

1886.

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 KENRICK to the UNDER-SECRETARY of MINES.

SIR,—

Warden's Office, Thames, 24th April, 1885.

I have the honour to forward the annual report upon the various gold-mining districts under my control, together with the goldfields statistics and returns for the year ended 31st March last.

*Hauraki South (Thames).*

A good deal of prospecting has been carried on during the year at Tapu, Puru, and Mata Creeks, in the northern portion of the district, with satisfactory results. At Tapu a claim known as the Everton has been sunk some 80ft. below the creek-level, carrying good payable stone the whole way. Encouraged by this success, and the promise of a subsidy from the Government, the owners have arranged to sink a fresh shaft to a depth of about 180ft., at which depth they anticipate being able to work the reef. The work will be a somewhat expensive one, there being so much water to contend with; but it is an enterprise deserving of the encouragement it has received, as a successful result (of which there is every probability) would cause a large area of ground hitherto untried at this depth to be taken up. Both this and the tunnel at Golden Point, in the same locality (also subsidized) are works of public importance. Unaided, the works would not have been started for years, if at all; whilst both, if successful, will open large areas of ground.

Sluicing-claims, a novelty on this goldfield, have recently been taken up in the Puru and Mata Creeks; but as yet the necessary preliminary work is not completed. Good prospects of coarse, loose gold have frequently been obtained in both localities.

Amongst the older mines on the Grahamstown Flat the feature of the year has been the rich returns obtained from the Cambria Mine, rivalling those obtained from the Prince Imperial Mine two years ago. As showing the latent wealth of the district, I would point out that the ground comprised within the Cambria Company's mine had, like the Prince Imperial Mine, been neglected for years. It was taken up in 1884 by a company with a nominal capital of £31,500. Only 9d. per share was called up. Since then 10,987 tons have been crushed, yielding 36,334oz. of gold; and dividends to the amount of £2 4s. per share have been paid on 31,500 shares. The run of gold has been temporarily lost; but there is every indication that it will be recovered in the lower levels now being sunk and driven for. Apart from the Cambria yield the year's work in the older mines has not been altogether satisfactory. The Queen of Beauty Mine has not resumed operations; whilst the companies working between the 400-foot and 640-foot level have met with but indifferent success. I regret to say that the new Drainage Board have, on the score of the great expense of keeping these levels clear of water without adequate results, decided not to drain below the 400-foot level during the present year. The provisions of the Gold-mining Districts Amendment Act of last session relating to the drainage of mines having been brought into operation by regulations framed for the purpose, a Board has been elected who will in the future have sole power to regulate the drainage of the claims within the proclaimed area. One of the first acts of the Board was to enter into negotiations with the present Pumping Company

for the purchase of their plant. I have been informed that they have been successful in acquiring the same at a moderate cost. I am not aware how the Board propose to raise funds to pay for the machinery; but I presume it will not be from the amount realized from the year's drainage assessment, as this will be required for drainage purposes. However, the possession of this plant, and the direct control of the drainage being in the hands of a locally-elected Board, will, I have no doubt, be a great public benefit, tending as it does to a reduction in cost of drainage in future. It is to be hoped that the stoppage of the deep-level drainage is but temporary; for, if the workings at the 640-foot level have done nothing more than prove that gold goes down to that depth, they will have done much to encourage search for it at that or lower depths.

A prominent feature in my last year's report was the reference to the necessity of introducing new gold-saving appliances into this district, in the full belief that a very large percentage of gold was being lost by the present method of treatment. The advent of Mr. La Monte, from California, in the early part of the year was taken advantage of by an energetic syndicate, who at once made arrangements for the erection of two of his wet-jacket smelting-furnaces, one at the Thames, the other at Karangahake. The Thames furnace was completed, and up to the 31st March last had run through about 180 tons of ore, purchased from various mines at Waihi, Karangahake, and Tui (Te Aroha); but little of any Thames stone was put through. I give below the result of the thirty days' run at the furnace when this stone was put through, as reported by the directors of the company dealing with La Monte to the shareholders.

						COST OF TREATMENT.		£	s.	d.
Iron-ore (320 tons, at 15s.)	..	..	..	..	..	..	240	0	0	
Lime (59 tons, at 7s. 6d.)	..	..	..	..	..	..	22	2	6	
Coke, Greymouth (56 tons, at £2 19s.)	..	..	..	..	..	..	165	4	0	
Coke, Gas (61 tons, at £1 6s., with allowance net)	..	..	..	..	..	..	81	3	0	
Coal (15 tons, at £1 11s. 6d.)	..	..	..	..	..	..	23	12	6	
Gas	..	..	..	..	..	..	12	6	0	
Wages—General*	..	..	..	..	..	..	165	12	0	
Experts	..	..	..	..	..	..	70	0	0	
Refinery, general	..	..	..	..	..	..	24	15	0	
Assayer	..	..	..	..	..	..	31	10	0	
Water	..	..	..	..	..	..	2	10	0	
Lead-ore (22 tons 10cwt., at £15)†	..	..	..	..	..	..	337	10	0	
Scrap-iron (7 tons, at £1 10s.)	..	..	..	..	..	..	10	10	0	
Cartage	..	..	..	..	..	..	15	0	0	
Bone-ash	..	..	..	..	..	..	22	0	0	
Pearlash	..	..	..	..	..	..	3	0	0	
Total	..	..	..	..	..	..	£1,227	5	0	

Ore smelted—Gross weight, 181 tons; average cost per ton, £6 15s.

						RESULT AND VALUE OF BULLION TREATED.		£	s.	d.	
						Oz. dwt. gr.					
Gold purchased	..	..	..	..	..	585	6	0			
Less 10 per cent.	..	..	..	..	..	58	10	14			
						526	15	10	2,107	0	0
Gold banked	..	..	..	..	..	447	10	0	1,790	0	0
Short	..	..	..	..	..	79	5	10	317	0	0
						3,148	0	0			
Silver purchased	..	..	..	..	..	3,148	0	0			
Less 10 per cent.	..	..	..	..	..	314	16	0			
						2,833	4	0	566	13	0
Silver banked	..	..	..	..	..	1,877	15	0	375	11	0
Short	..	..	..	..	..	955	9	0	191	2	0
						79	5	10	317	0	0
Gold Account—Dr. as above	..	..	..	..	..	79	5	10	317	0	0
Silver Account—Dr. as above	..	..	..	..	..	955	9	0	191	2	0
									£508	2	0

Creditor—By Estimated on Hand.

						Oz. dwt. gr.	£	s.	d.		
Gold—In flue-dust	..	..	..	..	..	11	6	0			
In furnace (scrap)	..	..	..	..	..	31	7	4			
In crucible	..	..	..	..	..	1	0	0			
Total gold (43oz. 13dwt. 4gr., at £4)	..	..	..	..	..	..	174	12	0		
Silver (170oz. 3dwt., at 4s.)	..	..	..	..	..	..	34	0	0		
Bullion, estimated	..	..	..	..	..	..	103	0	0		
Litharge, estimated	..	..	..	..	..	..	56	18	0		
									368	10	0
Deficiency	..	..	..	..	..	..	..	..	£139	12	0
Add the bullion in the slags, estimated by Mr. Stearns at the close of the three days' preliminary run to be 130oz., at £1 per oz.	..	..	..	..	..	..	..	..	130	0	0
Total deficiency	..	..	..	..	..	..	..	..	£269	12	0

R. SPRATT.  
E. MENZIES, Secretary.

\* Wages, exclusive of Mr. La Monte's experts.

† Exclusive of galena-ore imported and used by Mr. La Monte contrary to the instructions of the Board, and estimated by assay to contain twenty-six tons of metallic lead, valued at £390.

The CHAIRMAN said the explanations which the directors had to give were not very many. The cost of the refinery amounted to £70. Mr. La Monte informed the directors that in Australia this item was usually charged against the gold; but, as the directors knew nothing of this, they were compelled to charge it against the smelting. The figures showed that the result was a long way short of the 90 per cent. which was agreed to be saved. The cost of treatment was still worse. The stuff had cost £6 15s. per ton instead of £2 per ton. The item lead was a large amount to charge against the smelting.

Mr. BARSTOW asked if that lead would not come in useful again.

Mr. C. ALEXANDER replied in the negative.

The CHAIRMAN said a great deal of the lead furnished was scrap-lead, which Mr. La Monte said was of very little value. He would next read an amended proposal by Mr. La Monte. Mr. La Monte had been acting in all fairness to the company, and he knew he had not fulfilled his engagement to the company. Mr. La Monte's proposal was as follows: "Auckland, 19th April, 1886.—To the directors of the New Zealand Smelting and Reducing Company: Gentlemen,—Owing to the excessive cost of treatment above the contract price during the thirty days' run, I will make the following proposition: I will deduct £4,000 from the contract price, and will also give away to the company any interest I may hold in and to a bonus of £1,000 promised by the Government, which will be paid by the Government if taken over by the company. Twenty-five per cent. of the burden of the calls falls upon me to pay, which would actually leave only about £2,000 for the balance of company to provide.—I am, &c., JOHN D. LA MONTE." He would now read an approximate estimate of future cost. The estimate was by Mr. Stearns; and, while submitting it to the meeting, the directors wished it distinctly understood that they were not responsible for that statement. The estimate was on an enlarged furnace, and Mr. La Monte stated that he was willing to enlarge the furnace to the size indicated. The estimate, with furnace enlarged to do 340 tons per month, was as follows:—

	£	s.	d.	£	s.	d.
Ore (340 tons, smelting, at £3) .. .. .				1,020	0	0
				<i>Example.</i>		
Cost—Ironstone, each ton 1 67th-100, at 8s. .. .. .			189	16	8	
Auckland gas-coke, at £1 6s., thirty-five charges, 40lb., 13s. 3d. .. .. .			225	5	0	
Lime, at 2s. 10d. .. .. .			48	3	4	
Labour, per ton, 14s. 2d. .. .. .			240	16	8	
Average cost per ton, £2 1s. 5d. .. .. .						704 1 8
Total .. .. .				£315	18	4

NOTE.—Fuel and coke, ironstone and lime, taken at same average as the trial-run just made, the proportions of which should be lessened in future by the proper blending of ores. Water, as motive-power, would save £35 per month.—J. D. LA MONTE, per Z.L.

Shareholders would notice that the large cost of lead was omitted altogether from this estimate. The company had been paying £3 a ton for Greymouth coke; but Mr La Monte had found that the Auckland gas-coke would answer very well, and it could be obtained at a very much reduced price. He said also that water in place of steam would save £35 a month. The chairman then read the directors' report as follows: "The directors, in submitting the statement of cost of ores treated during the trial-run of thirty days, and which, together with the report of Mr. Spratt, who was deputed by the Board to act as their representative at the Thames, have been circulated amongst the shareholders, regret that the results appear to be unsatisfactory. These are, however, your directors feel bound in justice to explain, to be in a great measure accounted for by the difficulties generally attendant upon trial operations in connection with the treatment of ores in a new field which have not hitherto been subjected to the smelting process; and, as will be observed from Mr. Spratt's report, a considerable saving in the cost can be effected in the chief materials required in fluxing, and also in wages, both in the matter of experts and ordinary labour. Taking the whole circumstances into consideration, however, the directors cannot recommend the furnace being taken over, as during the trial-run it has failed to attain the results which it was guaranteed under agreement with the contractor to effect—namely, cost of treatment, and the saving of 90 per cent. of the assay-value of the gold and silver, and also the capacity of the furnace." In moving the adoption of the report, the chairman said he had very little to do except express his regret that the result had been so unsatisfactory. He believed, however, that the furnace had been a real benefit to our goldfields. It had led people to search for and find ores which it was thought did not exist in that district. Although that company had met with discouragement, he had no doubt that there would be a bright future for smelting operations.

Mr. LA MONTE seconded the adoption of the report. He said he would not detain the meeting long, because he felt much embarrassed to come before a company with his work not done as well as he should like to have seen it. He also came before the company with a report and estimate which varied to a certain degree from the report furnished by Mr. Spratt. In the first report furnished by Mr. Spratt all the coal, coke, labour, gas, water, and everything since the works began four or five months ago were charged in the one sheet—also the refining account—against the thirty days' run of smelting. Of course, he (Mr. La Monte) considered that very unfair and unjust. It was finally resolved that Mr. Spratt and he should come together and formulate a report, and that a report initialled by both of them should be brought before the shareholders. Such a report was gone into by them on Saturday morning and drawn out. That report showed the smelting account for the thirty days' run, and afterwards the refining account and expense account. According to this report, the smelting account for the thirty days, exclusive of lead, was at the rate of £4 2s. per ton. He wished to refer to the fact that scrap-lead, sheet-lead, and old pipes had been furnished to the works to put the furnace in blast. He told the company distinctly that it was necessary to get either metallic lead or galena ore. As soon as he saw the lead he said he considered it worthless for smelting purposes, and that he would rather pay for it himself and get suitable lead. However, it had been in use at that time. Mr. Chambers would bear him out as to the poor quality of the lead. It contained a large quantity of antimony and iron, and went readily to dross. He had no complaint to make as to the treatment he had received. Unfortunately for him, some of the gentlemen connected with him were not connected with the smelting business before the operations began, and did not get the necessary articles together for a clean run. The staff were in perfect order now. The last twenty-one days were run as perfectly and smoothly as ever he had seen any works run in any part of the world. The only thing he could suggest had been suggested in his proposal to the chairman. It would very materially reduce the cost to make the furnace the same size as the Melbourne furnace. The Melbourne furnace was 2ft. 6in. longer than that at the Thames, and double its capacity. The labour account would be the same, and the percentage of fuel was smaller in the larger furnace.

In reply to Mr. J. M. CLARK, Mr. LA MONTE said that the coal and coke set down had been consumed during the run in the smelting-works and refinery. Mr. La Monte also said that his outlay had been over £6,000. He could simply say to the company that he had not done what he undertook to do; but, he added, if he had the work to do over again he could accomplish it. He was virtually in the power of the company. If they wished to take advantage of it they could do so. Being in the position he was, he would say clearly to the company that what he wanted was to save his portion of the stock. The process had not been a failure in any country, and it would not be a failure here. The general feeling expressed in the Thames and Upper Thames Districts was decidedly in favour of the company and the smelting-works, and there would be very much regret if anything should occur to cause the works to cease operations. He left his proposition for the shareholders to consider. If they thought his proposal was unreasonable or unfair he would be very glad to listen to any proposal they might make.

So far it will be seen that, from various causes, the result has been disappointing, inasmuch as the guaranteed 90 per cent. of the gold has not been saved, whilst the cost of treatment has been considerably more than the maximum fixed, being £6 15s. a ton, as against the £2 fixed

as the cost of extraction by Mr. La Monte. Mr. La Monte's explanation of this result will be found in the preceding extract. Whilst it must be admitted that the first attempt at the introduction of the smelting process as to this field has not been a financial success, and it perhaps may be taken as proved that this particular process is not suitable for the treatment of the poorer-grade ores of which we have so abundant a supply going to waste, yet a great and, I believe, permanent good has resulted from its introduction. It has proved the existence of lodes containing a very high percentage of bullion, as much as £30, £90, and £105 per ton being the assay-value paid at the furnace for some parcels. Similar ore heretofore has either not been treated at all, or, if treated, the bullion has been lost at the battery. It has also taught the miners to distinguish between the various grades of stone they are handling—in fact, to classify the stone, sending that only to the battery that their new experience has taught them can be profitably treated there, reserving some for the furnace, where, if the process was more costly still, as it saved silver as well as a higher percentage of gold, it paid to send it, whilst perhaps the bulk of the stone is placed on one side as being too poor for the furnace at the present cost of extraction, and yet not likely to pay at the battery, from the presence of the sulphides and chlorides with which the bullion is combined.

Another immediate benefit derivable from the introduction of the furnace may be said to be prospecting for minerals other than gold or in combination with gold. Karangahake has been developed, Waihi reopened, and perhaps the Tui at Te Aroha discovered, mainly in consequence of the facilities afforded by the furnace, with its skilled staff, for ascertaining the value of new ores and offering a market for them at their assay-value, less charges. I have referred further on to the effect that Dr. Black's visit had upon the prospecting for new ores in these districts. The search for iron-ores, lime, &c., required as fluxes at the furnace has done much to assist prospecting over country hitherto neglected or merely passed over. For these and other substantial reasons it is therefore to be hoped that the furnace may remain permanently at work in this district and be the forerunner of others.

There can be no doubt that more careful management, coupled with reduction in the first cost of the various fluxes, and perhaps, also, more experience being gained in dealing with ore so essentially different from those treated successfully at Silverton and elsewhere by the same process, will tend to bring the cost of treatment down to a more reasonable amount, and by so doing largely increase the output of stone that it will pay to treat.

I have given no detailed description of the furnace itself, or the method of treatment of the ores, both being so fully described by Mr. Gordon in his able report upon the mining-machinery in use in the Australian Colonies.

In a report upon the goldfields, the benefit derived from the visit of Professor Black and his staff to this district during the year must not be overlooked. It is scarcely possible to over-estimate the benefit derived from this visit, and the course of lectures given and classes instituted by the learned Professor. Dr. Black's happy manner of imparting information, simplifying science so as to bring it within the comprehension of all, aroused the deepest possible interest, amounting to enthusiasm, amongst crowds of eager listeners and learners from Te Aroha to Coromandel. That a want had been supplied by Dr. Black's visit and lectures was evidenced by the large attendance at his classes of miners who had travelled many miles after their day's work to be present. It is no exaggeration to say that recent valuable discoveries made at Karangahake, Waihi, and the Tui, Te Aroha, are due in a great measure to the intelligent interest awakened and information imparted by Dr. Black. Miners, as it were, have been thrust out of the groove they had been content to work in during the past. Stone that would have gone over the mullock-tip is now carefully scanned before being thrown aside. One immediate benefit resulting from this visit has been the establishment of a School of Mines at the Thames, with branches at Te Aroha, Coromandel, Karangahake, and Waihi. A sum exceeding £500 has been subscribed, and a very large number of working-members have joined. A committee, elected from amongst the subscribers to manage the business of the association, have made arrangements for a course of lectures and classes to be held at the Thames, Karangahake, Waihi, Te Aroha, and Coromandel. On Dr. Black's departure from the district, one of his staff, Mr. Montgomery, was, by the consent of the Hon. the Minister of Mines, stationed—we hope permanently—here to continue the classes and lectures so successfully inaugurated. A most successful term has been concluded at the Thames, and Mr. Montgomery is now in the upper-country districts. The committee of the School of Mines have already purchased a suitable building as a permanent home for the school, and have arranged for the erection of a furnace, laboratory, &c.

At Karangahake much has been done during the year in the various mines, and a fair measure of success met with. The larger portion of the stone sent to the furnace at the Thames has been from this district, as much as £105 per ton being given as the assay-value of one parcel sold. The difficulty in procuring the necessary fluxes has retarded the opening of the local furnace, iron ore having to be brought from Whangarei by sea, up the Thames River to Paeroa, and from thence to be carted some seven miles; and, as the coke, lead, lime, &c., will have all to be brought from a distance, I am afraid that the expense will be too great for the class of stone to be treated. It certainly will be cheaper to send the more valuable stone to the Thames, as for every ton of stone smelted some two tons of flux have to be brought to the furnace.

The Mining Inspector's detailed report will give full information as to the various mines throughout the district.

### *Waihi.*

This district has come well to the front during the year.

It will be remembered that for some years past stone from a very large reef, some 20ft. to 30ft. thick, in the Martha Claim has been crushed for an average return of about 8dwt. a ton, the facility with which the stone could be raised and crushed rendering this payable; but during the past year some very rich reefs and leaders have been discovered and opened up in the Silver-ton, Union, Rosemont, and other claims, the stone obtained being very different from any previously got in the district—it is largely impregnated with silver, and has assayed up to very high figures.

In the Silverton a crushing of some 400lb. of stone gave nearly  $\frac{1}{4}$ oz. to the ton, and the leader from which this was taken holds its own as it goes down in the shaft now some 70ft. deep.

