 to £4	1 0 0	£4 to £5	5 0 0	4 0 0	3 0 0	3 0 0	4 0 0	3 0 0	3 0 0	1 10 0	1 10 0	15/ to 20/	10/ to 15/
Kumara ..	4 10 0	2 0 0	4 0 0	..	4 0 0	..	4 0 0	4 0 0	3 0 0	3 0 0	1 10 0	1 5 0	1 10 0	10/ to 20/
Greymouth ..	..	1 0 0	6 0 0	£4 to £5	£3 to £3 10/	3 0 0	4 0 0	4 0 0	3 0 0	3 0 0	0 15 0	1 10 0	30/ to 40/	15/ to 20/
Okaito and Jackson's Bay ..	..	..	..	..	..	..	3 12 0	3 12 0	3 0 0	3 0 0	10/ to 15/	..	1 5 0	15/
Maori Gully (Arnold) ..	..	..	5 0 0	4 0 0	..	3 0 0	4 0 0	4 0 0	3 0 0	3 0 0	15/ to 25/	..	..	15/
Greenstone ..	..	..	..	..	..	..	..	..	3 0 0	3 0 0	1 10 0	..	1 10 0	10/ to 15/
Goldsborough and Stafford ..	..	..	..	..	..	..	4 0 0	4 0 0	3 0 0	£2 10/ to £3	1 10 0	..	1 10 0	10/ to 20/
ORAGO—	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hindon ..	£3 to £4	£25 to £50 per annum	£3 to £6	£3 to £3 5/	2 10 0	35/ to 40/	3 0 0	3 0 0	42/ to 60/	2 2 0	10/ to 20/	10/ to 25/	15/ to 20/	12/ to 15/
Tuapeka ..	..	..	..	..	..	..	40/ to 50/	50/ to 60/	42/ to 48/	36/ to 42/	10/ to 20/	10/ to 25/	20/ to 25/	6/ to 12/
Cromwell ..	5 0 0	1 0 0	5 0 0	4 10 0	3 12 0	3 0 0	4 0 0	3 12 0	to 60/	48/ to 54/	15/ to 25/	30/ to 40/	1 0 0	12/6 to 20/
Clyde ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Alexandra ..	5 0 0	1 1 0	4 10 0	4 0 0	3 10 0	2 9 0	4 0 0	4 0 0	54/ to 60/	2 8 0	10/ to 25/	1 16 0	1 0 0	8/ to 15/
Black's ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Roxburgh ..	..	..	3 0 0	4 0 0	3 0 0	..	3 0 0	3 10 0	2 8 0	1 15 0	0 15 0	20/ to 25/	1 0 0	10/ to 15/
Waikana ..	..	..	..	..	..	..	3 0 0	3 0 0	2 2 0	2 0 0	15/ to 18/	1 10 0	1 0 0	10/ to 15/
Orepuki and Longwood ..	..	..	..	..	..	2 10 0	3 10 0	3 10 0	3 0 0	3 0 0	0 15 0	1 10 0	1 0 0	10/ to 15/
Arrow (Wakatipu Gold-field) ..	5 0 0	1 0 0	5 0 0	3 10 0	3 0 0	..	3 10 0	3 10 0	3 0 0	25/ to 30/	0 15 0	2 8 0	1 0 0	10/ to 15/
Mount Ida ..	..	..	£3 10/ to £4	..	..	..	3 0 0	£3 to £3 12/	2 18 0	25/ to 30/	..	..	10/ to 15/	12/
Macrewhenna ..	..	..	..	..	..	..	2 10 0	2 10 0	2 8 0	1 16 0	..	..	..	..

No. 12.

NUMBER of MACHINES employed in ALLUVIAL and QUARTZ-MINING, and the VALUE thereof, for the Year ending 31st March, 1887.

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 Hoses.	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 Berdons.	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	22	458	24	..	..	..	208	108,000
Te Aroha	2	40	7	..	..	..	..	25,000
Total	33	810	31	563	34	..	..	..	208	158,000
MARLBOROUGH—																						
Ravenscliff and Queen Charlotte Sound	30	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Pelorus & Wairau	100	2	..	4	..	..	..	..	..	1	12	..	..	..	..	..	..	..	1,500
Total	130	2	..	4	..	..	..	..	..	1	12	..	..	..	..	..	..	..	1,504
NELSON—																						
Wangapeka	47	..	1	..	..	3	..	..	..	..	..	1	4	1	..	..	..	..	not known
Collingwood	8	2	15	1	..	..	..	..	3,500
West Wanganui	1	1	5	1	..	..	..	..	800
Inangahua	13	248	18	285	16	2	3	..	614	126,780
Charleston	80	2	80	..	..	50	..	13	..	..	..	..	..	..	..	..	..	..	3,000
Lyell	20	..	15	..	1	..	..	..	..	..	..	4	45	5	..	..	..	..	11,000
Murchison	40	..	20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,000
Westport..	47	6	28	..	..	..	..	..	..	..	..	2	20	2	..	..	..	..	7,100
Ahaura	670	2	315	1	..	..	4	..	..	..	..	..	..	..	..	..	..	..	6,400
Total	904	10	459	1	1	50	4	13	..	14	256	28	374	26	2	3	..	614	159,580
WESTLAND—																						
Waimea and Stafford	1	500	3	150	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,000
Totara	1	3	60	2	45	4	2	..	..	..	..	..	..	1	3	1	..	..	..	..	24,000
Hokitika and Kaniere	..	2	30	70	..	25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,000
Greymouth	1,500	1	420	30	..	45	..	..	..	10	..	..	..	..	..	..	..	..	5,200
Arnold	890	6	170	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,500
Kumara	7	20	80	3	54	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,000
Goldsborough	500	..	80	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,000
Greenstone	800	..	33	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,300
Jackson's Bay	1	..	..	..	..	..	..	..	..	20
Total	10	54	4,400	15	977	35	2	45	..	..	..	11	..	1	3	1	..	..	..	..	44,020
OTAGO—																						
Hindon	9	..	1	..	..	..	..	..	..	1	20	2	20	1	..	..	..	..	4,000
Tuapeka	500	15	10	30	3	..	..	..	..	95	..	..	20	4	1	..	..	..	10,500
Clyde, Alexandra, Cromwell, Roxburgh, Black's Orepuki and Longwood	1	2	1	400	11	4,220	9	9	..	2	..	1	1	12	8	60	3	1	..	..	..	41,700
Waikaia (Switzer's) Arrow (Wakatipu Goldfield)	150	1	50	6	..	20	..	*1	..	..	..	..	6	1	..	..	..	..	1,400
Naseby	460	6	45	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,200
Kyeburn and Clarke's	200	6	70	1	..	..	..	..	..	..	..	4	35	4	..	..	..	..	13,600
Hamilton's and Sowburn	200	..	85	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,750
Hyde and Fullerton's	70	..	20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	500
Macrae's, Strath-Taieri, and Shag Valley	70	..	25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	450
Maerewhenua	15	..	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	200
Serpentine	50	..	15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	150
St. Bathans, Ida Valley, and other localities	30	..	14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	300
Queenstown	20	..	5	..	..	..	..	..	..	..	1	5	1	..	..	..	..	..	600
Total ..	1	2	1	60	..	40	..	..	..	..	..	..	..	1	10	..	..	..	..	..	..	2,500
Total ..	1	2	1	2,534	39	4,660	49	12	20	2	..	97	2	32	23	256	16	2	..	..	..	112,850

* Government property.

No. 12—continued.

NUMBER of MACHINES employed in ALLUVIAL and QUARTZ-MINING—*continued.*

SUMMARY.