All the workings at the Waihi have hitherto been confined to the levels above the surface of the large plain upon which is situated the small range of hills, or, rather, hummocks, where the mines are located; it is therefore a most satisfactory and valuable discovery to know that the stone improves in value as it goes down. As yet nothing really is known of the nature of the country below those plains, and I cannot but think that if boring-rods were used much valuable information would be obtained at comparatively small cost. I anticipate a great future for the Waihi portion of the district. A discovery that promises to be valuable has been made in an entirely new locality, quite ten or twelve miles from existing workings. It is known as Parakawai, and the reefs discovered are situated on the eastern side of the main range, on a Native reserve block known as Whangamata No. 6. The country is very rough and heavily timbered, some very good kauri being in the locality. The reefs are well defined, averaging some 4ft. thick, and the outcrop is probably 300ft. to 500ft. above the creek-levels. The stone brought in gives very good dish-prospects when pounded up—from 1oz. to 3oz. to the ton. The reef, or, rather, the outcrop, has been opened upon and prospected for some 500ft. or 600ft. along its course. Eight parties have taken up claims; but there are not more than ten men, if that number, at work. The difficulty experienced in bringing small parcels of stone in to be tested, and of getting food, &c., on the ground will delay the opening-up of the reefs. The Ohinemuri Council are taking steps to make a horse-track from Waitekauri; but I do not anticipate any tangible results from the find this winter, for until a battery is erected the real value will not be known. But enough has been done to justify the men in the belief that a good reefing district has been discovered. Its distance from existing workings, together with the locality where the gold was found, prove that the extent of the goldfield is as yet unknown.

The following are the statistical returns for the year: Cases heard—Resident Magistrate's Court (civil), 468; (criminal), 246; Warden's Court, 126. Fees, Resident Magistrate's Court (civil), £190 16s.; (criminal), £37 16s.; fines, £47 8s. 6d. Fees, Warden's Court, £52 16s.; fines, £2 8s. Claims marked out, 588; registered, 173; abandoned, 368. Licenses granted, 112; forfeited, 29; surrendered, 5. Registrations, 554. Miners' rights issued, 465. Gold-fields revenue for year, £4,468 0s. 3d.; quartz crushed, 35,998 tons, 2cwt. 1qr. 18lb.; melted gold, 61,539oz. 14dwt. 6gr.: as against, 31,496 tons quartz crushed and 37,715oz. melted gold, for preceding year.

It is gratifying to be able to report so large an increase in the yield of gold.

I have, &c.,

The Under-Secretary of Mines, Wellington.

H. KENRICK, Warden.

### No. 2.

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

SIR,—

Warden's Office, Te Aroha, April 27th, 1886.

During the past year mining operations in the older portion of this field have, from various causes, been somewhat restricted. The very dry season experienced compelled the battery to stop or work with a reduced number of stampers on several occasions throughout the year, this materially reducing the output of quartz and the consequent yield of gold. It will be seen from the Mining Inspector's (Mr. Wilson's) report that, though the New Find Company have crushed 2,950 tons for a yield of 2,637oz., it has been unable to do more than pay its way; whilst the Colonist Company, who have about half an ounce to the ton from 2,000 tons, find that the yield will not pay working expenses. I need scarcely say that such results as these are more than disappointing. For, with such facilities as are afforded at Te Aroha for mining, carrying, and crushing quartz, half an ounce to the ton, even at the low value of Te Aroha gold, should pay working expenses.

Much is expected from the very complete plant of McKay pans and crushers erected by Mr. Fergusson for Messrs. Fraser and others; but, from the causes mentioned by the Inspector, this plant is not yet at work. On a small scale these pans have been tried at Karangakahe very successfully. It is anticipated that at Te Aroha they will save a larger percentage of gold at less than the present cost of treatment at the battery. The proprietors are erecting a furnace in

connection with this plant to roast (not smelt) the stone before treatment at the pans. If the success claimed for it in anticipation by the owners is realized, I shall have more favourable results to chronicle at the close of the year in respect of the older mines.

The very valuable discovery at the Tui Creek is to the north of Te Aroha Town, between it and Karangahake. The discovery is valuable in itself; but still more, perhaps, from being in a new locality, going far to prove the existence of the auriferous belt from Te Aroha to Karangahake. On the surface there is a very large outcrop (extending over a considerable area) on a well-defined line or lead of carbonate of lead, containing a large percentage of silver. The assay-value of this is some £6 to £8 per ton. As it is followed down from the surface it appears to change its character, and becomes almost galena-ore. The reef itself contains a considerable percentage of silver in combination with other minerals. Small veins and pockets of cinnabar are found in the stone. Two parcels of five tons sent down to the Thames furnace were sold at their assay-value of £22 10s. per ton. I need scarcely say that nothing like this return could have been obtained at the battery. The stoppage of the furnace at the Thames has seriously affected the Tui and other mines, as the market for their particular class of stone is thus closed.

A judicious subsidy from the public funds last October enabled a track to be made to these mines, without which, in fact, the district could not have been opened. I think there can be but little doubt that very valuable returns will come from this portion of the district in the near future.

The completion of the railway from Auckland to the town of Te Aroha has brought the attractive and valuable mineral springs of the district within easy reach of all; as a consequence the town has made great strides during the last few months. The progress made will, there is no doubt, prove permanent.

I enclose herewith the Mining Inspector's report upon the various mines, and add thereto the usual statistical returns.

The yield of gold for the year has been 4,489oz., won from 6,552 tons; as against 9,506oz. from 11,041 tons of the previous year. Cases heard in Resident Magistrate's Court—Civil, 82; criminal, 62; Warden's Court, 43. Fees—Civil, £40 8s.; criminal, £7 19s.; fines, £24 1s. General goldfields revenue for year, £1,488 6s. Claims marked out, 107; registered, 13; abandoned, 12. Licenses, 24; forfeited, 9. Residence-sites granted, 26; business sites, 3. Registrations, 119; applications, 81. Miners' rights issued, 62. Water-races granted, 1; forfeited, 1.

I have, &c.,

The Under-Secretary of Mines, Wellington.

HARRY KENRICK, Warden.

Mr. G. WILSON, Mining Inspector, to Mr. Warden KENRICK, Te Aroha.

SIR,—

Warden's Office, Te Aroha, 10th April, 1886.

I beg to forward for your information particulars respecting mining matters in this district for the year ended 31st March, 1886.

From various causes there was a considerable falling-off in the returns of gold from the mines during the year. Several of the mining companies entirely suspended operations, and portions of reef opened in the mines working did not turn out the amount of gold expected.

The new battery erected by Messrs. Ferguson, Fraser, and party has not yet been used, as a much longer time than was anticipated was required to complete the construction of the tramway to connect the battery with the main tramway and the mines. Some time must yet elapse before quartz can be treated, as it is now found necessary to erect a furnace for the purpose of roasting the quartz prior to grinding. As this plant is expected to save 80 per cent. of the gold and silver contained in quartz, treated at a cost of from £1 10s. to £2 per ton, it is unfortunate that a trial has not been already made, as, if successful, many reefs containing fine gold, and silver in a non-metallic state, and which are at present untouched, may be successfully worked.

The attention of miners has been attracted to prospecting for silver and other minerals, especially since Professor Black delivered his lectures at the various mining centres, and great interest is taken in the different methods of testing ores. The erection of a furnace for smelting ores at the Thames also caused miners to prospect for silver; and valuable discoveries of reefs containing silver and lead ores have been made at the Tui Creek, on the range between Te Aroha Mountain and Karangahake, at a distance of about two miles and a half to the northward of Te Aroha Township. Parcels of ore from the Champion Lode claim, at the Tui Creek, which were sent to the Thames furnace, yielded bullion valued at £22 to £28 per ton. On account of the inaccessible nature of this locality, which is from 1,800ft. to 2,000ft. above sea-level, there has not been much work done on the reefs as yet; but, so far, the prospects are very good, and carbonate of lead, which is a valuable flux, is found in apparently large deposits.

Although the yield of gold has not come up to expectations, there is still ample room to calculate on increased prosperity in mining during the year 1886-87. The smelting-furnace at the Thames has caused a fresh departure in mining, and further experiments are being made for the reduction of ores and extracting a large percentage of all the valuable minerals in the quartz reefs; and, as we have now large quantities of quartz known to contain silver, lead, &c., as well as gold, no doubt some improved process will be found capable of treating ores at such a cost as will leave handsome profits.

Goldfields tracks have been formed to enable the miners at the Tui Creek to send parcels of quartz to the Thames for treatment; and a track has also been made from the Fern Spur to the Werahiko claim at Waiorongomai, to enable prospectors to explore that part of the line of the main reef which has hitherto been inaccessible. Fair prospects of silver-ore have also been discovered at Waiorongomai; and, as the tramway connecting with Ferguson's battery is now in working order, a trial will soon be made of the capabilities of that method of treating the quartz which they have adopted.

*New Find Mine.*—There have been 2,950 tons of quartz crushed from the blocks over the low level, yielding 2,637oz. of gold; and, as there is a good show left in the floor, it is expected that the next level to be driven will also pay and leave a profit. This mine is carefully worked by Mr. Hugh McLiver, the company's mine-manager.

*Colonist Mine.*—This mine has been worked by the Battery Company on terms, and 2,002 tons of quartz crushed for a yield of 1,048oz. of gold.

*Premier Mine.*—There have been 180 tons of quartz crushed for a yield of 100oz. of gold.

*Galena Mine.*—This mine was formerly known as the Lucky Hit, and the reefs contain a large quantity of lead with a small percentage of silver. Three hundred and four tons of quartz were crushed for a yield of 180oz. of gold.

*Waiorongomai Mine.*—Eighty-five tons of quartz have been crushed for 77oz. of gold.

*Silver King Claim.*—Thirty-two tons of quartz yielded 63oz. of gold.

Several other mines have been worked, but the returns have not been payable. The population of the Te Aroha Gold-mining District is 1,154. The opening of the railway to Te Aroha has caused increased prosperity to the district. The Hot Springs Domain has become a popular resort, and the baths are used by large numbers of people from Auckland, as well as from all parts of New Zealand and the Australian Colonies; and there is no doubt that Te Aroha will continue to be a favourite among the sanitoriums of New Zealand. The hot springs are the property of the Government, and are managed by a local Domain Board. The charge made for using the baths is only nominal, and, as board and lodging may be obtained from £1 up to £2 2s. per week, these reasonable rates cause many people to spend their annual holiday at Te Aroha. Owing to increased prosperity, settlement on the lands adjacent is on the increase.

I have, &c.,

H. Kenrick, Esq., Warden, Te Aroha.

GEO. WILSON, Mining Inspector.

BATTERY RETURNS for Te Aroha for the Year ending 31st March, 1886: (retorted gold). 1885: April, 436 tons, 376oz. 15dwt.; May, 858 tons, 372oz. 8dwt.; June, 488 tons, 509oz. 15dwt.; July, 701 tons, 373oz. 3dwt.; August, 513 tons, 402oz. 12dwt.; September, 512 tons, 573oz. 12dwt.; October, 1,282 tons, 530oz. 17dwt.; November, nil; December, 669 tons, 533oz. 1886: January, 321 tons, 113oz. 5dwt.; February, nil; March, 772 tons, 704oz. 5dwt. Total, 6,552 tons, 4,489oz. 12dwt.

### No. 3.

MR. WARDEN KENRICK to the UNDER-SECRETARY OF MINES.

SIR,—

Warden's Office, Coromandel, 21st April, 1886.

I regret to report that the depression existing throughout this portion of the district at the close of last year has not yet passed away. All mining matters are exceedingly dull, and several promising ventures have proved more or less failures. The worst of these in its effect upon the community was the failure of the Tokatea Gold-mining Company to find the big reef in their low-level tunnel after driving a distance of some 3,000ft. in the hope of cutting it. During the year this company has been engaged in pushing on the level known as No. 3, some 400ft. from the surface. They are now in good country, and have a fair prospect of cutting either the main reef or some of the well-known leaders which turned out so well in former days.

In this neighbourhood, the Royal Oak, Bismarck, Bachelors', and Mayn's claims are still working, but, with the exception of Mayn's, scarcely paying wages.

The Triumph, further along the range to the north, have a large well-defined reef in hand, from which they have already taken several small but good crushings.

On the eastern side of the Tokatea Range, and south of the Tokatea Mine, is a district known as the Waikoromiko. This district was rushed some ten or more years ago; but, after putting in a low-level and erecting a battery, the gold ran out and the place was abandoned. Last month a prospector named Sutherland came upon a well-defined leader, from which he has taken a quantity of exceedingly rich specimens. A small rush has again set in, and about a dozen claims have been marked off. It is as yet too soon to anticipate the result. A very fine nugget of nearly pure gold, weighing some eight ounces, was found in this (the Waikoromiko) creek some few months ago, and purchased by me on behalf of Dr. Von Haast for the sum of £24. This nugget is now in the Indian and Colonial Exhibition.

Information has been received that the attempt to float the Anglo-New Zealand and Telephone (formerly the Union Beach) Company in the London market is meeting with success. It is to be hoped that the promoters will be successful, as the testing of the deeper levels in this locality, experts agree in saying, has every chance of a successful result, gold having been

carried down to the water-level by the former company. The new venture will include the working of the ground known as "Blaygrove's Freehold," a large block of ground between the old Union Beach claims and the Kapanga Mine, known to be auriferous, but hitherto unworked owing to the difficulty of coming to terms with the owner of the freehold. This has now been overcome, and the floating of the Anglo-New Zealand Company in London would mean the immediate employment of a considerable number of men on ground hitherto unworked.

*The Kapanga.*—This well-known mine has again been taken up by an English company, with a nominal capital of some £180,000, with £23,000 paid up. Operations are to be at once resumed; the intention being, I believe, to sink the shaft some 200ft. or 300ft. lower, until the underlie of the old reef is cut, and then to work from that level. This will afford employment to a good many miners during the coming winter. It is to be hoped, therefore, that the new venture will meet with the success it deserves. Not far from the Kapanga, in the direction of the Tokatea, a small piece of ground (some six men's only) held as the Waipawa Claim has yielded to tributers during the year gold worth nearly £4,000.

*Matawai.*—The prospects of this district are better than those in any portion of the field. The Castle Rock Claim (Vizard's) is turning out rich stone from the low level that has taken upwards of two years to put in, the reef being tapped about 100ft. below the drive from which very good stone was formerly taken. The future prospects of this mine are very good. Near this claim is the Matawai Mine (Vaughan's). The quartz taken from this mine is so highly mineralized, and contains so large a percentage of arsenic, as to be difficult to treat with the appliances at present on the field. At the battery the stone will not give more than 1oz. to the ton, whilst from 3oz. to 5oz. can be obtained from any portion of the stone on assay. A parcel has been sent to a small furnace recently erected at Onchungu, for treatment, but the result is not yet known. The reef is large, and would pay handsomely could the gold be saved.

The Manaia, some ten miles south of the township—the new find mentioned in my last report—is still in the future.

The Victoria Claim here has been getting some good payable quartz from a reef one to two feet thick. The owners, finding the best gold underfoot, sunk for some 70ft. in the floor of the tunnel, carrying gold all the way, but at 50ft. taking out stone which may be called specimens. The reef appears to improve every foot they sink.

At Blackmore's, the prospectors' claim, they have obtained small quantities of rich specimens. The owners have arranged to cart seven tons of stone to the nearest crushing-plant, some seven miles away, over a difficult country. They expect it to pay well.

At the Tiki mining operations have temporarily ceased, the year's results at the Marabel Claim being disappointing, though some rich specimens were found. Work is still being carried on in one or two small claims.

On the whole, although the field has been very dull during the past year, the average yield of gold has been maintained; and, with the floating of the two English companies (Kapanga and Anglo-New Zealand), the outlook for the coming year is brighter.

It will be seen that the very high average yield per ton for which Coromandel is noted has been well maintained during the year. There has been 550 tons 8cwt. 3qr. crushed, for a yield of 3,382oz. 1dwt. of melted gold. During the preceding year the return was 456 tons for 3,201oz.

Below are the usual statistical returns for the year: Cases heard—Resident Magistrate's Court—civil, 98; criminal, 44. Fees—Resident Magistrate's Court (civil), £58 16s.; fines and fees (criminal), £44 10s. Cases heard in Warden's Court, £18; fees paid, £7 15s. Goldfields revenue for the year, £502 18s. 6d. Claims marked out, 117; registered, 28; abandoned, 67. Licenses granted, 7; forfeited, 6. Miners' rights issued, 46.

I have, &c.,  
HARRY KENRICK, Warden.

The Under-Secretary of Mines, Wellington.

#### No. 4.

Mr. Mining-Inspector McLAREN to the UNDER-SECRETARY OF MINES.

SIR,—

Mining Inspector's Office, 20th May, 1886.

I have the honour to forward mining report for the Hauraki North and South Gold-mining Districts for year ended 31st March, 1886.

HAURAKI NORTH (COROMANDEL).

The general features of this portion of the field remain in very much the same condition as last year, the number of miners being about the same, and also the quantity of gold obtained, this year being 3,382oz., last year 3,201oz. There are, however, great expectations of a revival, especially as arrangements have been made recently, introducing English capital to work the two deep-sinking companies' mines—viz., the Kapanga and Telephone (late Union Beach). The former has always been an English company, but has lately been re-formed, the ground in the meantime being protected. During the negotiations to float the Telephone Company the ground has been only partly protected, that portion above water-level being let to tributers, who have had some very rich returns.



*Tokatea District.*—All the mines in this district are let on tribute, there being no wages-men employed. This in itself is not a good sign, as it shows the companies are not putting in low levels, which, being expensive, are seldom carried in by tributers. The working-out of the present levels is therefore only a matter of time. The great expectations from the carrying-in of the Tokatea low level have unfortunately, so far, not been realized. The company, meeting nothing but clay where the reef ought to have been, have ceased operations at this level, and have gone up to No. 3, where a reef has been cut recently; but until a survey is made it cannot be decided whether this is the main reef or not. The low level is over 1,300ft. from the surface, the No. 3 level being between 300ft. and 400ft.

*Tiki District.*—The operations of the Marabel company not proving successful, the ground and battery were sold to Mr. Greenwood, of Auckland, who re-started work. Some very rich specimen-stone was obtained, but the general crushing-stuff did not prove payable, and work has again been suspended. The crushing was sixty-three tons for a return of 35oz. 10dwt. retorted gold. The only other work done in this district—which I may mention is not goldfields proper, but private property—was a small crushing of three tons for the new Golden Belt Gold-mining Company, which gave a return of 8oz. 12dwt. retorted gold.

*Matawai District.*—This district has not advanced any since my last report. In the Castle Rock or Vizard's Claim the low level has been completed and the reef opened out. The crushing obtained therefrom has proved payable, as also has that from the Matawai Claim—Mr. Vaughan's. The total quartz crushed in this district was 116 tons 10cwt. for a return of 122oz. 14dwt. retorted gold; but there is plenty more quartz on hand to crush. Generally, throughout the year there has not been enough of water to effectively drive the battery: even when crushing sufficient speed could not be got up to give efficient work. This, I believe, might be remedied if a simple Pelton wheel was substituted for the present huge turbine wheel.

*Manaia District.*—This district is under a cloud just now, from the great dulness of trade in Auckland and elsewhere. Money for prospecting is not to be had, so nearly all the money expended has been obtained locally.

As I mentioned in my last report, this portion of the country is very difficult to prospect on "account of the heavy cover." This is rendered still worse from the difficulty of getting low levels. On account of the general flatness of the ground the great length of tunnelling required would necessitate a large expenditure. On account of this difficulty sinking has been resorted to; which, of course, means slow work without machinery, so much time being taken up constantly baling the water. From this shaft the reef has been driven on in two directions, and some most encouraging specimens obtained. From the difficulties under which this new district is labouring, if the claim-holders agreed on a main scheme that would tend to develop the whole district, I think some Government assistance could be most judiciously given.

#### HAURAKI SOUTH (THAMES AND OHINEMURI).

During the year one of our pumping companies, the Queen of Beauty, has ceased operations, and all the plant and machinery has been sold and removed.

The new Act recently brought into force, whereby a Drainage Board has been elected from among the contributing companies, will have a very beneficial effect, and in future prevent the "scare" which usually happened once or twice a year from the threats issued by the Big Pump Company to stop operations. There appears to me to be one defect—that the Board has not sufficient power to borrow money; and, even if they had, they have nothing but personal security to offer, which is generally not considered the best. In order that the pumping may be carried on economically it will be necessary for the Board to raise money somewhere in order to convert the steam- into water-power. The very heavy cost now going on by using steam is a terrible drain on all the contributing companies. The cost of drainage is now estimated at about £3,300 per annum; but, if water-power was substituted, a saving of at least £1,800 per annum would be effected. Roughly, I would say that the total cost of water-power—machinery, pipes, connections, &c.—would not exceed £4,000; so that the cost would be saved in under three years.

As I understand the Warden has entered into details *re* the smelting quartz at Mr. La Monte's new furnace, I need not go further into particulars, save to say that its failure has thrown a great damper on mining; but in one respect Mr. La Monte has most undoubtedly done good—in drawing attention to the large quantities of silver contained in our lodes, especially in the Ohinemuri district; and, though these lodes appear to be very difficult to treat under his process, attention having been drawn to them, different parties are now at work trying the best and cheapest method that minerals can be extracted. Already a new battery, or reduction work, is being erected at Karangahake, in Ohinemuri, in which I understand the mineral is partly to be roasted and partly treated with chemicals. I understand that, from experiments already made under this process, more than double the amount of bullion has been obtained than from the ordinary battery process.

#### THAMES.

*Kuranui Mine.*—The company working this ground, after carrying on operations for sixteen or seventeen years, wound up, and sold all its ground, battery, &c. The ground was sold in three lots, some of these going at high figures, one being £800. The ground is now divided into three claims, known as the Kuranui Nos. 1, 2, and 3, and is now being worked principally by tributers.

*Moanataiari Mine.*—Throughout the year, on the average, over ninety men have been employed in this mine. At present sixty are tributing and thirty-five on wages. The most important work in the mine is prospecting the Cambria Reef. For this purpose a very long level is being driven from the new Golden Crown shaft. As this drive will go along parallel with the reef, it will be thoroughly prospected for the whole distance. This mine is now under the management of Mr. Thomas Radford, late of the Queen of Beauty Mine.

*Caledonian Mine* is now under the management of Mr. Thomas Corin, late underground "boss," Mr. Thomas Hicks having retired from the management through ill-health. Work has been principally carried on in the Red Queen section of the mine, the results being barely remunerative. At present prospecting is being carried on directly under where the "great find" was obtained, and the shareholders are not without hopes of having another great haul.

*Golden Crown* has not had very brilliant success during the year, though a very large amount of work has been done and a large quantity of quartz crushed, twenty stampers being kept nearly continually going with their own stuff. Yet it has barely paid its way; but more remunerative quartz is expected to hand shortly. A level is being driven from the new shaft for a distance of 400ft., with the object of cutting and proving the Cambria Lode at this place. The mine and battery are still under the charge of Mr. Thomas Dunlop.

#### *Waiotahi District.*

*Waiotahi Mine* still continues dividend-paying. The shaft has been sunk an additional depth of 70ft., making a total depth of 326ft. 6in. from the sill. From this level—No. 4—the manager, Mr. Smith, is now driving, with the object of opening out and stoping. He finds the ground continues to be hard, or, as the miners express it, "very tight."

*Cambria Mine.*—This has been the great dividend-paying mine of the field; but, as the Warden has given the particulars of gold obtained and dividends paid, I need not enter into it. The shaft is now sunk to a depth of 366ft., which is about 170ft. below sea-level. On account of the lightness of the small engine used for winding in this shaft, I was obliged to notify the directors that I could not allow them to further sink the shaft unless they erected machinery strong enough for the purpose. This has been done, and the machinery of the late Queen of Beauty Mine has now been erected at the shaft. This will enable operations being carried on to any required depth.

*Moanataiari Extended.*—A very large amount of prospecting and driving has been done from the 304-foot level, but none of the quartz that has yet come to hand has proved remunerative.

*Wolseley and Maldon.*—The owners of these mines have amalgamated their interests, and arrangements are now being completed to work from the Moanataiari Extended shaft, which will save them getting machinery of their own.

In this district (Waiotahi) there are a number of other claims recently taken up, and now being worked with every prospect of success, such as the Blanche, the Fame, the Saxon, and others. The Fame Company have now sunk their shaft 100ft., and the rock passed through gives every indication of gold being found when the reef comes to hand. The Saxon is also sinking a shaft, and, having placed winding-machinery on the ground, are now down about 200ft. In the upper part of this district the Bright Smile Claim still continues working, stoping on their leaders, which continue payable.

#### *Moanataiari District.*

This district has been very quiet during the year. The Alburnia has continued working with from twenty to thirty men, principally tributers, some of whom have been receiving very good dividends.

*Devon.*—A new level has been brought in from the Tinker's Gully side of the hill to the No. 2 shaft, and from there a winze has been sunk on the leader a depth of 82ft., to the level formerly worked from the El Dorado Tunnel. This gives good air, and will enable prospecting being carried on over Garvey's old winze, which was successfully worked some years since at a lower level.

*Reuben Parr* have been trying to develop a block below the Point Russell or their lowest level; but, owing to the great cost and difficulty with water, and having to wind everything by hand up the winze, it has not proved remunerative. There is no doubt that the best plan to work this ground would be to extend the Moanataiari Tunnel, which will, no doubt, be done some day. The mine is under the management of Mr. Thomas Pascoe, who strongly recommends the extension of this tunnel; but the directors cannot meet the cost at present.

#### *Karaka District.*

There are between sixty and seventy men working on this creek, but there is nothing particular to record in regard to any of their workings.

#### *Tapu.*

This little place has crushed 153 tons 10cwt. during the year, for a yield of 351oz. 11dwt. 14gr. retorted gold.

*Otanui.*

There are three mines in this district—namely, the Oriental, Eureka, and Comet—all of which give payable returns. The No. 2 Eureka reef has now been traced into the Comet ground, and arrangements have been made to work this reef through the Eureka tunnel. The road that has been made, with Government assistance, from the mines to the battery has proved a great boon, enabling work to be carried on continuously, as quartz can now be conveyed for treatment at all seasons of the year.

*Tairua.*

Only one reef has as yet been found in this district, which is being worked by the Ajax Claim-holders, who have crushed 664 tons for a return of 432oz. 4dwt. of retorted gold.

## OHINEMURI GOLDFIELD.

*Waitekauri District.*

The new battery erected by Mr. John Ralph and his mates on the Mangakara Creek has been recently started, and is now working well, the new Pelton wheel proving much more effective than the old turbine. In this, the southern portion of this district, some good finds have been recently obtained, and, if the gold only continues, there should be some rich returns from that quarter shortly. The Waitekauri Mine is now wholly let to tributers, some of whom are doing exceedingly well. The quantity of quartz crushed in this district during the year was 158 tons, for a return of 612oz. of retorted gold.

*Waihi District.*

The Waihi reefs crop out in a cluster of conical hills or mounds on the north-east corner of the large, open, and swampy plain known as the Waihi Plain, which is generally exceedingly barren and unfit for agricultural purposes. This district was first prospected about seven years ago; but only on one hill or mound was the prospect considered sufficient to warrant the erection of machinery—which was done by the Martha Company—the quartz from which has only yielded a few pennyweights of gold per ton; but, having cheap water-power to crush with, and through the manager, Mr. John Moore, using every economy, all cost of erection of machinery, tramways, water-races, &c., has now been paid off, and it is expected that the company will shortly pay a dividend. The crushing for the year was 5,251 tons, which yielded 1,202oz. 18dwt. retorted gold.

The outlying hills of this district remained unoccupied till Mr. La Monte's process drew attention to the possibility of their containing silver; and about the end of last year the ground was taken up and tested, with the result that three of these hills have now been proved to contain rich ore, and great hopes are entertained of the others. The silver contained in this ore is principally in the form of sulphides, and the recent smelting-furnace trial at the Thames has proved these ores or rock (unlike galena and ironstone) are not well adapted for smelting. They contain such a percentage of silica (90 to 95 per cent.) that the quantity of fluxes necessary for the process is overwhelming. The question therefore remains what is the best method to save this fine gold and finer silver. This district will probably wait to see the success of the new reduction-works at Karangahake before it settles on what kind of works to erect for itself. In the meantime these new companies will endeavour to crush as much at the Martha Battery as will, at all events, pay working expenses. The distance from these mines to the battery is about a mile and a half. For this distance a line of tramway will require to be constructed.

In regard to the work done and prospects obtained in the various new claims taken up here, the

*Rosemont* have put in two cross-cuts or drives 150ft. and 285ft. respectively, and have driven on reef 200ft., and also done 25 fathoms stoping; and have sunk two winzes, 20ft. and 45ft. respectively. The average width of reef is 15in.

*Union.*—One shaft has been sunk to a depth of 76ft., and a cross-cut made to reef 54ft. Length driven on reef, 42ft.; width of reef, 5ft. 6in. Three tons of ore from this reef were sold to the Smelting-furnace Company at the Thames, and realized £23 10s.; being 3oz. 14dwt. gold = £14 16s.; and 43oz. 10dwt. silver = £8 14s.: total, £23 10s. This company's shaft is near the boundary of the Rosemont Mine; but at a point on the line of lode westward about 340ft. an open cutting has been made, and 15 tons first-class ore taken therefrom, which, when sold, brought £325. A trial of 34 tons of second-class stuff at the Martha Battery gave 54oz. 3dwt. melted gold or bullion. This company have driven a low-level cross-cut, and are now driving and rising on the reef, which in both ends gives good gold prospects, showing also free gold and sulphides of silver in fair abundance.

*Silverton.*—This mine has sunk a shaft some 70ft. on the hanging-wall of a monster reef, showing excellent gold all the way on the face. They have realized already from picked stone £283 15s., and from 8½ tons, smelted at furnace, £235 3s. A low level has been driven, which has proved that valuable stone exists at a considerable distance westward of the shaft.

The following return has been furnished to me by the manager of the Union Mine for 14 tons 10cwt. of ore taken from that mine, and sent for treatment to the Thames furnace :—

—	Gold.		Value.			Silver.		Value.			Total Values.			Furnace Charges.		
	Tons. cwt.	Oz. dwt.	£	s.	d.	Oz. dwt.	£	s.	d.	£	s.	d.	£	s.	d.	
3 6	3 14	14 16 0	43	10	8 14 0	23	10	0	17	13	9					
2 2	9 12	38 8 0	51	9	10 5 9	48	13	9	15	10	6					
9 5	52 2	208 8 0	222	6	44 9 0	252	17	0	54	12	0					
14 13	66 8	261 12 0	317	5	63 8 9	325	0	9	87	16	3					

The cost of water-carriage and cartage of above 14 tons 13cwt. was £45. The above results have been obtained from preliminary opening-works. If these are maintained as the mines are developed, this must become a very important gold- and silver-producing district.

The Nil Desperandum, Yellow Jacket, Winner, Nelson, Amaranth and others are all vigorously prospecting; and, as they are discovering loose stones showing the best indications, I am led to believe they will shortly lead to the further importance of this portion of this field by making valuable discoveries.

#### *Owharoa District.*

The returns from this district have been exceedingly poor, being only 292oz. 6dwt. retorted gold for 1,241 tons of quartz; but a great part of this was from old mullock-tips where the stuff had been formerly thrown away. The grant-in-aid by Government for extending the Smile of Fortune tunnel is, however, expected to cause a revival here, as it will enable a very "hard bar" of country to be penetrated, and the golden country reached which is known to exist beyond it. The heavy expense which must be incurred in cutting through this bar hitherto has prevented the work being undertaken.

#### *Karangahake District.*

Like the Waihi, the failure of the smelting-furnace has had a most disheartening effect on the shareholders of the various mines here, and I have been obliged to forfeit over one-half of these mines for not working, or even trying to prospect their ground. The stone obtained here is in many respects very similar to the Waihi stone, both in appearance and in the quantities of silver and gold obtained. For instance, 5½ tons from the Adeline Mine was sold for £106 10s. per ton, the Rose Mine obtained £103 per ton, and the Diamond £57 per ton.

Inconnection with the Woodstock Mine a complete smelting-furnace has been erected. Everything has now been ready for some months to begin operations, but there is no apparent intention to make a start; and the general impression is, that after the experience had from the same kind of furnace at the Thames they never will start. However, this remains to be seen. If not, it would not be difficult or very expensive to convert the water-power to drive a battery.

This district is labouring under a great disadvantage in not having a proper low-level road through the Waitawhita Gorge as an outlet for its quartz. The hill-road now constructed does very well for enabling miners getting to and from their work; but the transit of quartz costs to the battery about £2 per ton. There are nine or ten companies working under this great disadvantage. The different parcels of quartz sold by these companies to the Furnace Company have ranged in value from £8 16s. to £117. I consider a fair estimate of the quantities of ore at the highest value, about 20 per cent. of the output; the balance, 80 per cent., may be graded downwards to the lowest assay-value mentioned. One thing essential to successful mining is cheap carriage; and, as I have said, a low-level road is necessary for this purpose, to which the mines on both sides of the gorge or valley can connect by means of wire tramways or shoots. The gorge is an exceedingly wild and precipitous one. The first bluff will require a tunnel of 500ft. in length driven through it; so the first cost of this road must be great. The mining companies have, I believe, subscribed some £40 or £50 for the purpose of obtaining a survey and estimate of the cost. The engineer's estimate I understand to be between £4,000 and £5,000; but I think this could be cut down to under £3,000, and yet give a road quite suitable for all present requirements. The ordinary battery-crushing in this district (Karangahake) for the year has been 1,277 tons of quartz, for a return of 1,699oz. 1dwt. retorted gold.

#### *New Districts.*

During the year there have been two new districts opened for gold-mining. The first is called Parawaki, and is situated about six miles north from the Waihi mines, and about four from the east coast. The stone appears to resemble the Waihi stone very much; but, as there are no roads to the place, and the district is a very inaccessible one, a very considerable time must elapse before much work can be done. The second district is nearer to the Thames, and is situated between Tapu and Waiomo Creeks, about three miles back from the beach. This ground was found by two prospectors belonging to Tapu, Messrs. Lawrie and Plummer. The prospects obtained are very rich; but the gold is generally free or loose gold, and the question is, whether

this gold will go down into the solid rock; which ought to be tested within a few weeks. In the meantime a rush has set in, and a quantity of ground has been pegged out on all sides of the prospectors.

The following is the return of quartz crushed and melted gold obtained in Hauraki South and North during the year ending 31st March, 1886:—

	Quartz crushed.				Melted Gold.	
	Tons.	cwt.	qr.	lb.	Oz.	dwt. gr.
Hauraki South—						
April, 1885 .. .. .	2,711	1	1	27	2,955	5 12
May, " .. .. .	3,585	1	3	0	2,472	6 0
June, " .. .. .	3,012	0	1	16	5,972	5 18
July, " .. .. .	3,458	0	3	14	3,213	8 6
August, " .. .. .	3,453	5	3	20	4,520	11 12
September, " .. .. .	2,761	2	2	22	7,114	18 12
October, " .. .. .	3,835	14	2	27	8,027	13 18
November, " .. .. .	3,218	4	0	3	9,567	4 12
December, " .. .. .	3,900	8	1	15	7,129	11 6
January, 1886 .. .. .	1,730	11	1	23	3,496	11 18
February, " .. .. .	2,104	5	0	10	2,731	16 6
March, " .. .. .	2,228	5	2	9	4,338	1 6
	35,998	2	1	18	61,539	14 6
Hauraki North, for twelve months .. .. .	550	8	3	5	3,382	1 0
Grand totals .. .. .	36,548	10	0	23	64,921	15 6

The crushing for the same period for the previous year was 31,495 tons, for 37,705oz. 1dwt. 7gr. melted gold.

I have, &c.,

JAMES M. McLAREN,

Mining Inspector.

The Under-Secretary for Mines, Wellington.

## MARLBOROUGH GOLDFIELDS.

No. 5.

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

SIR,—

Blenheim, 26th April, 1886.

I have the honour to hand you the following report *re* goldfields under my charge:—

### *Queen Charlotte Sound and Ravenscliff.*

Nothing has been done in this district for the past year, as far as gold-mining is concerned, requiring any notice. A company has been formed for working antimony at Endeavour Inlet. This company have honestly carried out their proposed scheme. Smelting-works have been completed, and they may reasonably look forward to a profitable return for the labour and capital so judiciously expended.

On a former occasion I reported the finding of coal in the Queen Charlotte Sound District, and the formation of a company to work the mine. All that can at present be reported about this matter is that the company is still in existence—doubtless much to the regret of the shareholders. The question as to whether or not coal in payable quantities will be found in this district is not by any means settled.

### *Wairau Valley District*

May be considered as part and parcel of the Wakamarina or Pelorus Gold-mining District. The Wairau Valley and the Wakamarina or Pelorus Districts are simply the two sides of one long range of mountains, and the same remarks will apply to both. I therefore report as to the mining operations and future prospects of both districts under the one name, the Marlborough Goldfields.

Unfortunately, my last year's report will exactly suit present circumstances. Nothing of any consequence to report as to present operations, with the exception of two claims. First, the Caledonian Claim, owned by the Ravenscliff Company, under the management of Mr. C. H. Turner, where a portion of the Wakamarina River has been diverted from its natural bed, and the shingle is now being removed down to the bed-rock for the purpose of searching for and obtaining the expected rich deposits of gold. I must say that the work done on this claim merits a rich return. The results are not yet known. The other claim referred to is one on Arthur's Terrace, where certainly creditable work is shown by the owners in their endeavours to follow and work what they believe to be a portion of the old river-bed.

### *Future Prospects.*

My report must be very nearly the same as last year. We have a range of gold-bearing quartz mountains extending for many miles. No difficulty in finding good specimens of gold-bearing quartz in almost every gully and creek on both sides of this range; but the face of this

country is extremely rough, and the hills for the most part covered with dense bush. Not a poor man's diggings, and not to be prospected properly unless one or two bridle-tracks are made across these ranges. If this necessary assistance of bridle-tracks was afforded miners would be able to get about, and probably some experienced practical quartz-reefers—men who were thoroughly acquainted with the work—might think it worth while to come from other reefing districts and spend a few months in making the "first find." Until this is done, or unless some purely accidental "first discovery" is made, the Marlborough Goldfield may be said to exist only in name. I may report that antimony has been found in this district, and very rich specimens of iron-ore have been sent to me from different places on this goldfield.

The Under-Secretary of Mines, Wellington.

I have, &c.,

J. ALLEN, Warden.

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## NELSON GOLDFIELDS.

No. 6.

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

SIR,—

Warden's Office, Collingwood, 4th March, 1886.

I have the honour herewith to transmit statistics pertaining to this goldfield for the past year.

The mining operations generally have shown but little alteration since my last report. The population is about the same, and I believe all are doing fairly well. No fresh ground has been opened, but work has been very steadily pursued in the old localities.

The only machinery at work for gold-mining purposes is at the Johnston's United (old Perseverance). In this claim some good stone has lately been struck, and the machinery, after standing still for some time, has again been set at work.

In the claim known as the "Red Hill," for which a subsidy of pound for pound was granted up to £300 for putting in a low-level drive, the tunnel has been driven 600ft. without striking any auriferous stone. The subsidy is exhausted, but the proprietors are talking of going in some distance further, being sanguine of success.

I am glad to be able to say that the roads to the Goulard Downs, the Heaphy, and the Karamea, for which provision has so frequently been made by Parliament, are now being laid out by a competent surveyor; and there are great hopes that when this country becomes accessible, numbers will be induced to try their fortune on this new ground, which, although long known to be auriferous, has hitherto been too inaccessible to be fairly prospected.

At the West Wanganui quartz reefs little has been done beyond putting in prospecting-drives.

The Takaka sub-district has during the past year found employment for about the same number of men as were at work during the previous year; but within the last few weeks there has been a movement amongst a few men previously working at the sawmills to try their fortune as gold-miners in this locality and also in that leading to the Mount Arthur table-land.