Auckland ..	..	..	..	..	..	..	..	..	..	..	..	..	..	33	810	31	563	34	..	..	..	208	158,000
Marlborough ..	..	..	..	..	130	2	..	4	..	..	..	..	..	1	12	..	..	..	..	..	..	..	1,504
Nelson ..	..	..	..	..	904	10	459	1	1	50	4	13	..	14	256	28	374	26	2	3	..	614	159,580
Westland ..	..	..	10	54	4,400	15	977	35	2	45	..	..	..	11	..	1	3	1	..	..	..	..	44,020
Otago ..	..	..	1	2	2,534	39	4,660	49	12	20	2	..	97	2	32	23	256	16	2	..	..	..	112,850
Totals ..	..	1	12	55	7,963	66	6,096	89	15	115	6	13	97	61	1,110	83	1,196	77	4	3	..	822	475,954

No. 13.

TABLE showing approximately the NUMBER, DESCRIPTION, and VALUE of the WATER-RACES, TAIL-RACES, DAMS, RESERVOIRS, and GROUND-SLUICES in Operation during the Year ending 31st March, 1887.

Mining District.	Water-races.				Tail-races.		Dams.		Reservoirs.		Ground-slucices.	
	No.	Length in Miles.	No. of Sluice- heads.	Approx- imate Cost.	No.	Approx- imate Cost.	No.	Approx- imate Cost.	No.	Approx- imate Cost.	No.	Approx- imate Cost.
AUCKLAND—				£		£		£		£		£
Hauraki North	11	5	35	2,000	..	..	..	..	..	..	..	..
Hauraki South	27	20½	111	85,500	2	90	2	180	1	600	..	..
Te Aroha	4	3	14	7,500	..	..	..	..	..	..	..	..
MARLBOROUGH—												
Pelorus	30	42	60	4,500	10	1,000	16	400	6	300	..	..
Wairau	14	12	24	1,000	3	200	4	70	..	..	..	..
NELSON—												
Wangapeka	5	3½	7	80	5	100	3	..	..	..	..	..
Collingwood	74	7¼	162	5,380	38	765	46	1,430	..	..	..	..
Inangahua	138	115	1,165	33,072	275	16,595	327	11,412	..	..	..	..
Charleston	265	140	317	23,600	207	8,062	437	10,100	1	3,000	80	3,000
Westport	212	186½	845½	13,931	62	7,212	114	3,553	..	..	..	..
Lyell	56	47½	225	7,000	16	1,527	40	2,100	..	..	20	1,620
Murchison	67	54¼	310	5,300	20	507	21	741	..	..	40	3,500
Ahaura	262	255½	622	24,264	312	26,396	284	7,707	..	..	..	..
WESTLAND—												
Totara	125	95	300	29,000	160	1,920	53	1,120	29	1,900	60	600
Hokitika and Kanieri ..	272	165	230	15,000	163	1,500	153	1,400	..	..	..	..
Kumara	110	65	200	14,000	130	14,000	20	2,000	11	7,500	20	200
Greymouth	203	195	469	24,900	145	2,295	109	2,570	..	..	50	1,500
Maori Gully (Arnold) ..	230	218	385	10,585	225	3,760	250	3,190	..	..	..	..
Okarito	17	17	66	2,040	2	600	2	200	..	..	..	..
Greenstone	90	40	180	8,000	40	2,000	35	2,500	..	..	28	500
Stafford and Goldsborough	375	250	650	17,500	430	6,000	420	6,000	80	1,000	140	500
OTAGO—												
Hindon	20	32	36	3,320	8	125	29	600	..	..	12	80
Tuapeka	146	523	545	10,460	250	3,700	200	4,200	..	..	..	..
Clyde	35	116½	83	8,550	25	575	15	320	..	..	..	..
Black's	68	305	245	23,000	73	14,100	57	11,400	..	..	..	..
Queenstown	123	170	400	20,000	150	4,000	40	1,700	11	550	..	..
Alexandra	48	235	156	16,000	39	1,800	43	1,050	..	..	..	..
Roxburgh	63	145	227	15,350	65	11,550	35	1,700	..	..	..	..
Cromwell	186	632	599	75,840	200	..	60	..	..	..	..	..
Waikaia	72	233	290	8,420	224	2,341	110	2,381	..	..	34	174
Orepuki and Longwood ..	130	180	300	12,000	95	2,500	80	1,200	..	..	100	2,000
Arrow (Wakatipu Goldfield)	93	150	200	10,000	200	5,000	30	1,500	30	..	28	280
Naseby	64	230	178	26,000	..	..	..	..	..	..	..	..
Kyeburn and Clarke's ..	85	300	315	10,300	..	..	..	..	..	..	..	..
Hamilton's and Sowburn ..	31	106	80	5,500	..	..	..	..	..	..	..	..
Hyde and Fullerton's ..	18	90	64	10,150	..	..	..	..	..	..	..	..
Macrae's, Strath-Taieri, and Shag Valley	30	48	55	4,100	..	..	..	..	..	..	..	..
Serpentine	36	88	93	5,000	..	..	..	..	..	..	..	..
Maerewhenua	18	168½	43½	14,735	21	986	25	1,547	..	..	..	..
St. Bathans and Ida Valley	95	315	345	32,000	..	..	..	..	..	..	..	..
Totals	3,948	6,071½	10,632	644,877	3,595	141,206	3,060	84,271	169	14,850	612	13,954