At the Parapara hematite works operations have been resumed under a new proprietary.

The Wallsend Colliery, at Collingwood, has been for some time past turning out an increased quantity of coal, and is now employing about twenty-five men.

The Under-Secretary of Mines, Wellington.

I have, &c.,

WM. GIBBS, Warden.

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No. 7.

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

SIR,—

Warden's Office, Nelson, 22nd April, 1886.

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. I can only report that nothing worthy of notice has occurred in the district under my charge during the year ended the 31st March last.

I have, &c.,

The Under-Secretary of Mines, Wellington.

OSWALD CURTIS, Warden.

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No. 8.

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

SIR,—

Warden's Office, Westport, 4th May, 1886.

I have the honour to furnish the following general report upon mining matters in the Buller Division of the district under my charge.

*Westport Subdivision.*

In alluvial mining there is no change to report. The number of men employed and the yield of gold remain much the same as they have been for several years past. Considerable progress has been made in quartz-mining operations during the past twelve months.

The Great Republic Company at Stoney Creek have completed the erection of a battery of ten stampers, driven by a Pelton water-wheel, and have also connected their Special Claim and machine-site by an aerial tramway, 120 chains in length, passing over exceedingly rough country. This company has reduced 1,065 tons of quartz since the completion of the plant, obtaining therefrom a yield of 1,433oz. of retorted gold. The average number of men employed by the company is about twenty.

The only other lease at Stoney Creek upon which mining operations are being actively prosecuted is the Smile of Fortune Company's. Surface-prospecting and a tunnel 174ft. in length are the principal works executed by this company during the past year.

At Mokihinui the Red Queen Company has been crushing intermittently, the quantity of stone reduced since April, 1885, being 1,005 tons, giving a return of over 1,430oz. of retorted gold. The excessive hardness of the rock in which the reef is imbedded adds enormously to the cost of raising the quartz, and thus militates greatly against the success of the company. The upper level has been extended nearly 200ft. during the year. The number of men employed in this mine varies from twenty to thirty.

The Southern Light Company holds two leases at Mokihinui, upon which extensive prospecting operations have been conducted for some time past. The reef running through the Red Queen Company's ground has been found in the Southern Light leases, and, owing to the softer nature of the surrounding rock, it is more easily worked than in the Red Queen leases.

The South Pacific Company have been prospecting steadily during the past year, and have struck the underlie of the Red Queen Reef, after driving 210ft. through very hard, wet country.

The Nile Company holds a lease of about sixteen acres at Rough and Tumble Creek, in the Mokihinui District. This line of reef has been but recently discovered, and is entirely distinct from what is generally known as the Mokihinui reefs, being several miles distant from them. Four men have been employed in prospecting for some time past, and the shareholders are so satisfied with results that they are taking steps to secure the erection of crushing-plant upon their lease.

There are several other companies holding gold-mining leases at the Mokihinui reefs and at Rough and Tumble Creek; but very little work has been done by any of them since the date of my last report. There is no doubt a low-level tunnel would be a great benefit to the Mokihinui District, not only as a means of testing the lower levels, but also because it would offer superior facilities for working known quartz-reefs which cannot now be worked owing to the impossibility of bringing the machinery and quartz together.

A company has been recently formed for the purpose of working the gold-bearing alluvium in the large swampy waste known as the Fairdown. In former years these flats were occasionally worked by small parties, and fair returns were sometimes obtained; but, having no systematic method of working, and not sufficient means to procure the necessary pumping-gear, they were compelled to desist owing to the accumulation of water. The company have applied for a special claim of a hundred acres, and have also secured an important water-right. By a system of hydraulic pressure the company propose to elevate wash-dirt, *débris*, &c., sufficiently high to enable them to dispense with deep tail-races and other expensive modes of disposing of tailings and drainage-water. Should this venture prove successful, there is no doubt that a considerable area of untried ground in the same locality would be taken up and worked successfully. I therefore think that this company is entitled to the favourable consideration of the Government, more particularly with regard to their application for a special claim at a low rental.

The Westport Harbour Board have recently completed a railway from the Buller River to Cape Foulwind, and stone is now being brought down for the construction of the western wall. The Mokihinui Coal Company have constructed about a mile and a half of railway to connect their mine with staiths which they have erected at the Mokihinui River, the navigation of which has been improved by the removal of the inner bar. Great improvements have been effected in the Town of Westport since the inauguration of the local harbour works. Building has been actively progressing, new streets have been formed, sections are being cleared, and gas-works are being erected by the borough authorities.

#### *Charleston Sub-district.*

Nothing of special importance has transpired during the past year, and mining matters remain much as they were when I last reported. There has been a slight decrease of population, but the yield of gold still continues to afford remunerative wages to the men employed.

The Argyle Water-race has been extended about a mile, and tenders are now being called for the construction of the remaining half-mile required to complete the race to the end of the Back Lead. When this has been done a considerable area of auriferous ground will be made available for sluicing operations.

#### *Croninville.*

The legal difficulty which has so greatly retarded progress in this locality has now been removed by the resumption of riparian lands, for which a sum of £500 was paid as compensation. Holders of claims who were previously under injunction restraining them from working have

been continuously employed since the resumption, and many of them are receiving handsome returns for their outlay.

*Lyell Sub-district.*

A marked improvement is noticeable in reefing matters at Lyell since my last report.

The principal mine, the United Alpine Company's, having completed Level No. 6, crushing operations have been proceeding steadily for the last eight or nine months, during which time £17,000 have been distributed amongst the shareholders in regular monthly dividends.

The Tyrconnell Company (a leader-claim) had a crushing of 46½ tons of stone, which yielded 685oz. of retorted gold, and enabled the company to pay a dividend of 1s. 6d. per share.

A crushing of 66 tons of quartz from the Maruia lease yielded 193½oz. of gold, a result which is believed to be highly payable.

The Lyell Creek Extended Company's tunnel has been driven 1,470ft. The country is very hard, and a considerable distance remains to be driven before the Alpine reef can be intercepted. I consider this a most important work, and one which deserves the most favourable consideration of the Government, and I trust the company will receive substantial assistance by way of subsidy to enable them to complete a very expensive undertaking, which may lead to great results, beneficial not only to the district, but also to the colony at large.

A portion of the United Italy lease is let on tribute, and the remainder is being worked by the company.

The New South Wales Company have suspended operations, owing to the refusal of the Government to reduce their rent, and it is doubtful whether they will proceed with the undertaking.

Very little is being done on other quartz leases, of which a considerable number is held. A company has been formed and registered for the purpose of prospecting for alluvial deposits underneath an extensive tract of country near Lyell known as Manuka Flat. Fair progress has been made, and a tunnel has been driven about 400ft.; but the company's operations have been somewhat retarded owing to the promised subsidy from the Government not having been received. The undertaking is a very praiseworthy one, and, if successful, will be of immense benefit to the district, and afford employment to a large number of miners.

I have recently visited the Owen reefs, and from what I saw and heard I believe a large reefing district will soon be developed in that locality. My time was rather short, but when there I made a hurried inspection of several of the leases—viz., the Bulmer Creek Extended, Una, Wakatu, Golden Crown, and Enterprise. On the first two mentioned, a considerable amount of work has been done, the Bulmer Creek Company having various tunnels and cross-cuts, amounting in the aggregate to something like 650ft. There is a well-defined reef about 4ft. 6in. thick, which is believed by the prospectors, Messrs. Bulmer and Ellery, to be payable. I was shown a prospect which I consider very satisfactory. This company has about 80 tons of stone ready for crushing. From each of the other leases mentioned some quartz was obtained, and crushed with some very good results.

The Una and Wakatu Companies have also done a considerable amount of prospecting, and have upwards of 140 tons of stone waiting for the erection of machinery to test its qualities. The prospector and one of the principal shareholders in this lease (and, in fact, in all of them with the exception of the Bulmer Creek), Mr. Matthew Byrne, estimates the yield of gold at 10dwt. per ton; but from the prospects tried in my presence I should expect it to far exceed this amount.

On the Golden Crown and Enterprise leases very little prospecting has been done, but the reef crops out in many places, and gold was obtained from every point tested.

There are altogether thirteen leases applied for near and adjoining the ones named; but, as I understand Mr. Wright, the Government surveyor, is going to report fully on the matter, I refrain from saying anything regarding the leases. I had no opportunity of inspecting, but I must give it as my unbiassed opinion that a large and payable goldfield will ere long be opened up in this locality; and I hope the prospectors, Messrs. Byrne and Bulmer, will be handsomely repaid for all the hardships they have undergone and the indefatigable energy displayed by them in endeavouring to open up a goldfield in such an inaccessible country as the head-waters of the Owen River. Some time must elapse before machinery can be put on the ground, as a road about ten miles in length has first to be constructed. I believe the survey is now completed; and it is to be hoped the work will be put in hand at once, and pushed forward as rapidly as possible. I was informed by the manager of the Una Company he expected to have the machinery on the ground and the battery in working order by February next; but I can scarcely think it possible for them to do so in that time, but I hope when the next annual report is compiled to be able to state that the Owen District is flourishing, and a battery in full work. On my return I visited Murchison and held the ordinary Court; but in this neighbourhood, and the upper Buller generally, no change has taken place during the past year, and I am afraid the majority of the miners have to be contented with small wages.

*Goldfields Tracks, &c.*—A good deal has been done during the year by Government and the Buller County to give access to the back-country. In most cases, however, the work done has been only an instalment of what is required to open up the country between Lyell,



Mokihinui, and Karamea. A track about two miles in length is now under construction from the Denniston Plateau to Cedar Creek, near Mount William. A small rush took place to this locality a few months ago. At one time there were about thirty men on the ground, some of whom made considerably more than wages; but the majority were not successful in discovering payable ground, and there are now only about twelve men at work there. Gold has also been found at Mackley's Creek, in the same neighbourhood, during the past year; but only one or two parties obtained it in remunerative quantities. The track up the Mokihinui River has been extended as far as Specimen Creek and up Rough and Tumble Creek for three and a half miles. At the Lyell end of the proposed road to Mokihinui about two miles have been completed. It is eminently desirable that this track should be completed without undue delay; and the same may be said of the tracks between Mokihinui, Karamea, and Collingwood, as they will afford facilities for exploring and prospecting a district about which scarcely anything is yet known except that it is bounded on all sides by well-timbered country, known to abound in minerals of various kinds.

*Population.*—There has been a steady increase of population at Westport and the surrounding districts of late. I estimate that the borough and the ridings of Wareatea and Karamea contain about 3,700 inhabitants. At Charleston there has been a slight decrease, and I do not think the population now exceeds 700. It is difficult to arrive at an approximate estimate of the population in the extensive districts of Lyell and Murchison, as the inhabitants are scattered over a wide area of country, of which many parts are very difficult of access; but I think the population must now be fully a thousand.

*Gold-mining Leases.*—During the period covered by this report gold-mining leases have been dealt with as follows: At Westport—applied for, 17; granted, 8; cancelled, 7. At Lyell—applied for, 8; granted, 10; cancelled, 7. At Murchison—applied for, 8; cancelled, 3. At Charleston—granted, 1.

The usual statistical tables, furnishing full information with regard to matters not referred to in this report, are transmitted herewith. In conclusion, I am pleased to be able to state that the prospects of the districts under my charge have greatly improved since the date of my last report, and present indications fully warrant the belief that the improvement will continue, and lead to a more prosperous era in mining generally.

I have, &c.,

FRANK BIRD, Warden.

TABLE showing the Number of Registered Mining Companies and the Total Amount of Capital paid up, together with the Amount of Calls made and Dividends declared, the Quantity of Quartz crushed, and the Yield of Gold therefrom, in the Nelson South-west Gold-mining District from the 1st April, 1885, to the 31st March, 1886:—

Name of Company.	Total Amount of Capital paid up.			Calls made.			Dividends declared.			Quantity of Quartz crushed.		Yield.	
	£	s.	d.	£	s.	d.	£	s.	d.	Tons.	Oz.		
Great Republic Company .. ..	26,916	13	4	2,216	13	4	1,900	0	0	1,065		1,434	
Red Queen Company .. ..	28,500	0	0	400	0	0	1,200	0	0	1,005		1,431	
Guiding Star Company .. ..	2,800	0	0	..	..	..	..	..	..	..	..	..	..
Mokihinui Company .. ..	14,350	0	0	500	0	0	..	..	..	30		18	
Golden Crown Company .. ..	13,000	0	0	..	..	..	..	..	..	..	..	..	..
Nile Company .. ..	12,200	0	0	200	0	0	..	..	..	..	..	..	..
Constitutional Company .. ..	12,100	0	0	..	..	..	..	..	..	..	..	..	..
Buller Company .. ..	12,100	0	0	100	0	0	..	..	..	..	..	..	..
Wellesley Company .. ..	12,200	0	0	200	0	0	..	..	..	..	..	..	..
Southern Light Company .. ..	12,500	0	0	350	0	0	..	..	..	..	..	..	..
Mokihinui Morning Star Company .. ..	12,300	0	0	..	..	..	..	..	..	..	..	..	..
South Pacific Company .. ..	18,122	0	0	286	0	0	..	..	..	..	..	..	..
Smile of Fortune Company .. ..	12,000	0	0	500	0	0	..	..	..	..	..	..	..
Fairdown Company .. ..	2,500	0	0	125	0	0	..	..	..	..	..	..	..
Totals .. ..	165,588	13	4	4,877	13	4	3,100	0	0	2,100		2,883	

No. 9.

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

SIR,—

Warden's Office, Reefton, 3rd May, 1886.

I have the honour to forward herewith the statistical returns for the year ended 31st March, 1886, and also to report generally on the Inangahua District for the same period.

I much regret that the past year has by no means been a successful one, owing to various causes, not the least being the exceptional drought, which threw the district back many months, and caused an enforced idleness in many of the mines. The calls made were somewhat smaller than the previous year, amounting to £24,565 2s. 1d. The dividends amounted to £14,500, and were paid by one company—viz., the Keep It Dark Quartz-mining Company. The quantity

of stone crushed was 27,198 tons, which yielded 14,591oz. of gold, valued at £56,622 9s. The yield of alluvial gold is much the same as the previous year—viz., 4,650oz., valued at £17,650. Thus the value of the output of gold of this district for the year amounts to £74,272 9s. Although these figures are not altogether satisfactory, yet it must be borne in mind that a great amount of dead work has been done in many mines; and, as this is now drawing to completion, the field will soon be reaping the benefit. The mines, generally at the present time are showing a marked improvement, particularly in the Boatman's district; and, in order to give you an idea of this, I will now furnish you with a short account of the operations of some of the principal mines.

*Welcome.*—On the completion of the sinking of the main shaft, steps were taken to open up No. 8 level, which, owing to an accident to the machinery and the delay in effecting repairs, occupied until the end of last year, since which time they have been stoping stone and connecting with the winzes for air. It is thought that sufficient ground is now opened up to keep the battery employed for eighteen months to two years. It is proposed to sink the main shaft about 150ft. further, so that the next level will be ready by the time the present level is exhausted, which is certainly a step in the right direction. From a recent crushing it is proved that the stone on this level will be highly remunerative, and regular dividends may be expected when once the mine is placed in proper working order.

*Fleury Cross.*—Very extensive operations have been carried on in this company's mine during the year with the view of opening up a new level, and these may now be said to be completed, and certainly with very satisfactory results. Two winzes have been sunk from the 450-foot level to a depth of 135ft. These winzes are 200ft. apart, and are now connected at the bottom by a main level; so that an extensive block of stone is now opened up and ready for stoping out. It is a matter for general congratulation that the reef at this level—which is one of the deepest workings in the field, being 585ft. from the surface—is of very superior quality, and shows marked improvement, both in this respect and in permanence, on anything discovered at shallower levels. The reef averages 3ft. in width, and is in many parts 4ft. wide and over. The stone is of good quality, a recent crushing yielding at the rate of 36dwts. per ton; as the mine is well opened, the current year is expected to be a prosperous one for this company.

*Just in Time.*—During the year 250ft. of main level has been driven, and 110ft. of up-rise constructed. The connection between the upper and lower workings is now complete, and quartz is being taken out for crushing. The reef when struck was about 6ft. wide, with a fair show of gold. A portion of the upper workings have been let on tribute, and some exceptionally rich quartz obtained therefrom, 47 tons yielding 163oz. of gold. There are five tributers at work, and they have averaged over £4 per week, inclusive of a shoot and other connections which they had to make.

*Reform.*—This company has driven from the level of the bottom of the Just in Time shaft, a distance of about 500ft. in a southerly direction, and to the previously-unexplored portion of the mine. The company has been successful in striking a reef averaging about 3ft. thick. The reef has been driven on a distance of over 100ft., and the stone is reported to be of good quality. The drive is still being carried south on the reef, and its further extension will be of service, not only to this company, but to other companies in defining the line of reef south of Boatman's Creek, where no permanent reef has hitherto been traced to any depth, although surface-indications on the line are good. The company will start to stope on the reef shortly, and, as they have 200ft. overhead to the surface, a large quantity of quartz may be expected to be broken out and crushed during the year. As the company is out of debt, and should the stone yield anything like what is expected of it, there should soon be returns from this mine.

*Eureka.*—This company, not being successful in striking the Welcome reef, has applied for and obtained twelve months' protection.

*Lone Star.*—This lease is situated on the watershed between Boatman's and the left-hand branch of the Inangahua River. A reef was discovered in this ground. The reef, which has been driven on about 20ft., is about 2ft. thick, showing gold freely. Indeed, it is reported that it would yield at least 3oz. per ton. This lease is being watched with a considerable amount of interest, as it is considerably to the south of any other workings in Boatman's, and the proving of a good lode in this locality would tend to open up a good extent of country.

In the Murray Creek portion of the district the centre of attraction has been the Venus Company. This is one of the old companies. The first level yielded 2s. in dividends, and the company crushed their stone at the Golden Fleece battery. A winze was sunk 48ft. from No. 1 level, when that work had to be stopped owing to a large body of water being met with. Another level was then started 168ft. below No. 1, and this was driven a distance of 775ft., which, from the underlie of the reef in the winze, was considered far enough to strike the reef if it "lived down." The reef not being found, operations were suspended. In July last another winze 48ft. north of the first was sunk from No. 1 level to a depth of 74ft. A fresh survey of the mine was then made, and it was found that, from the underlie of the reef in the second winze, No. 2 level was not far enough in by 25ft. Work was resumed in No. 2 level, and the reef was struck in 23ft. The reef was driven on a distance of 150ft., and the winze connected with the level by an uprise of 119ft., thus giving 193ft. of backs. Having thus proved the mine, the company purchased the crushing-plant of the Energetic Company,

and erected an aerial tramway for the conveyance of the stone from the mine to the battery. Up to the end of March the company crushed 618 tons of stone, yielding from the top-plates alone 453oz. The crushing, which has been completed since March, has yielded 17dwt. per ton, enabling the company to pay off all liabilities and declare a dividend of 6d. per scrip. It is proposed to start sinking a winze immediately from No. 2 level, in order to prove the ground as far as possible. There is six or eight months' work on the present level.

*Inglewood.*—This company have opened during the year a new level, giving 157ft. of backs up to the previous level, from which the present level is being worked from the shaft by a horse and whip. This mode of working is found to be tedious. It is contemplated opening the mine at a lower level by putting in a tunnel at a level with the battery. The tunnel, which will be over 1,000ft. long, will be a costly undertaking; but, as compensation for this the heavy cost of winding, and the frequent handling of quartz in delivering it at the battery, which runs away with so much money, will be avoided. The tunnel will also be of service to other companies in the vicinity in opening their mines at a greater depth.

*Keep It Dark.*—This company has kept up crushing operations throughout the year, the amount of stone put through the battery being 10,075 tons, yielding 6,158oz. of gold, valued at £23,856 2s. 4d., out of which a sum of £14,500 has been disbursed in dividends. In order to prove the mine as far as possible a winze was sunk on the reef to a depth of about 100ft. below the present level. A good width of stone was carried down and left at the foot of the winze. It was then decided to take steps for the opening of a new level, and for that purpose the sinking of the main shaft was continued, and was, at the end of March, carried down 70ft. It is expected that the new level will be in good working order before the present level is exhausted.