No. 14.

RETURN showing the REVENUE and EXPENDITURE on account of CONSTRUCTED WATER-RACES maintained by the Government, from 1st April to 30th September, 1886, and from 1st October to 31st March, 1887.

Name of Race.	1st April to 30th September, 1886.						1st October, 1886, to 31st March, 1887.						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 ..	502	5	0	502	5	0	486	16	0	569	14	2	569	14	4
Waimea-Kumara ..	3,752	19	5	5,900	0	1	1,272	19	4	4,093	14	3	4,249	10	0
Kumara Sludge-chan.	1,021	17	9	1,386	18	0	3,745	12	10	282	5	11	1,466	16	3
Argyle ..	230	1	8	230	1	8	177	4	0	250	6	9	250	6	9
Mikonui	50	0	0	50	0	0	..			50	0	0	50	0	0

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, 1887.

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* ..	..	..	..	..	..	..	5	140,000	7,286 4 8
South Hauraki and Te Aroha ..	5	..	..	..	..	..	..	..	..
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† ..	..	..	..	..	..	..	..	..	..
Ahaura ..	..	..	..	..	..	..	..	..	..
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	208,000	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, 1887, 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.
		A. R. P.	£ s. d.			A. R. P.	£ s. d.
AUCKLAND—				AUCKLAND—			
Hauraki North ..	13	106 3 21	306 0 0	Hauraki, Ohinemuri	94	4,476 3 2	321 5 0
Hauraki South ..	142	1,041 0 22	3,191 0 0				
To Aroha ..	34	155 0 28	459 0 0				
MARLBOROUGH—				NELSON—			
Wairau and Pelorus	2	20 3 9	13 10 0	Collingwood ..	11	622 2 5	63 17 0
Qn. Charlotte Sound	..	..	..	Inangahua ..	16	907 0 29	101 17 6
NELSON—				Charleston ..	23	542 2 24	45 11 6
Collingwood ..	8	101 0 16	91 10 0	Westport ..	24	1,851 2 6	193 2 6
Inangahua ..	60	1,357 0 37	1,057 17 6	Lyell ..	26	1,421 3 23	153 0 6
Charleston ..	26	150 1 24	144 0 0	Ahaura ..	48	2,855 1 9	314 0 6
Ahaura ..	13	152 0 2	135 0 0	Wangapeka ..	1	46 0 0	5 15 0
Westport ..	31	393 3 21	420 10 0				
Lyell ..	11	224 2 25	184 0 0	WESTLAND—			
Murchison ..	8	128 0 5	132 0 0	Greymouth ..	11	902 3 13	90 10 0
WESTLAND—				Arnold ..	..	..	..
Kumara ..	..	62 0 0	..	Greenstone ..	..	..	..
Totara ..	5	45 2 8	47 0 0	Totara ..	2	22 1 19	2 15 0
Greymouth ..	7	78 0 0	62 0 0	Kumara ..	2	69 2 13	8 15 0
Arnold ..	..	..	..	
OTAGO—				OTAGO—			
Waikaia ..	219	346 1 14	80 0 0	Waikaia ..	..	..	..
Orepuki and Long-	..	..	..	Tuapeka ..	..	..	..
wood				Cromwell ..	31	3,663 0 0	457 17 6
Cromwell ..	9	118 0 0	118 0 0	Clyde, Alexandra,	26	4,658 1 4	583 11 0
Hindon ..	4	51 0 36	52 0 0	Black's, Roxburgh			
Tuapeka ..	28	146 1 18	148 0 0	Mount Ida District	39	2,505 0 0	294 12 6
Clyde, Alexandra,	21	246 3 5	157 0 0	Arrow (Wakatipu	24	1,405 0 0	175 12 6
Black's, Roxburgh				Goldfield)			
Naseby ..	39	301 0 0	293 0 0	Queenstown ..	36	1,038 0 0	129 15 0
Arrow (Wakatipu	40	300 0 0	300 0 0				
Goldfield)							
Queenstown ..	55	523 0 0	523 0 0				
Totals ..	775	6,049 2 11	7,914 7 6	Totals ..	414	26,987 3 27	2,941 18 0