*Wealth of Nations.*—The erection of winding-gear is nearing completion. When this work is finished the sinking of the main shaft will be continued. A level will then be opened to work the stone discovered in driving the main tunnel, and which was prospected to some extent. As the company have a splendid battery close at hand, and driven by water-power, the cost of raising and crushing stone should be small. It is therefore quite likely that the mine will during the next twelve months be again made a payable one.

*Nil Desperandum.*—This mine is in close proximity to the Keep It Dark. During the year the company have erected a winding-wheel. This will enable them to raise the stone more expeditiously and cheaply than before. The mine is now being baled out preparatory to working the reef, which has already been proved to be of a payable character. A tramway will be laid from this mine to the Wealth of Nations battery shortly, when crushing operations will be commenced.

*No. 2 South Keep It Dark.*—The line of reef was driven on from the outcrop a distance of 450ft. Stone was cut in 400ft., and the reef was followed some 50ft. or 60ft. An uprise of 30ft. was put in to the surface. A shaft was then sunk for 50ft. The stone, however, being broken, it was decided to sink a winze on the stone where it was struck in the tunnel. This winze has been sunk some 13ft., and good stone is being obtained.

In the Rainy Creek and Devil's Creek Districts the operations for the year have not been attended with the success that such enterprise deserved. The Inkerman Company crushed 11,100 tons of stone during the year, obtaining therefrom 2,775oz. of gold, which, had the company started free of liability, would have enabled them to declare regular dividends. The block of stone from which the crushings have been taken has been worked 360ft. from the surface, and has now run out. Prospecting is now being carried on in the hope of again picking up the stone.

*Globe.*—This company has been very unfortunate. After sinking winzes on stone that was thought at the time to be payable, expensive winding-machinery was erected. A crushing was taken out, and it proved a failure. Prospecting is now being carried on with a hope of picking up better stone.

In the Big River District the Big River Company have opened their mine sufficient, in the opinion of the directors, to warrant the erection of a battery. The company purchased at a low figure the Golden Point battery, which has been taken down and is now being conveyed to the Big River. The company hold a special claim of a large area. The mine is about twenty miles from Reefton, and the workings are the furthest south of Reefton and in a hitherto untried district. Should this company be successful it will open up a large extent of new ground.

The past year, it must be conceded, is one of the worst the district has ever seen. On the other hand, it is the general impression that the prospects of the current year are brighter than they have been for many years. Indeed, it is anticipated that the quantity of stone crushed, the yield, and the dividends, will equal, if not exceed, any previous year in the history of the field.

A number of leases have been cancelled during the year for non-payment of rent, &c., only those being left that are likely to carry on operations. The letting of the old workings of some of the mines to parties of tributers has found much favour. This has been done in the Hopeful, Just in Time, and Fiery Cross claims, and the result has been that the tributers have made good wages, and fair returns have been received by the companies. It is found that small bodies of men can obtain remunerative employment in this manner, and pay a fair percentage of the gold obtained to the company from stone which it would not pay the company to raise.

I sincerely trust that when next I report upon this district I shall be able to record the realization of the hopes entertained of the success of the field during the current year.

I have, &c.,

The Under-Secretary of Mines, Wellington.

FRANK BIRD, Warden.

TABLE showing the Number of Registered Companies and the Total Amount of Capital paid up, together with the Amount of Calls made and Dividends declared, the Quantity of Quartz crushed, and the Yield of Gold therefrom, in the Inangahua District, from the 1st April, 1885, to the 31st March, 1886.

Name of Company.	Total Amount of Capital paid up.			Calls made.		Dividends Declared.	Quantity of Quartz Crushed.	Yield.	
	£	s.	d.	£	s.				d.
Fiery Cross Extended Quartz-mining Company (Limited)	7,400	0	0	1,800	0	0	532	504	
Golden Fleece United Quartz-mining Company (Limited)	10,000	0	0	2,800	0	0	420	252	
Energetic Extended Quartz-mining Company (Limited)	4,500	0	0	600	0	0	..	..	
Wealth of Nations Extended Quartz-mining Company (Limited)	5,281	5	0	1,218	15	0	340	201	
Reform Gold-mining Company .. .. .	1,200	0	0	700	0	0	109	107	
Inglewood Extended Quartz-mining Company (Limited)	3,500	0	0	900	0	0	1,200	824	
Golden Point Gold-mining Company (Limited) ..	7,000	0	0	..	..	..	..	..	
Dauntless Extended Quartz-mining Company (Limited)	3,000	0	0	..	..	..	..	..	
Eureka Extended Quartz-mining Company (Limited) ..	18,600	0	0	1,400	0	0	..	..	
Globe Gold-mining Company .. .. .	12,975	0	0	2,475	0	0	850	171	
Keep It Dark Quartz-mining Company (Limited)	12,625	0	0	..	..	14,500	10,075	6,158	
Rainy Creek Quartz-mining Company (Limited) ..	6,600	0	0	400	0	0	..	..	
Welcome Gold-mining Company (Limited) ..	3,750	0	0	..	..	..	1,345	2,340	
Phoenix Extended Quartz-mining Company (Limited) ..	5,400	0	0	600	0	0	155	100	
Occidental Quartz-mining Company (Limited) ..	1,300	0	0	250	0	0	..	..	
Big River Extended Quartz-mining Company (Limited)	3,550	0	0	1,400	0	0	..	..	
Oriental Quartz-mining Company (Limited) ..	8,550	0	0	600	0	0	..	..	
Specimen Hill Extended Quartz-mining Company (Limited)	5,500	0	0	1,500	0	0	..	..	
Hopeful Extended Quartz-mining Company (Limited) ..	2,010	18	9	154	13	9	157	308	
Lord Edward Quartz-mining Company (Limited) ..	250	0	0	100	0	0	..	..	
Golden Treasure Gold-mining Company (Limited) ..	12,800	0	0	800	0	0	250	235	
Happy Valley Gold-mining Company (Limited) ..	1,050	0	0	750	0	0	..	..	
No. 2 South Keep It Dark Quartz-mining Company (Limited)	700	0	0	400	0	0	..	..	
Result Gold-mining Company (Limited) .. .. .	3,300	0	0	400	0	0	..	..	
Nil Desperandum Quartz-mining Company (Limited) ..	6,995	16	8	1,150	0	0	..	..	
Eclipse Quartz-mining Company (Limited) .. ..	350	0	0	100	0	0	..	..	
Venus Extended Quartz-mining Company .. .. .	900	0	0	900	0	0	618	453*	
Homeward Bound Extended Quartz-mining Company (Limited)	1,800	0	0	900	0	0	..	..	
Bannockburn Quartz-mining Company (Limited) ..	136	0	0	..	..	..	..	..	
Great Eastern Quartz-mining Company (Limited) ..	1,150	0	0	..	..	..	..	..	
Inkerman Quartz-mining Company (Limited) .. ..	11,083	6	8	..	..	..	11,100	2,775	
Just In Time Gold-mining Company (Limited) .. ..	13,762	0	0	1,166	13	4	47	163	
Inangahua Low-level Tunnel Gold-mining Company (Limited)	3,600	0	0	800	0	0	..	..	
Walhalla Extended Quartz-mining Company (Limited)	1,100	0	0	100	0	0	..	..	
South Hopeful Quartz-mining Company (Limited) ..	2,300	0	0	200	0	0	..	..	
Totals .. .. .	184,019	7	1	24,565	2	1	14,500	27,198	14,591

\* From top-plates only.

## WESTLAND GOLDFIELDS.

### No. 10.

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

SIR,—

Warden's Office, Greymouth, 5th May, 1886.

I have the honour to report as follows on the condition and progress of the mining districts under my charge :—

*Barrytown and North Beach.*—About the same number of miners as during last year have found steady employment between Cobden and Razorback. No new finds have been reported, and I principally judge of the work done by the applications for mining privileges made and dealt with. The new track from Barrytown to Razorback has not yet resulted in the development of new ground. The beach is sparsely occupied between Point Elizabeth and the Seventeen Mile, and the miners' earnings appear to have been steady. Mr. Ryall, as my agent, continues to issue forms and take applications for privileges, &c., and to attend the sittings of the Warden's Court at Greymouth, and appears in support of unopposed applications; thus saving much inconvenience to miners at such a distance as Barrytown and its neighbourhood.

*Paroa and South Beach.*—This locality consists entirely of old worked ground; but amongst the old claims many miners derive remunerative employment, sluicing overlooked or neglected portions of the old workings. Following from the New River towards Marsden, at a

place long known as Cameron's Flat, about thirty to forty miners have found payable ground, the deposits being in deep ground and worked through tunnels.

*Marsden.*—The new ground I reported on last year in this district has been set into, but the dead work is very slowly progressing. The tunnels are very lengthy, but the work progresses and the owners are hopeful, and I have reason to believe the results will be satisfactory and soon ascertained.

*Irishman's* is the name under which this locality is known. It is within a short distance of Marsden. A number of extended claims have been applied for. They are held by men determined to give the place a thorough trial; and the "prospects" obtained by the pioneer claim were sufficient to induce the present claim-holders to persevere.

*Dunganville.*—It is from this office that the affairs of the locality above noted are dealt with. Around Dunganville proper mining matters remain as last year—nothing has occurred deserving of remark.

*Arnold.*—In this sub-district a small rush took place in December. Between Arnold and the Stillwater Bridge, on the Grey Valley main road, a number of claims have been taken up and are continuing to be worked. The sinking is shallow at present—between 5ft. and 7ft.—but the ground is very wet, and working in consequence expensive. The classes of claims are double-area and extended. This ground has been prospected and occupied in early time, and deserted then for richer portions of the district.

The New Zealand Steam Sluicing Company (Victoria) have now on their claim (a special claim of the bed of the creek running through the Arnold diggings) a valuable plant, and now in full working order. The prospects of the deep ground have been found to be very rich, but the working is very expensive—the pumps have to be kept going night and day, and the fuel (coal) has to be carted from Brunnerton. The bottom has not yet been reached, and the results will have to be handsome to repay the large outlay and to induce other parties to follow in their wake.

*No Town.*—In this sub-district mining matters have not made any change. I consider the population has not lessened, and about the same number of miners as during last year are making small but steady returns.

*Ahaura.*—In this sub-district there has been little change, no diminution of population, and a great deal of work done by the principal sluicing-claims. At German Gully, the Brian Boru Company washed up at Christmas, and the shareholders divided a large parcel of gold; which, however, on deduction of working expenses and cost of the heavy dead work, which had to be done, left but a small balance as the net proceeds of nearly two years' work. Since then they have brought up a large tail-race, and from this time they can go to work with comparatively small working expenses. In the old Hochstetter claim, in the same locality, sluicing has been carried on on a large scale, and the preliminary work has been costly in labour and money.

*Orwell Creek.*—The Napoleon Hill and the Waimate are the leading claims. They have been in full work, and very successful.

*Nelson Creek.*—The Band of Hope has sunk a large sum of money developing their claim, and by this time should be reaping the fruits of their enterprise; but a miscalculation or bad judgment in selection of their machinery which is intended to raise their wash-dirt to the surface has brought them to a standstill. The plant in use is of an obsolete kind; and it is to be regretted they did not go further afield and gain by the experience of our Australian neighbours before committing themselves to the purchase of machinery that has exhausted their capital without advancing their work at all. In fact, all has to be done again. Mr. Roche, of this place, has again started another hydraulic sluicing-claim, higher up Nelson Creek than the former; and, I have heard, with success. A slight rush took place here last November, on the success attending the efforts of Sinnett and party at the foot of Try Again Terrace, on Nelson Creek. A number of claims have been taken up; but the work is costly, and the returns should be large to be profitable.

*Greenstone.*—There is no change in this sub-district worthy of mention. At Duke Terrace two parties have been working some time, and are apparently satisfied with their earnings, to judge by the determined spirit they urged and resisted litigation in the Warden's Court and Appeal Court over portions of the ground claimed by them. The population is about the same, and the workings as last year. No fresh ground opened.

I have forwarded, under another cover, the statistical returns called for; and the figures shown there evidence no falling-off in the past year compared with the preceding.

I have, &c.,

The Under-Secretary of Mines, Wellington.

JACKSON KEDDELL, Warden.

## No. 11.

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

SIR,—

Hokitika, 15th April, 1886.

With the usual goldfields statistics and returns I have the honour also to report as follows upon the state of this district:—

*Kumara.*

This sub-district presents no new feature requiring particular comment. Work has been steadily continued except when want of water has compelled its cessation; and the general prosperity of the place has been fully up to or above the average of alluvial goldfields in the colony.

The construction of the No. 2 or relief-channel to the main tail-race, known as the sludge-channel, is progressing, and the work, when completed, will doubtless prove of sensible advantage to the claims which have so long been overcrowding the main channel with their tailings. It is worthy of notice, however, that, whatever the deficiencies of the channel may be, there has been of late none of that public agitation on the subject which used to be so incessant. The miners have probably discovered that agitation will not alter the physical laws of gravitation and hydrostatics, and have found out some tolerable mode of making the best of the existing state of things.

I learn from the newspapers that the Government is making proposals to the local bodies that they should take over the management of the water-races and channels of the district. This course, so far as regards the Kumara Sludge-channel, was recommended by Mr. Gordon and myself some time ago; and I am glad to see it revived, and hope the proposal may have effect. I think it right to say here that another reason in favour of the transfer of such property to other hands is to be found in the liability of the Government to actions for damages, and the difficulty of finding an impartial tribunal in assessors selected from the locality, who are apt to hold the balance not very evenly between their own friends and acquaintances and the public treasury. An instance of this occurred last October, when an action for damages was brought in the Warden's Court at Kumara by Sellars and party against the Government. The complainants had, in my opinion, no case in law against the Government, or, at least, only a case for the value of a few boxes damaged; yet the assessors, in face of the ruling of the Court, found a verdict for £264 damages—a decision which had neither law nor justice in its favour. I am sorry to have to refer to this subject, but I feel it to be a duty, in making a general report of this kind, to make a plain and deliberate statement on the subject.

*Waiuea.*

The diggings about Goldsborough present no marked change of any kind, and demand no special mention. In my last report I mentioned a falling-off in the Court and office business at Stafford. This was partly caused by dry weather; but the business still remains small, so far as the number of cases and applications is concerned. But with regard to the magnitude and importance of the mining operations in this sub-district there is marked improvement, and indication of still better prospects in the near future.

The Kelly's Terrace Company, after bringing up their drainage-tunnel to their claim, have struck, immediately within their boundary, highly-payable wash, adjoining and 3ft. below the tunnel. The mining-manager states that a load and a half of wash-dirt gave 17½dwt. of gold. This lead is considered to be quite distinct from those which were before known or believed to exist on Kelly's Terrace; and it is the intention of the company to continue driving so as to intercept and examine the different layers. For the present, however, these operations are suspended by reason of the collapse of a portion of the tunnel, which makes a deviation necessary before work can be resumed.

Adjoining and below the Kelly's Terrace claim, a special claim of twenty-eight acres has been granted to Murphy and party, who have erected a large water-wheel, and intend to work the ground on an open face with a turbine and winding-gear. They are sanguine of getting good results in this ground, which has been practically abandoned for years.

The ventures above described hold out a good prospect of a considerable expansion of digging operations in this old district, to which it would be rash at present to assign a limit.

*Hokitika.*

The Humphrey's Gully Company is now fairly at work, and the results obtained would, I suppose, be thought very good for any claim upon which no such very heavy expenditure has been incurred as has been the case in the present instance to get the claim into working order. The works constructed by this company are all of the most solid and durable character, and the company's engineer believes that little or no repairs to them will be required for the next ten years. In order to make all these works and the plant of the company fully available, and to get the utmost profit out of the large expenditure already incurred, it will be necessary to extend the race so as to tap new sources of water-supply, and to have more faces simultaneously undergoing sluicing operations. As these works are gradually completed, there is good reason to hope that the profits of the company will bear an increasing proportion to the expenditure, and that this important claim, which, from the solidity of its works and the magnitude of its operations, is already an object of admiration to visitors, will in the future adequately repay the enterprise and outlay which the shareholders have bestowed upon it. The attention of the engineer has been directed to the loss of fine gold which is apt to occur in sluicing upon so large a scale, and he has devised means of obviating this loss which appear to have been to a great extent successful.

*Kanieri.*

There is nothing particular to record in the progress of this district during the past year. Some increase of activity seems to have been displayed in the diggings near the branches of the Kanieri River, above the junction; but there is nothing very definite to report. The coal-prospecting association is pursuing its investigations at Mount Camelback, and there seems at present some reason for hoping that they may ere long succeed in striking a payable seam. The Rimu diggings continue pretty steady, and I believe there is a good deal of ground there which is considered by the diggers to be capable of affording a living when there is nothing better to be done.

*Totara.*

In my last report I was obliged to give a very discouraging account of the state of gold-mining operations in this sub-district. The failure of the Ross United Gold-mining Company to discover the rich gold supposed to exist in the deeper strata, and the sudden stoppage of the pumping and driving, looked almost like the collapse of Ross as a digging centre. The falling-off of business, of population, and of revenue arising from this cause was serious in amount, and the effects of it still continue; but I am glad to be able to report that the causes of discouragement and depression have in great measure passed away, and that hopes of a better future than could have been indulged a year ago are now reasonably entertained upon tangible grounds. The Ross United Company, having in November last resumed pumping and driving on Guardian Flat, were, about the end of February, successful in finding highly-payable wash, workable from the seventh bottom of the deep workings. This wash turns out to be not only rich, but extensive, and is believed to be identical with the old Cassius layer. The directors estimate its quality as likely to average  $3\frac{1}{2}$  oz. or 4 oz. to the ordinary set of timber. This success, although late, is eminently satisfactory, and will, at all events, prevent that collapse of digging enterprise which a short time ago seemed imminent.

The Elevator Claim, on Jones's Flat, has been the subject of litigation with the Borough Council in connection with the deposit of tailings, and work has been consequently hindered. It is contemplated to make arrangements for getting this claim worked on tribute.

The Prince of Wales Claim is in working order, and seems to want nothing but a good water-supply to insure its success.

The Donnelly's Creek Company has ceased operations since an adverse decision was given in the Warden's Court in an action brought by the company against the Ross United Company on account of the deposit of tailings from the Elevator Claim in Donnelly's Creek. I am afraid this undertaking must be pronounced a failure.

Of the claims or leases at the Cedar Creek reefs the only one on which any work is being done is the William Tell Company's lease, where, I believe, two men are engaged in prospecting. There are also four men employed in driving the drainage-tunnel for these reefs—a work subsidized jointly by the Government and the County Council.

The mining industry in the neighbourhood of Ross still suffers from the want of an adequate water-supply, a difficulty which small parties of miners cannot very readily overcome. It is unfortunate that no effective remedy for this state of things has been devised except the heavy and expensive work of bringing in water from the Mikonui River.

*Schools of Mines.*

The interest in metallurgic chemistry excited by Professor Black's visit, which was mentioned in my last yearly report, has been kept alive to a much greater extent than could have been expected in the absence of any skilled person whose business it was to guide the studies of learners.

At Kumara a chemistry class has been kept steadily on foot, mainly by the efforts of Dr. Davy, who to his professional qualifications adds an unusual acquaintance with natural and physical science, and who has given much time and trouble to the work of not merely lecturing to, but practically teaching, those who have attended his lessons.

Classes have also been formed at Hokitika, Rimu, and Ross. The Hokitika class has been mainly dependent on the efforts of amateurs, foremost amongst whom must be mentioned Mr. Purkiss, who has with great success given a course of elementary lectures, with experiments, under difficulties which nothing but an unusual combination of zeal and ability would have enabled him to surmount.

The visit of Mr. MacLymont, although short, has been of signal service and effectual help to those who were really interested in the subject; and I cannot lose this opportunity of congratulating the University of Otago on the credit it must derive from the attainments of a gentleman who has so well known how to avail himself of the science-teachings of that institution, and has so early acquired a mastery of the complex science of modern chemistry. It is to be hoped that the classes which he has started or assisted will now be able to make some progress in practical work, in which they will be much aided by the shares in the apparatus supplied by Government which have been respectively assigned to them. At the same time too much must not be expected in the absence of systematic teaching. If one or two here and there learn to test ores for the most important metals, and if a few more gain some acquaintance with and some interest in the elementary laws and principles of chemical science, it will be as much as can fairly be looked for under the circumstances.

I have, &c.,

The Under-Secretary of Mines, Wellington.

J. GILES, Warden.

## No. 12.

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

SIR,—

Jackson's Bay, 18th May, 1886.

I have the honour to enclose herewith the goldfields report for the twelve months ended the 31st March, 1886; also general report on the mining districts under my charge for the same period.

*Okarita District.*—No new discoveries of any consequence have been made in this district during the past year; consequently mining matters are in much the same state as they were in 1885. The working population remains about the same; and those settled in the district are making small wages. Mining is mostly confined to the sea-beaches and the terraces near the coast. Nothing much in the way of prospecting has been done. However, one capable and well-equipped party are about to try to turn Cook's River above the gorge, where splendid prospects of gold were found many years ago; but, with this exception, there is no movement in the direction of opening new ground. Indications on the coast would warrant a careful search inland. This applies more especially to the country in the vicinity of Jacob's River, near Bruce Bay, where, in the morainic deposits forming the bluffs near the mouth of this river, gold, tin, and other ores have been found. Nothing whatever is known of the upper reaches or sources of this river. It has not been explored five miles from the sea-beach, and then only by settlers hunting stray cattle. From the quantity of porphyry and other metalliferous rocks to be seen on the sea-beach along the face of the bluffs, it may be taken for granted that mineral lodes are to be found inland. There is therefore ample room and opportunity, and a most promising country, in which the energetic prospector may enrich himself and benefit the colony at large.

I have, &amp;c.,

The Under-Secretary of Mines Wellington.

D. MACFARLANE, Warden.

## No. 13.

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

SIR,—

Warden's Office, Jackson's Bay, 18th May, 1886.

During the past year gold-mining in this district has shown some signs of improvement. A few good parcels of gold were obtained in the Abbey Rock Ranges, and on some of the neighbouring beaches. The parties at work are reported as making good wages. The miners on the Haast beaches are still at work, but, having considerable difficulties in the shape of water and heavy stripping to contend with, their average earnings are not quite satisfactory. To the south of Jackson's Bay, gold has been found from the Hope River to Big Bay. A sample of 4oz. from the Gorge River was brought to this office, showing a good deal of coarse gold; and I am led to believe that many of the streams coming out of this block carry gold that will pay men from £2 to £3 per week per man.

*Metals other than Gold.*

As anticipated, the year's explorations have resulted in some important discoveries—amongst others, that of a nickeliferous alloy new to science, associated with gold, platinum, tin, and magnetite, and found in the sands and gravels of the Gorge and neighbouring rivers and creeks. This discovery has resulted in ten mineral leases having been applied for, seven of which have been granted, with the probability of extensive operations being started at an early date. The value of the discovery may be gathered from the analysis made by Mr. Skey, of the Geological Department, copy of which see herewith:—

“*Results of Analysis of Specimen No. 4,106, forwarded by the Warden, Jackson's Bay.*—Locality, Barn Bay and Gorge River.—Reported 30th September, 1886.—Preliminary Report.—No. 1, *Supposed Platinum*: This does not contain any platinum, but is almost a pure alloy of nickel and iron, its approximate composition being as follows: Nickel, 68; iron, 31; sand, gold, &c., 1=100. The alloy appears to be a definite compound of iron and nickel—one equivalent of iron to two of nickel. If nickel keeps up its price of 12s. per pound, this alloy will be worth 8s. per pound; so that if it can be obtained in quantity it should prove a valuable find. No. 2, *Wash from Workings*: Approximate analysis—Nickel and iron alloy, 24.77; magnetite, 19.68; titanite iron, garnets, gold, and platinum, 55.55=100. The quantity of platinum is very small, only a few minute scales showing. There is a probability that this alloy has some relation to the nickeliferous pyrites occurring in the neighbourhood of this find.—W. SKEY.”

“*Further Report*, 3rd October, 1886.—Besides nickel alloy and two kinds of platina, this sand contains 32.14 per cent. of cassiterite, equal to 25 per cent. of tin.—W. SKEY.”

Ten years ago, when I found this metal in very small quantity when exploring on the Cascade River, I took it to be an impure platinum; but on finding the metal in greater quantity I had it tested, with results as above. Instructed by the Minister of Mines, I examined and reported on the matter to the Government; and, being cognizant of the existence of the remarkable mineral belt, known as the Olivine Range, lying at the back of where this stream-metal is found, I spent two weeks in company with the prospector, Mr. Douglas, in endeavouring to trace the metal to its matrix. Professor Black, when here, found traces of nickel in one of the



rocks of this formation ; but further search is now being made to find it in payable quantities. Heavy lodes of antimony and chromic iron have been found ; and others, from which specimens have been brought in and roughly tested, indicate the source of the tin : but until dealt with by Professor Black, to whom they have been forwarded, I will refrain from further comment. The whole range, being intersected by mineral dykes and fissures, will well repay careful and extended search.

The Canterbury prospecting party under the leadership of Mr. Durward and Captain Malcome, who landed in Big Bay some five months ago, are still at work on the south-east side of Red Mountain, engaged in what may be considered a Quixotic search for some fabulous mine known as "The Frenchman's Den." Mr. Fox, who is recently from that quarter, informs me that the efforts of the party are being expended entirely in that direction. This is to be regretted ; for, if they would but turn their attention to the mineral wealth lying undiscovered around them, and give up looking for the mythical cave of the lying Frenchman, they might be repaid for their outlay ; but, so long as they follow this Will-o'-the-wisp, so sure will financial failure follow.

This mineral belt running through Westland to Lake Wakatipu, in Otago, must, from the important discoveries already made, and likely to be made as the country is examined by competent parties, claim the attention of the Government ; and I am glad to say that, when the Hon. the Minister of Mines, accompanied by Professor Black and others, visited this district a short time ago, its great importance was fully recognized. The difficulty lies in the at-present-inaccessible nature of the country ; and this can only be obviated by the construction of a good horse-track from the Cascade River to the head of Lake Wakatipu. This is all that is required to open up a vast field for mining enterprise ; and, recognizing this fact, the Hon. the Minister of Mines has promised to bring this matter under the notice of the Government, so that at least an instalment of this great arterial road may be put in hand during the current year. In the meantime, assured communication by steamer, as heretofore, is absolutely necessary.

I have, &c.,

D. MACFARLANE, Warden.

#### No. 14.

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

SIR,—

Warden's Office, Lawrence, 30th April, 1886.

I have the honour to transmit herewith the usual statistical returns and general report on the mining districts under my charge for the past twelve months.

#### *Tuapeka Sub-district.*

There have been no new discoveries of gold in this part of the district calling for special notice.

At the Blue Spur the Gabriel's Gully Sluicing Company have mined over about an acre of the tailings in their special claim in the gully, at an average depth of 60ft. or 70ft., with their hydraulic elevator ; the result being sufficient to enable the company to clear off all liabilities, and they hope shortly to be in a position to pay regular dividends.

The Great Extended Company have adopted similar appliances on their lease, which work well. This company are at present working out a narrow strip of ground lying between the Otago and Nelson Companies' leases before they can open out a full face in the claim.

The Otago Company are in full work, having a powerful supply of water, and keep their ten-head battery crushing cement.

The Nelson Company have not done any work on their claim for several months. They have been inquiring for suitable machinery to crush the cement, as they found the battery did not pay.

There are four sluicing-claims at work in the gully between the Spur and Lawrence, and other parties are working and driving out the ground on some of the low spurs alongside of the gully. The Chinese also hold sluicing-claims in this gully, and are making good wages.

In Munro's Gully there are three large claims sluicing into the head of the gully, which is registered as a main tail-race. Varcoe and party and others are working the bed of this gully, having made a by-race along the north-west side of the gully to carry the tailings and sludge past their claim. The mass of tailings and sludge sent down from these claims is being deposited at the junction of the gully with the Tuapeka River, and is thereby gradually blocking up the outlet of that river and forming a lagoon. Some of the Chinese hold good claims in this locality.

At Weatherstone's there are several parties of Chinese working on the flat, turning over the old ground with good results, especially when they have a good supply of water.

The Weatherstone's Gold-mining Company keep fifteen hands employed at their special claim, which is worked by an incline-shaft and driving out below ; but the claim is not yielding more than sufficient to pay expenses.

The Tuapeka Prospecting Company have been in abeyance for some time, and, I believe, purpose surrendering their lease.

Several small parties of Europeans and Chinese are working claims on the mining reserve along Tuapeka River, and at Tuapeka West and Evans Flat, making average wages.

There are three dredges at full work in the River Molyneux, below the Beaumont Ferry. They appear to be well satisfied with the results of their labour. Grant and party are working their spoon-dredge about six miles lower down the river.

The works in connection with the sludge-channel at the foot of Gabriel's Gully are being pushed on steadily by the Corporation of the Borough of Lawrence, contracts having been let for the completion of the works in accordance with the original plans.

At Waitahuna there is a population of 1,239 Europeans and 130 Chinese; of which 100 Europeans and 130 Chinese are engaged in mining pursuits. There are five large sluicing-claims being worked, yielding handsome returns. In one of these claims £1,000 was offered for a share and refused. A share in another company changed hands recently for £200. Other sluicing-claims are also being worked with fair results. The Chinese are working on the flats and in the river-bed about the township. They are very reticent about their earnings, and have shown strong objection to Europeans taking up ground near them in that locality.

Small parties of Chinese are scattered about the various gullies between Waitahuna and Manuka Creek, and also at Adams Flat and the Woolshed. At the latter place two parties are working extended claims in the creek with good results, the water being turned off by well-constructed earthworks and wing-dam past their claims.

At Waipori there is a population of 365 Europeans and 56 Chinese. Of these, the Chinese and 94 Europeans are engaged in mining. The yield of gold is estimated at 2,000oz. The Victory quartz lease has been taken up again, and is at present being worked on tribute by six miners, who are making the ground pay expenses. There is a five-head battery on the ground.

Two new gold-mining leases have been recently granted on the Lammerlaw Range, where good prospects have been obtained from the quartz found on the ground. Messrs. Emperre and party have applied for a gold-mining lease on the range near Waipori. They are raising quartz from a depth of 16ft. showing good gold, and intend making a trial-crushing at one of the adjoining batteries when they have raised 20 tons of stone. Messrs. Sturm and Ritchie have applied for an ordinary quartz claim on the A.B.C. Reef. They have been working on the ground for some time, and obtained a yield of 18oz. 16dw. from a crushing of 17 tons of quartz. They are trying to form a company with a view to purchase one of the batteries lying idle in that locality to work the claim.

The Deep-lead Prospecting Association have taken up an extended claim of six acres on the Waipori Flat, and have one of Ashbury's patent pumps (capable of lifting 10,000 gallons of water per hour) on the ground. They have begun sinking the shaft, having let a contract some time ago for the supply of the necessary timber to construct the shaft.

In addition to the antimony and copper lodes mentioned in last year's report, several specimens of cinnabar and scheelite have been found near Waipori, but no defined lode. Indications of other minerals, such as manganese and sulphur, have been found in small quantities.

#### *Waikaia Sub-district.*

The chief alluvial workings are situated in Welshman's, Moffat's, and Yankee Gullies, close to the Waikaia Township, principally held by Chinese, yielding in most instances fair returns. Water is supplied from the Argyle Water-race, formerly constructed by Europeans, but now held by a Chinese company, who have extended the race at considerable expense to Moffat's Gully, and also from lesser water-races by individuals.

Collie and party have been endeavouring to trace the lead of gold along the Waikaia Flat at the foot of these gullies. They sunk two shafts; but were beaten out with water and the loose state of the ground. A third shaft has been sunk about 25ft.; but they are afraid the water will be too much for them unless they procure machinery for pumping.

In the Upper Waikaia, Whitcombe, and Campbell's Gully there are a few claims being worked, yielding small wages. A quartz reef has been opened out at the head of Campbell's Gully, on the Old Man Range, at a depth of 16ft. from the surface, showing good specimens of gold-bearing quartz. The miners at Campbell's Gully, situate about thirty-eight miles from Waikaia, go to the Warden's Court at Roxburgh, eighteen miles distant, for their registered rights, licenses, and leases.

The miners in Potter's Gully have worked out the shallow ground, and moved to other parts of the district.

The rush to Piano Flat in November last has turned out a failure. Several claims and registered rights were taken up, and the ground well prospected; but payable returns were only obtained for a short time from two or three of the claims, and there are now only half a dozen men working in that locality.

The construction of the road to the Upper Waikaia is being pushed on rapidly, and, when completed, will open up a large extent of auriferous country, and give easy access for parties to thoroughly prospect that portion of the district.

At the Nokomai there has been quite a stir amongst the miners owing to the discovery of a deep lead on the upper flat by Paddon and party, at a depth of 35ft., and on the lower flat by Hunter Brothers, at a depth of 64ft. Five gold-mining leases and one extended claim of six acres have been granted, and applications have been made for two other leases in that locality. Paddon

and party had an eight horse-power engine, with a pulsometer, to keep the water down; but when the rain set in after the long drought the water rose so quickly that they had to procure heavier pumping-machinery, and have now got the claim in good working order. The prospect obtained was estimated to yield about 30oz. to the sets of 4ft. to 6ft. Cameron and party hold an extended claim of six acres adjoining Paddon's lease. They are constructing a deep tail-race to carry off the water and tailings, and intend working the ground by shaft and driving out below. On the lower flat Hunter Brothers have sunk a shaft 64ft., and driven several yards into the ground, when they met with foul air, and had to sink another shaft higher up, and drove through to No. 1 shaft. They have an eight horse-power engine and patent pump, capable of lifting 12,000 gallons per hour, erected on the claim. They have 5ft. wash-dirt, estimated to go 1oz. to the load. McKay and party have also an eight horse-power engine and pumping-gear on their lease, and have started to put down their shaft. The other parties are making similar preparations to open up their ground. There are about thirty or forty Chinese working up the gullies at Nokomai, making fair wages.

At Waikaka there are about thirty Chinese working on the mining reserve and low ground near the river; but the ground is so poor that they are barely able to earn a living. Some of the farmers complain of the damage done to their land by the running of tailings and sludge over it.

#### *Tapanui.*

The Heriot, Glenkenich, Tapanui, and Pomahaka have recently been added to the Otago Goldfields.

I have to report that about four months ago Spiller and party constructed a dredge on the Pomahaka River, and carried on work for three months, when they gave up, as the dredge was unsuitable and the ground did not pay. Gunner and party started in February with a new dredge; but it will take some time to prove whether their method of working will be sufficiently remunerative, but at present they appear satisfied with the results.

Several persons in Tapanui formed themselves into a prospecting association, and have two men employed prospecting the district near the foot of the ranges.

There are a few Europeans and Chinese mining along the banks of the Pomahaka, earning small wages as far as can be ascertained.

Tapanui being about the centre of the area recently added to the Otago Goldfields Mining District, it would be advisable that a Warden's Court and Receiver of Goldfields Revenue be appointed for the collection of revenue and the issuing of miners' rights, &c.

Gold has recently been found on the freehold land on the Waimumu River, about five miles from Mataura. The owners of the land are charging the miners 2s. 6d. to 5s. per week for the right to mine. Other parties are working along the banks of the Mataura River, and on private lands near the Waikaka Creek, between two and three miles from Gore. Some of these men are earning very good wages, and others small wages.

During the year thirty of the deferred-payment leases and licenses, with an area of 6,616 acres, have been capitalized; and the periods of seven pastoral licenses, with an area of 14,988 acres, have been extended. Occupiers have purchased fourteen deferred-payment leases, containing 2,838 acres; four exchange leases, of 340 acres; three capitalized deferred-payment leases, of 564 acres; and four suburban leases, of 15 acres, making a total of 3,757 acres.

Sittings of the Courts have been held fortnightly at Lawrence and Gore; and monthly at Milton, Balclutha, Tapanui, Waikaia, and Mataura; and every alternate month at Clinton and Kaitangata.

The yield of gold for the Tuapeka District is estimated at 15,000oz., and for the Waikaia District at 2,600oz.; which shows a decrease of 2,000oz. as compared with last year.

I attach herewith returns showing the number of miners' rights, license registrations, &c., issued during the year, the number of cases disposed of, and the revenue collected at the several Resident Magistrates' and Wardens' Courts, and the estimated population of the district.

I have, &c.,

The Under-Secretary of Mines, Wellington.

W. H. REVELL, Warden.

RETURN of Miners' Rights, Licenses, Registrations, &c., issued during the Year ending the 31st March, 1886.

—	Tuapeka.	Waikaia.	Total.
Miners' rights ... ..	580	224	804
Business licenses, at £5 ... ..	3	4	7
"    "    £3 ... ..	...	1	1
Water-race licenses, at 5s. ... ..	12	4	16
"    "    2s. 6d. ... ..	109	58	167
Registrations, at 10s. ... ..	5	...	5
"    "    1s. ... ..	174	89	263
Applications for gold-mining leases ... ..	7	7	14
Gold-mining leases granted ... ..	7	5	12
Applications for agricultural leases ... ..	2	...	2
Agricultural leases granted ... ..	1	...	1
Mining applications ... ..	116	142	258

## RETURN showing Revenue collected during the Year ending 31st March, 1886.

	£	s.	d.
Warden's Department .. .. .	1,431	12	0
"    "    rents under deferred-payment leases..	2,957	5	6
Resident Magistrates' Courts, goldfields districts ..	237	2	0
"    "    outside goldfields..	1,073	15	0
<b>Total .. .. .</b>	<b>£5,699</b>	<b>14</b>	<b>6</b>

## RETURN showing the Number of Cases disposed of in the Resident Magistrates, and Wardens' Courts, and Revenue collected in each Case.

Goldfields and Courts.	Civil.	Criminal.	Wardens'	Total.	Receipts.
					£ s. d.
Lawrence ... .. .	174	117	24	315	231 13 0
Waikaia ... .. .	32	27	17	76	49 16 0
Outside goldfields—					
Milton ... .. .	96	101	...	197	127 11 0
Balclutha ... .. .	101	41	...	142	87 1 0
Tapanui ... .. .	198	63	...	261	212 12 0
Kaitangata ... .. .	24	9	...	33	11 6 0
Clinton ... .. .	39	47	...	86	55 7 0
Gore ... .. .	494	111	...	605	451 7 0
Mataura ... .. .	120	35	...	155	128 11 0
<b>Total ... .. .</b>	<b>1,278</b>	<b>551</b>	<b>41</b>	<b>1,870</b>	<b>£1,355 4 0</b>

THE population of the district under my charge is estimated at 26,385 souls, and located as follows:—

Name of District.	Europeans.	Chinese.	Total.
Tuapeka ... .. .	5,161	622	5,783
Waikaia ... .. .	1,010	190	1,200
Milton ... .. .	4,500	68	4,568
Balclutha ... .. .	3,500	...	3,500
Tapanui ... .. .	4,500	56	4,556
Clinton ... .. .	1,400	...	1,400
Kaitangata ... .. .	1,300	...	1,300
Gore ... .. .	2,914	60	2,974
Mataura ... .. .	1,100	4	1,104
<b>Totals ... .. .</b>	<b>25,385</b>	<b>1,000</b>	<b>26,385</b>

W. H. REVELL, Warden.

## No. 15.

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

SIR,—

Warden's Office, Clyde, 15th May, 1883.

I have the honour to submit the following report on the Dunstan and Wakatipu Districts, under my charge, for the year ending 31st March last:—

*Clyde and Alexandra.*—There is nothing of any importance to report except that a new dredge is being built at Alexandra, which will be the largest on the river. The two dredges now at work are, I am informed, paying fairly well. Alluvial mining is being carried on, in some cases, with good results.