No. 17.

RETURN of CASES in the WARDENS' COURTS, and COSTS AWARDED, for the Year ending 31st March, 1887.

Mining District.	Number of Mining Disputes adjudicated on.	Aggregate Amount of Value.		Amount of Costs awarded.	Cases wherein Judgment has been given in favor of the Plaintiff.
		Claimed.	Recovered.		
AUCKLAND—		£ s. d.	£ s. d.	£ s. d.	
North Hauraki	70	.. ..	.. ..	34 4 6	..
South Hauraki	8	20 0 0	20 0 0	1 5 0	..
Te Aroha	1	394 3 0	.. ..	.. ..	..
MARLBOROUGH—					
Pelorus and Wairau	4	10 0 0	1 1 0	13 17 0	..
NELSON—					
Collingwood	23	30 0 0	1 11 0	13 3 0	..
Inangahua	4	8 0 0	4 0 0	26 11 6	..
Lyell	3	.. ..	.. ..	.. ..	3
Westport	16	44 10 0	2 0 0	8 19 0	..
Charleston	26	132 0 6	16 0 0	73 4 6	..
Ahaura	1	.. ..	.. ..	1 2 0	..
Murchison					
WESTLAND—					
Hokitika and Kanieri	14	160 5 0	5 0 0	16 16 0	..
Waimea and Stafford	5	0 1 0	.. ..	0 13 0	..
Totara	2	.. ..	.. ..	.. ..	..
Kumara	20	163 12 6	36 11 0	38 17 0	..
Greymouth	1	10 0 0	.. ..	5 0 0	..
Arnold (Maori Gully)	4	.. ..	.. ..	1 12 0	..
Greenstone	4	107 0 0	17 0 0	22 14 0	..
Okarito	2	11 17 6	.. ..	1 0 0	..
OTAGO—					
Hindon	10	62 10 0	1 10 0	24 5 0	..
Tuapeka	21	24 0 0	8 10 0	28 8 0	17
Cromwell	8	10 0 0	.. ..	15 16 6	..
Alexandra	5	21 10 0	5 10 0	11 5 0	..
Roxburgh	11	67 0 0	.. ..	17 18 0	2
Black's	1	1 10 0	1 10 0	1 13 0	..
Clyde	11	5 0 0	.. ..	16 15 0	..
Waikaia	20	300 0 0	80 0 0	8 10 0	3
Orepuki and Longwood	1	.. ..	.. ..	2 2 0	1
Arrow (Wakatipu Goldfield)	10	214 16 0	81 12 0	11 5 6	1
Queenstown	36	592 8 6	421 0 3	.. ..	3
Naseby	1	.. ..	.. ..	1 11 0	..
Maerewhenua					
Totals	343	2,390 3 6	702 15 3	398 7 6	30

T. H. HAMER,
Acting Under-Secretary for Mines.

Mines Department, Wellington, 5th May, 1887.

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