*Cromwell.*—In this sub-district, mining is carried on vigorously, and with satisfaction to the parties engaged. At Bannockburn, the sludge-channel not being yet completed, the claims held in the deep ground are still under protection. Since my last report a dredge has been built and placed on the Kawarau River, which, I am given to understand, is so far paying its way, with a prospect of doing better. There are two dredges in course of construction on the Upper Clutha, which are intended to work upon the river between Albert Town and Cromwell.

*Black's.*—Since my last report the Black's division of the Dunstan District, including Tinker's and Drybread, has been taken out of this district and placed in charge of the warden of Mount Ida District, who will furnish a report thereon.

*Mount Criffel.*—Since the middle of October last a large number of miners have been prospecting this locality, with varied results, and, with a few exceptions, nothing beyond the ordinary has been done. Some new ground has been opened on Mid Run, distant some five or six miles from Criffel, and at one time a number of men were working there, also in several other places on the Pisa Range, none of which, however, has turned out of any great importance. All the original claims at Criffel have been in full work, and, from what I can learn, have been turning out handsome yields of gold. Work in this locality will probably be entirely suspended in a few weeks, consequent upon its high altitude.

I am unable to obtain any reliable information as to the yield of gold, but I believe it has not been less than that of last year. The population remains about the same as last year.

#### Quartz.

*The New Cromwell Company, Bendigo,* ceased sinking their new shaft, which had reached a depth of 185ft., in October last, as their progress was considered too slow. Since that period the company has been engaged in erecting machinery to work a rock-drill and to lift the stuff from the shaft with greater celerity. The ultimate depth of the shaft is to be 600ft.

At the *Obelisk Range*, White's Reef is the only one at present in work. Since my last report the company has erected machinery and gone to considerable expense in working the mine. They crushed, in March last, some 200 tons of stone, with a result of 70oz. of retorted gold, which was not so good as was anticipated. They are, however, still crushing; and the quality of the stone, I am informed, is much improved.

*Macetown.*—Work is being carried on vigorously, and some claim-holders have expectations of their claims turning out handsomely.

*Upper Skipper's.*—The British-American Company have during the year employed two men in their mine, who have driven 111ft. They have crushed 85 tons of quartz, from which was obtained 34oz. of gold, or at the rate of 8dwt. to the ton. Sixty tons of stone are now ready for crushing, which is expected to yield about 15dwt. to the ton. The Phoenix Company have been steadily working during the past year, and have crushed 4,500 tons of quartz, yielding 6,800oz. of bar gold, or an average of 30dwt. to the ton. The number of men employed in and about the mine varies from ninety to a hundred. The crushing was continued throughout the winter by steam-power; but since then the power has been maintained by electricity, transmitted two miles, over a hill 800ft. high, and capable of driving seventy head of stampers, at the rate of seventy blows per minute. Much difficulty and expense has been incurred in bringing this power to a great state of efficiency and perfection, and it will eventually supersede all their steam- and water-power. There is in course of erection a set of air-compressors for the purpose of driving a Tanner pump, a winding-engine, and two rock-drills. This plant is intended to be used for opening ground below the water-level, or adit. During the past year over 1,000ft. of levels, with extensive risings and sinkings, have been effected. The present prospects of the claim are good, and there are indications of extensive improvements taking place almost immediately as the levels advance into the hill.

*Head of Lake Wakatipu.*—The work prosecuted by the Mount Earnslaw Quartz-mining Company during the year consisted chiefly in trenching across the greater part of their lease, in the hope of discovering a larger and more permanent reef than has been hitherto laid bare. So far, however, their endeavours, in which they have spent nearly £500, have not been successful, and latterly no work has been done in the mine. The Invincible Quartz-mining Company have, for the year ended 31st March last, crushed 2,682 tons of quartz, which yielded 1,239oz. 17dwt. 18gr. of retorted gold, or at the rate of about 9½dwt. to the ton. This shows a falling-off from the previous year's return, but is accounted for by their having worked out the good stone above their then workings, and not having struck the reef in the machine-site level. Nearly the whole of the last twelve months they had to crush the stone in the upper level, which was very poor. They have now connected the machine-site tunnel with the wing, which was driven about 65ft. on good stone, and they can now open out the reef and work upwards. And they believe that this stone will yield from 15dwt. to 1oz. to the ton, and that in this block there is above 4,000 tons of quartz. The company also had a trial-crushing of 10 tons of quartz from their lease at the foot of the hill, which yielded 5oz. 17dwt. 12gr. retorted gold, or 11¾dwt. to the ton. This reef, however, will be of no use to them until they erect another battery. The company has expended about £1,230 in erecting seven berdans, making a total expenditure on the mine of £3,600. The working-expenses for the year amounted to £4,664; and dividends to the amount of £350 have also been paid. There are twenty-one men employed on this mine.

In conclusion, notwithstanding the bad season the farmers had to contend with, I am of opinion that matters are not so bad as they were thought to be, and most of the settlers will be able to weather it out with the increased prices which prevail for oats, chaff, and potatoes, the principal crops grown throughout the Dunstan and Wakatipu Districts.

I have, &c.,

The Under-Secretary of Mines, Wellington.

JOHN S. HICKSON, Warden.

## No. 16.

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

SIR,—

Warden's Office, Naseby, 11th May, 1886.

I have the honour to forward the annual report for the portion of the Otago Goldfields District under my supervision. I regret to say that the year just passed has been an exceptionally dull one, consequent on the shortness of water during the summer months, which was caused by the very light fall of snow in the early part of last winter and the unprecedented drought for three months during the summer. The Naseby Subdivision suffered most, in consequence of an unfortunate accident to the Water Trust's race, which broke away, and took several weeks to repair, by which time the best tributary creeks were almost dry; but it is worthy of remark that, although the district suffers in common with other portions of the colony in the general depression locally caused by the low prices of wool, grain, and rabbit-skins, the revenue has increased by nearly a thousand pounds. This does not include the Black's Subdivision, which is returned from Clyde.

*Macrae's Subdivision.*—In this locality the workings are confined to a few European and Chinese miners, who appear to be making small wages. Fullarton's, which may be considered as belonging to this place, is not being worked so successfully as when the large finds were made many years ago.

*Hyde.*—At this place there are only a few Chinese and European miners; but I do not hear of any party doing well.

*Hamilton's.*—The workings here at the end of last winter promised to turn out well, and it was anticipated that there would have been some good washings-up; but, owing to the extraordinarily dry season, none of the large claims washed up.

*Kyeburn and Mount Burster.*—The workings at the former place are quite up to the standard, after making allowances for the early falling-off in the water-supply. Mount Burster miners have been idle, nearly the whole year for want of water, and there have been no washings-up in the large claims. However, if the frost keeps off, a little lee-way may be made with the present plentiful supply of water.

*Serpentine.*—This place is very dull. The quartz reefs that were expected to turn out well have proved a great disappointment.

*Naseby.*—The mining in this subdivision, as I stated before, has suffered considerably by the break in the Water Trust's race; and had the Trust had a good supply of water I believe the extension to Spec Gully would have given remunerative employment to a number of men, as I think it has opened up a considerable area of ground that will pay wages—say, from £1 10s. to £2 per week, after paying for water, with the prospect of doing better. This is not a high rate, but the work is comparatively easy.

*Rough Ridge.*—The Otago Central had one crushing; but it was rather a disappointment, not doing much more than paying expenses; but everything was put through the mill. Prospecting has been going on, and two more special claims applied for; and I expect next summer the place may provide labour for a number of miners.

*Blackstone Hill.*—There is no change to report in the mining going on here. The few men at work seem to be getting fair wages.

*St. Bathans and Cambrian's.*—The miners at this place always appear to be doing well. Vinegar Flat has not realized as was expected after the bringing-in of the well-constructed channel, which was made altogether by private enterprise. The population keeps about the same. The completion of the St. Bathans and Muddy Creek channels will provide fall for a large area of ground, when St. Bathans should again come up to its former status as a rich goldfield.

*Black's, or Ophir.*—This has only been under my charge for the last six months, and was formerly attached to Clyde. The drainage-channel, which was commenced last year for the purpose of draining the extensive flat there, is now near its completion. During its construction several small leads of gold have been struck, and four or five claims opened out on its course. The holders being very reticent, nothing can be gleaned as to the returns. About a dozen men are occupied independent of those employed on the channel; and, should the pre-emptive right recently purchased by the Government prove, as it is hoped, payable, this number in a very short time will be considerably augmented. The quartz reef discovered by Mr. Green has not made much progress during the year. The owner, having failed to make satisfactory arrangements for floating a company to open it out properly, has elected to work it himself; and, as he is only assisted by one man, some time must elapse before any reliable opinion can be expressed as to its value. The specimens shown by Mr. Green are, however, very rich—in fact, are half gold.

At *Tinker's* mining matters remain much as they were last year, the Blue Duck still retaining its old reputation for richness. There are several other claims in this locality of considerable magnitude, all of which appear to be giving satisfactory returns. There are about a hundred men employed altogether.

*Drybread*, about a mile to the north of Tinker's, once famed for its rich deposits, has now become almost deserted. About twenty miners still remain, and are apparently satisfied with their returns.

At *German Gully*, on the Ida Valley side of the range from Black's, there are but few

working; there is, however, a deep lead in this locality which only requires capital and cheap timber to develop. An effort has been made by several companies from time to time, and a considerable quantity of gold obtained; but, in consequence of the bad nature of the ground for standing, and the high price of timber, which has to be brought from Southland, with a cartage from the nearest railway of over eighty miles, they have been compelled to give it up. This lead will doubtless be worked when the Otago Central Railway is within easy carting-distance.

Taking all things into consideration the district may be considered in a prosperous state, and I calculate that there has been an increase in the gold obtained of nearly 300oz., despite the fact of Mount Burster not having washed up at Christmas, as in other years.

The Under-Secretary of Mines, Wellington.

I have, &c.,

J. NUGENT WOOD, Warden.

### No. 17.

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

SIR,—

Warden's Office, Oamaru, 31st March, 1886.

I have the honour to report that mining in the Maerèwhenua Division of the goldfield has been fairly prosperous during the year now past.

The number of miners employed has remained about the same as the average of the last few years, but I think the tendency is rather towards an increase than a diminution.

No important new discoveries have been made, nor have any considerable new enterprises been attempted. Steady industry in ground already well prospected has been the rule.

The dryness of the weather for part of the year has, of course, been against the interests of the miners, as well as of other classes of the community; but the supplies of water for sluicing have not been quite so much affected by the drought as might have been expected. The supplies of water for this field, never large, are drawn from sources pretty high up in the ranges, which are not very readily affected by the vicissitudes of the weather. Of course, heavy rains will put the streams in flood for a few hours or days, but their normal supply is strangely constant. The want of a greater supply of water for sluicing is a constant topic of regret amongst those who would like to see the undoubtedly large auriferous deposits of the Maerèwhenua District more extensively worked. It is not, however, easy to see how any material addition to the supplies can be obtained except at enormous cost.

There is, and has long been, a certain amount of inconvenience arising from the fact that the outlets for some of the workings are through private property. This, of course, only affects the miners working or desiring to work ground the *débris* from which must be discharged through or upon the private property in question.

As I have had to explain in former reports, it is next to impossible to get reliable data for an estimate of the amount of gold extracted, as there is no escort from Maerèwhenua, and the gold is sold in various places. I think, however, I shall not be over the mark in putting it down at 900oz. This will not give any large average; but it is to be borne in mind that scarcely any of the miners are able to work their claims continuously all the year round. Many of them, also, have other means of eking out a living. Moreover, as a rule, all have houses and gardens of their own; and most of them possess cattle and horses. They are thus enabled to live cheaply. Their position is, on the whole, better than that of the average run of men following laborious occupations in the colony.

I forward herewith the usual statistical returns.

I have, &c.,

The Under-Secretary of Mines, Wellington.

H. W. ROBINSON, Warden.

### No. 18.

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

SIR,—

Warden's Office, Dunedin, 19th April, 1886.

I have the honour to forward herewith the annual statistical returns for the Hindon Mining District for the year ended 31st March, 1886. In doing so I have to state that mining matters at Hindon remain very much as they have now been for several years past, demanding little or no particular comment or report.

In alluvial mining mention might perhaps be made of the water-race just completed by J. Fenwick and party on the Sutton Stream. This race has been three years in course of construction, is over eight miles in length, and has cost something like £3,000. The ground intended to be worked is part of the University Endowment Reserve on the Barewood Run, the promoters having obtained a lease from the University Council. The water is taken from the Sutton Stream, some nine miles above its junction with the Taieri River. The owners are very sanguine of success, which they richly deserve after their arduous and costly undertaking. A number of men are scattered here and there over the district, who, sometimes mining, sometimes rabbiting, and at other times harvesting, manage apparently to gain a fair livelihood; and there can be no doubt that many others, especially single men now in the ranks of the unemployed, might do the same were they willing to put up with the discomforts necessarily incidental to such a life.

With regard to quartz-mining, although there are three gold-mining leases for quartz-mining purposes still in force, and one or more parties occasionally prospecting, very little has been done during the year towards thoroughly testing the many known auriferous quartz lodes in the district. One lease was cancelled and one granted during the year. A trial-crushing of about a hundred tons of stone from one of the claims yielded about 7dwt. to the ton. The owner of this is very positive that the yield would have been much greater had the appliances for saving the gold been of a more perfect and approved character. At the Game Hen Reef preparations are being made for a further trial, which, it is hoped, will in a few months meet with satisfactory results.

Settlement is steadily progressing; for, notwithstanding the fact that but little additional land, if any, has been taken up during the year, the selectors already on the land have made fair progress, and are rapidly extending their cultivations and other improvements.

The population of the district, apart from workmen on the Otago Central Railway, remains at about the same as last year—viz., between 200 and 300.

The Under-Secretary of Mines, Wellington.

I have, &c.,

J. P. MAITLAND, Warden.

### No. 19.

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

SIR,—

Invercargill, 3rd April, 1886.

I have the honour to forward herewith the usual statistical returns for the mining district of Orepuki and Longwood, together with the information asked for by your circular of the 30th January last, as far as it can be obtained from the records of the office and from such inquiries as I have been in a position to make.

I have to report that mining matters in the district remain in much the same position as at the date of my last annual report. In November last gold was discovered at the northern end of the district, adjoining the Merivale estate; and at one time about eighty men were on the ground. This number has now been reduced to fifty; and but little work has been done, chiefly owing to the scarcity of water; and I doubt if in any instance gold has been got in payable quantities; but it is probable that after the harvest is over there will be a considerable increase to the population, when, with the heavy winter rains, the ground may be properly tested.

I have, &c.,

The Under-Secretary of Mines, Wellington.

HENRY McCULLOCH, Warden.

### No. 20.

Mr. JOHN GOW, Manager Nelson Creek Water-race, to the UNDER-SECRETARY of MINES.

SIR,—

Nelson Creek Water-race, Hatters' Terrace, 8th April, 1886.

I have the honour to submit the following general remarks on the working and maintenance of the Nelson Creek Water-race for the year ending the 31st March, 1886:—

Very soon after I took charge of this race a very bad landslip took place on the lower side of the race, near the headworks. The spot was very precipitous, and one of the many bad places on the lower side of the race in that locality. As repairs had to be done with timber sawn near the spot, where saw-pits had to be built, and good timber not plentiful, the work was not as quickly done as I wished; nevertheless all hands worked with a will, and the repairs were completed in a month. The loss of a month's sales of water, however, with the cost of repairs added, together with the cost of deepening McGee's Branch, to supply the wants of the miners in that locality, has caused the expenditure to slightly exceed the revenue for the year.

Notwithstanding the slight loss in the year's transactions, it is gratifying to notice the sales gradually increasing during the last six months; and the sales for this are greater than for the previous year. I hope, by continuing to give a liberal allowance of free water to enterprising miners who are willing to give a fair amount of labour to open out new claims, to still further increase the sales considerably, and add to the prosperity of this place during the financial year 1886-87; and, notwithstanding that the number of miners taking water from the Government race this year has nearly doubled the number of the previous year, I am sanguine of being able to show a further addition to the number, and feel hopeful of being able to supply them with water.

It is now about four months since a party of miners bottomed a paddock in what might be termed the bed of Nelson Creek, near Try Again Terrace, and obtained therefrom about 30oz. of gold. This remarkably good washing caused a rush for claims in that locality, where most of the ground is now occupied by nine parties of miners, who hold collectively about fifty-five acres, or an average of six acres in each claim. The claim where the gold was obtained is being drained by a pump worked by a water-wheel. All the other claims will require either tail-races or some motive-power to pump the drainage, which will be very considerable. There are now three tail-races of considerable length under construction, and two water-wheels in full swing. The tail-races will require much labour and time to complete them; and each, as a rule, is being made to accommodate or drain two claims. If these claims prove payable, most of them



will at some time require Government water to wash with, or perhaps to lift the tailings by Perry's hydraulic system, the advantages of which may be better understood by that time, seeing that Mr. Roche, of this town, is going to considerable expense to give it a good trial in No. 3 Creek.

There are several claims now being opened on trial-water at various places along the line of race, which I hope soon to see adding their share to the revenue of the race. Of course there are always claims being worked out, and others proving not payable, which has at times a tendency to very much reduce the estimated average revenue for the year; but, having made a liberal allowance for such contingencies, I feel confident that the estimated returns will be fully maintained.

Many of the flume-bridges have been examined, and new timber is being constantly prepared to replace the decayed pieces. The new timber will be placed in position from time to time on every favourable opportunity. The old and bad timber in the tunnels is being constantly removed, and new timber fixed in its stead. The tunnels and bridges generally appear to the eye to be in a fair state of repair, and likely to be serviceable for some years yet without any very large outlay on repairs.

Herewith please find tables showing the revenue and expenditure on account of the Nelson Creek water-race, maintained by the Government, from the 1st April, 1885, to the 31st March, 1886; also revenue and expenditure for the first and last six months of the year; the number of men employed by the race, their average earnings, and the approximate quantity of gold obtained by them; and estimate of receipts and expenditure for the year ending 31st March, 1887.

The Under-Secretary of Mines, Wellington.

I have, &c.,

J. Gow, Manager.

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### No. 21.

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

SIR,—

Kumara, 21st April, 1886.

I have the honour to forward the annual report and tables showing result of working the Waimea-Kumara Water-race and Sludge-channel for the twelve months ending 31st March, 1886.

#### *Waimea Race.*

There has been a slight falling-off in the number of miners using water from this race during the year, the average number supplied being 107; but the sales of water are fully up to that of the year previous. No new ground has been opened up during this year, and, considering the repeated trials made along the line of race in the past, the future prospects of payable ground of any extent being discovered does not seem hopeful; but many of the claims now held will take several years to work out, and, although the earnings of the miner appear to be a little less than they were, I do not anticipate any further reduction in the number of men employed for some time. The race is in fair working order, the tunnel having been thoroughly examined and retimbered where required, and trestle-legs of flumes renewed where found decayed. A number of legs in the Kawhaka flumes were renewed during the Christmas holidays, and a considerable number of the old legs still remaining will require to be replaced from time to time, until all those that show any decay are removed; but, as I have now a good supply on hand for that purpose, this work can be accomplished at such times as will not interfere with the working of the race.

#### *Kumara Race.*

The tunnel part of this race is now being enlarged, and when this work is completed it will greatly increase its carrying capacity. From ninety-six to a hundred heads of water are in daily use, and with increased channel-accommodation a larger quantity will be required. Forty-one sluicing parties are supplied with water, who take from six to ten heads each, in shifts of three hours each per day of twelve hours, being divided into four shifts of three hours each, to admit of all parties being equally supplied. There has been no reduction in the number of parties using water from the race during the year, nor is there likely to be for some time; but a less number of men is now employed than formerly, the average number for the year being 236.

With very few exceptions the whole of the claims are yielding fair returns to the shareholders, who are satisfied with the result of their washing, and speak hopefully of the future prospects.

#### *Sludge-channel.*

The channel is in good repair, and working satisfactorily, and has accommodated thirty parties running tailings into it throughout the year; but, as the construction of No. 2 Channel will be finished within two months, the number of parties now using the present channel will then be reduced by fully one-third. This will allow the parties working under the new regulations in the old channel, that had previously been allowed from four to five shifts each week, to work full time.

The thirty claims now using the channel are represented by 160 men instead of by 168, as in previous year. The cause of this is that odd shareholders sell out to the party, and by doing so reduce the number of men in each claim, as after a claim is opened up only a limited number of men can be profitably employed. By the number of parties using the present channel being reduced, this will be a saving to the Government in the cost of channel-maintenance, as the parties interested in the construction, and who are to use the second channel, undertake to maintain and supervise it at their own cost. The present sludge-channel has been used twelve hours each day; but, if water be available to admit of both channels being worked at the same time with full shifts, the working-hours can be reduced to nine, making three shifts of three hours each day, in place of four, which would answer all parties during the winter months, when the days are short. Complaints were made last winter by the first and last-shift men—and with some degree of reason—that the short days did not afford sufficient light to work safely.

*Paving Channel.*—The greatest part of the main channel is now paved with stone blocks, which answer the purpose better than wood where there is constant wear. They are not so smooth when first put in as wood; but do not get so easily out of order, and will last over twelve months with a little patching. Suitable stones are not so plentiful as when first used; but a sufficient supply has always been obtained to meet the requirements. The first cost of stone is greater, and it is more expensive to move about than wood blocks 14in. deep, which are used for paving the different branches. They are lighter to handle than stone, and as one branch gets worked out of fall they can be lifted and used in another branch until they are worn out.

*Tailings-site.*—The extension of the several branches of the channel has filled up the tailings-site rapidly of late, and forced the Teremakau River-channel hard up against the north bank of the stream; but, with frequent freshes in the river to effect a scour to keep the channel clear, and by utilizing the vacant ground at disposal, a sufficient space for tailings may be obtained to last for some time.

#### *The Dams.*

The carrying-capacity of the dams is equal to a month's supply. The lower dam was emptied during the dry weather and found in good order.

*Loopline Dam.*—During the time of the recent flood this dam has shown a weakness at the outlet-box through the embankment, but has now been repaired and strengthened.

Herewith please find tables showing the revenue and expenditure on account of the Waimea-Kumara Race and Sludge-channel, maintained by the Government, from the 1st April, 1885, to the 31st March, 1886; also, the number of men employed by the races, their average earnings (approximately), and the quantity of gold obtained by them after deducting water-charges.

I have, &c.,

JAMES DAND,

Manager, Water-races.

The Under-Secretary of Mines, Wellington.

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THE following statement shows the receipts and expenditure on maintenance of the Waimea and Kumara Water-races and Sludge-channel for the year 1886, together with the number of miners employed and the approximate amount of gold obtained: Receipts, £14,498 7s. 2d.; expenditure (maintenance), £8,802 10s. 6d.; number of men employed, 343; approximate amount of gold obtained, 17,376½oz.; value, £66,029 15s.

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#### No. 22.

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

SIR,—

Charleston, 1st April, 1886.

I have the honour to forward the report for the twelve months ending 31st March, 1886, on the working and maintenance of the Argyle Water-race.

The receipts are not so satisfactory as I anticipated at the beginning of the year, owing to many causes, such as the non-completion of the extension of race, and delay in getting the piping across Ballarat Creek; also the continued breaking of old syphon. Another great cause is that the parties taking water from race are working but very poor time as far as Ballarat Creek—so very low as an average of 72·66 days in the year, or, taking the whole time worked by all parties, it does not average more than 84·47 days in the year. So that only by using very strict economy in expenditure on the maintenance am I able to show a small profit balance for the year; otherwise, if anything like average time had been worked, it would have been much better.

Although there is but a small number of men using water directly out of the race, I may say there is a large number of men receiving great benefit indirectly from the use of such water; for, if it is not using in the first instance, those parties who receive benefit by it lower down Darkies' Creek would be virtually idle, as without a large body of tail-water coming down they would be able to get no tailing to pass over their table except in flood-time. Therefore those parties, although not paying anything for the use of water, derive as much profit from it as the parties in the first instance who pay for it.

The present year I expect to see the revenue in a healthier condition. The balance of the race is likely to be put in work soon; therefore there is more water likely to be sold.

In the beginning of past year tenders were called for the Ballarat Syphon; but, owing to delays in construction and bursting of new piping on three occasions, it was not completed until January, 1886. This inconvenienced those who were taking water, as the old pipe would not carry enough to supply them with.

I do not expect to see more than one party using water between the dam and Ballarat Creek after this twelvemonth, as the ground has been almost completely worked out for a distance of four miles. The only parties that are likely to be working in that distance are getting their supplies of water from Butterworth's Race at a reduced price per head.

I may say the heaviest part of the twelve months' expenses has been incurred on the old syphon in Ballarat Creek—keeping it in anything like working order. Besides delays in making up breaks, there was a loss of revenue while those were going on.

The outside supply-races have been keeping in very fair order for the past twelve months. Flumes are all holding good. The only drawback is the rotten nature of the ground through which the race is cut. It requires careful watching so as to keep it from carrying away, as it is through limestone country, and very rotten.

I have been supplying Gregory and Horner out of dam with 50in. of water night and day for about fourteen weeks during the past twelve months. This is in accordance with agreement between original holders prior to Government buying Argyle Water-race.

On the main race there have been three breaks during the year of sufficient importance to cause stoppage of water—through landslips. I had them repaired as quickly as possible.

I have put the supply-race on Four-Mile Flat in working order, so as to catch any water which falls in showery weather. There is no permanent supply of water from any of those supply-races; therefore every available tributary is put in use to keep up the supply in the reservoir. On the whole, I may say that all the races are in very fair working condition at the present time.

The following is a statement of particulars respecting the water-race for the year ending the 31st March, 1886: Amount of revenue—By sales of water £435 7s., by sale of old water-pipes £35 8s. 9d.; expenditure on maintenance and contingencies, £392 12s. 8d.; number of men employed daily, 21; average number of days per man worked for year, 84.47; approximate amount of gold obtained, 464oz.; average earnings per man per week, £2 15s.; estimated revenue from sales of water from the 1st April, 1886, to the 31st March, 1887, £650; estimated expenditure for maintenance and contingencies for same period, £350.

I have, &c.,

DENIS DOYLE,

The Under-Secretary of Mines, Wellington.

Manager, Argyle Water-race.

### No. 23.

The CHAIRMAN, MOUNT IDA TRUST, to the Hon. the MINISTER of MINES.

SIR,—

Office of Mount Ida Water-race Trust, Naseby, 11th May, 1886.

I have the honour to forward the annual report of the proceedings of the Mount Ida Water-race Trust, in accordance with section 25 of "The Mount Ida Water-race Trust Act, 1878," together with a statement of receipts and expenditure for the year ending 31st December, 1885.

The returns from water sold and channel-fees amount for the period stated to £893 6s. 5d., or £328 8s. 5d. less than what was received the preceding year. This falling-off in the sales of water is attributable to the extraordinary drought which prevailed during the closing quarter of the year, when the hitherto-considered-permanent sources of water-supply were dried up. The Trust feels that the receipts are disappointing, as it was anticipated that the completion of the extension works to Spec Gully would have, before the close of the year, brought in a large sum from sales of water in that locality. Had the season been of an ordinary character the Trust feels confident that the results anticipated would have been realized. The expenditure for the same period for maintenance, repairing damage by floods and slips, has been £1,338 2s. 5d., which is £261 2s. 2d. less than was expended last year.

The extension of the race to Spec Gully was completed at the commencement of last winter, and, with the ensuing frosts, the early spring floods (which did considerable damage to the new work), followed by exceptionally dry weather, the Trust was exceedingly unfortunate in being unable to utilize the works to advantage. Only since about six weeks ago, when the weather broke, have the extension works been a source of revenue, the demand for water being greater than the race can supply. From the area of ground being opened up in the locality commanded by the extension, the Trust is of opinion that the demand for water will continue, and that the revenue will show a large increase at the end of the current year. Several claims are commencing operations in the main gully on the elevating principle, which will, in addition to the water used in the extension, require a considerable quantity of water. At the present time all the water brought into Naseby is being sold, the receipts of the past two months averaging £180 per month.



## 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, 1885.

District.	Miners' Rights.	Business Licenses.	Water-races, Sluices, &c.	Gold-mining Leases, Rents, and Royalties.	Registration.	Fees and Fines, Wardens' Courts.	Miscellaneous.	Totals.
AUCKLAND.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Coromandel ..	48 0 0	..	..	330 0 0	2 17 6	2 8 0	106 13 0	489 18 6
Te Aroha ..	62 0 0	..	..	1,268 10 0	16 14 6	8 11 0	276 1 0	1,631 16 6
Thames ..	435 0 0	..	60 0 0	3,831 10 4	40 13 6	29 4 0	268 16 6	4,665 4 4
Totals ..	545 0 0	..	60 0 0	5,430 0 4	60 5 6	40 3 0	651 10 6	6,786 19 4
NELSON.								
Collingwood ..	93 0 0	..	6 10 0	56 8 0	13 19 0	2 0 0	1 3 6	173 0 6
Westport and Charleston	174 0 0	12 0 0	7 12 6	379 0 0	9 10 0	6 10 0	55 6 0	643 18 6
Ahaura ..	382 0 0	39 0 0	14 12 6	136 5 0	29 11 0	7 10 0	15 6 6	624 5 0
Reefton ..	345 1 0	112 15 0	18 12 6	879 11 8	19 5 0	21 8 4	104 5 6	1,500 19 0
Wangapeka ..	7 0 0	..	0 2 6	..	0 5 0	..	0 3 6	7 11 0
Dunganville ..	188 2 0	..	14 5 0	11 0 0	5 18 0	2 6 0	0 6 0	221 17 0
West Wanganui	..	..	..	..	..	..	..	..
Lyll ..	156 0 0	6 0 0	12 5 0	..	2 15 0	..	..	177 0 0
Notown ..	122 0 0	..	7 2 6	10 0 0	6 13 0	3 2 0	..	148 17 6
Totals ..	1,467 3 0	169 15 0	81 2 6	1,472 4 8	87 16 0	42 16 4	176 11 0	3,497 8 6
WELLINGTON.								
Wellington ..	..	..	..	..	..	..	..	..
MARLBOROUGH.								
Havelock ..	63 0 0	5 0 0	4 2 6	5 0 0	6 1 0	..	4 1 0	87 4 6
CANTERBURY.								
Christchurch ..	..	..	..	..	..	..	..	..
WESTLAND.								
Hokitika ..	147 0 0	3 0 0	6 0 0	2 19 0	4 4 0	..	4 9 2	167 12 2
Kanieri ..	216 0 0	43 0 0	12 12 6	13 1 0	6 15 0	9 0 0	14 6 6	314 15 0
Greymouth ..	495 0 0	27 0 0	27 0 0	23 0 0	14 17 0	14 17 0	3 1 0	604 15 0
Ross ..	129 0 0	8 0 0	10 0 0	401 18 0	8 18 0	11 16 0	76 0 0	645 12 0
Stafford ..	174 0 0	..	11 0 0	12 3 0	4 4 0	9 3 0	20 16 0	231 6 0
Greenstone ..	154 0 0	3 0 0	4 10 0	11 2 6	6 11 0	3 10 0	..	182 13 6
Maori Gully ..	..	..	..	..	..	..	..	..
Clifton ..	..	..	..	..	..	..	..	..
Kumara ..	403 0 0	78 0 0	4 12 6	43 15 0	10 2 0	15 4 0	12 12 6	567 6 0
Jackson's Bay ..	24 0 0	..	1 2 6	..	0 18 0	..	0 2 6	26 3 0
Goldsborough ..	173 0 0	..	24 15 0	..	18 1 0	6 16 0	0 10 0	223 2 0
Arnold ..	87 0 0	..	3 10 0	2 10 0	3 6 0	1 16 0	..	98 2 0
Totals ..	2,002 0 0	162 0 0	105 2 6	510 8 6	77 16 0	72 2 0	131 17 8	3,061 6 8
OTAGO.								
Hindon ..	33 0 0	10 0 0	0 12 6	25 0 0	0 18 0	..	1 10 0	71 0 6
Naseby ..	562 0 0	17 0 0	46 10 0	951 5 0	18 2 0	23 13 0	488 8 10	2,112 3 10
Black's and St. Bathans	164 0 0	13 0 0	8 7 6	112 11 8	4 14 0	7 3 0	1 15 0	311 11 2
Manuherikia ..	130 0 0	10 0 0	6 2 6	61 13 4	3 2 0	0 0 0	0 10 0	213 7 10
Clyde ..	42 0 0	..	8 0 0	16 9 0	0 18 0	..	72 0 0	139 7 0
Mount Benger ..	152 0 0	..	7 15 6	2 10 0	3 10 0	2 13 6	134 0 0	302 9 0
Cromwell ..	445 0 0	42 0 0	18 15 0	48 11 8	17 12 0	21 3 0	47 3 0	640 4 8
Queenstown and Arrowtown	238 0 0	16 0 0	13 10 0	268 5 0	3 11 0	142 2 0	75 4 4	756 12 4
Lawrence ..	563 0 0	15 0 0	15 10 0	135 14 3	13 0 0	16 7 0	8 6 0	766 17 3
Switzer's ..	192 2 0	13 0 0	9 5 0	..	4 12 0	13 15 0	44 17 4	277 11 4
Orepuki and Longwood	271 0 0	42 0 0	12 5 0	95 10 0	1 15 0	8 16 0	0 5 0	431 11 0
Totals ..	2,792 2 0	178 0 0	146 13 0	1,717 9 11	71 14 0	242 17 6	873 19 6	6,022 15 11

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

	£ s. d.		£ s. d.
Auckland ..	4,603 0 0	Marlborough ..	54 0 0
Wellington ..	2 0 0	Westland ..	9,366 0 0
Nelson ..	2,146 0 0	Otago ..	7,136 0 0

Mines Department, Wellington, 30th June, 1886.

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, 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.
<b>AUCKLAND.</b>								
Coromandel ..	5 0 0	..	..	50 0 0	..	..	..	55 0 0
Te Aroha ..	9 0 0	..	..	205 10 0	3 13 0	0 5 0	7 5 6	225 13 6
Thames..	77 0 0	..	17 0 0	810 17 5	15 7 0	10 14 0	54 0 0	984 18 5
Totals ..	91 0 0	..	17 0 0	1,066 7 5	19 0 0	10 19 0	61 5 6	1,265 11 11
<b>NELSON.</b>								
Collingwood ..	34 0 0	..	1 10 0	15 0 0	4 13 0	0 10 0	0 1 0	55 14 0
Westport and Charleston ..	52 0 0	..	1 12 6	161 8 4	1 9 0	4 0 0	60 10 0	230 19 10
Ahaura ..	105 2 0	3 0 0	4 15 0	65 0 0	6 8 0	4 16 0	6 7 0	195 8 0
Reefton ..	82 0 0	30 0 0	3 12 6	207 7 6	3 19 0	1 1 0	76 11 9	404 11 9
Wangapeka ..	2 0 0	..	..	..	..	..	0 1 0	2 1 0
West Wanganui ..	..	..	..	..	..	..	..	..
Lyell & Murchison ..	34 0 0	..	2 15 0	..	1 17 0	..	..	38 12 0
Notown ..	28 0 0	5 0 0	3 2 6	5 0 0	2 2 0	3 12 0	0 2 0	46 18 6
Dunganville ..	45 0 0	..	2 2 6	4 0 0	1 6 0	..	..	52 8 6
Totals ..	382 2 0	38 0 0	19 10 0	457 15 10	21 14 0	13 19 0	143 12 9	1,076 13 7
<b>MARLBOROUGH.</b>								
Havelock ..	13 0 0	4 0 0	0 10 0	13 10 0	1 6 0	0 12 0	..	32 18 0
<b>CANTERBURY.</b>								
Christchurch ..	..	..	..	..	..	..	..	..
<b>WESTLAND.</b>								
Hokitika ..	31 0 0	5 0 0	0 17 6	..	0 13 0	..	0 9 6	38 0 0
Kanieri ..	41 0 0	10 0 0	3 2 6	..	3 0 0	0 6 0	1 5 6	58 14 0
Greymouth ..	151 0 0	13 0 0	6 0 0	2 0 0	3 9 0	8 7 0	10 0 0	193 16 0
Ross ..	40 1 0	..	3 0 0	56 15 0	1 14 0	12 18 0	2 11 0	116 19 0
Stafford..	37 0 0	..	2 12 6	2 4 0	0 15 0	0 5 0	1 0 0	43 16 6
Okarito ..	..	..	..	..	..	..	..	..
Greenstone ..	41 0 0	3 0 0	0 7 6	5 11 3	1 7 0	1 3 0	..	52 8 9
Maori Gully ..	..	..	..	..	..	..	..	..
Clifton ..	..	..	..	..	..	..	..	..
Kumara ..	117 0 0	8 0 0	0 7 6	24 7 6	2 4 0	1 17 0	0 10 0	154 6 0
Jackson's Bay ..	3 0 0	..	..	..	0 4 0	..	..	3 4 0
Goldsborough ..	44 0 0	..	5 17 6	..	4 4 0	4 7 0	0 1 0	58 9 6
Arnold ..	22 0 0	..	1 5 0	..	2 10 0	0 15 0	0 15 0	27 5 0
Totals ..	527 1 0	39 0 0	23 10 0	90 17 9	20 0 0	29 18 0	16 12 0	746 18 9
<b>OTAGO.</b>								
Hindon ..	13 0 0	5 0 0	1 7 6	8 10 0	0 4 0	0 11 0	11 17 0	40 9 6
Naseby ..	130 0 0	10 0 0	13 17 6	353 4 0	3 9 0	7 13 0	8 12 6	526 16 0
Black's and St. Bathans ..	39 0 0	..	1 12 6	9 0 0	1 11 0	2 18 0	1 8 0	55 9 6
Manuherikia ..	32 0 0	5 0 0	1 10 0	18 10 0	1 0 0	2 19 6	2 6 6	63 6 0
Clyde ..	7 0 0	..	0 15 0	10 7 0	0 1 0	1 10 0	51 11 0	71 4 0
Mount Benger ..	34 0 0	..	2 12 6	..	1 4 0	11 0 0	0 2 6	48 19 0
Cromwell ..	91 0 0	5 0 0	5 15 0	18 0 0	4 5 0	1 0 0	15 7 0	140 7 0
Queenstown and Arrowtown ..	36 0 0	13 0 0	3 12 6	108 16 8	1 2 0	0 10 0	15 4 6	173 5 8
Lawrence ..	104 0 0	..	4 5 0	41 15 0	2 14 0	3 2 0	4 6 0	160 2 0
Switzer's ..	77 0 0	13 0 0	1 5 0	25 0 0	2 0 0	4 16 0	53 0 0	176 1 0
Orepuki..	95 0 0	..	2 2 6	5 10 0	0 14 0	2 2 0	..	105 8 6
Totals ..	653 0 0	51 0 0	38 15 0	598 12 8	18 4 0	38 1 6	163 15 0	1,566 8 2

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

Auckland ..	..	..	988 8 0	Westland ..	..	..	2,038 4 0
Nelson ..	..	..	659 6 0	Otago ..	..	..	2,261 8 0

Mines Department, Wellington, 30th June, 1886.

T. H. HAMER, Accountant.

## No. 3.

COMPARATIVE RETURN of REVENUE derived from the GOLDFIELDS in the several DISTRICTS of NEW ZEALAND during the Years 1884 and 1885, 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 1884 .. ..	833	15	5	4,422	53	162	177	3,608	9,275
Year 1885 .. ..	545	..	60	5,430	60	40	652	4,603	11,390
<i>Increase</i> .. ..	..	..	55	1,008	7	..	475	995	2,115
<i>Decrease</i> .. ..	288	15	..	..	..	122	..	..	..
WELLINGTON—	..	..	..	..	..	..	..	..	..
Year 1884 .. ..	..	..	..	..	..	..	4	..	4
Year 1885 .. ..	..	..	..	..	..	..	..	2	2
<i>Increase</i> .. ..	..	..	..	..	..	..	..	2	..
<i>Decrease</i> .. ..	..	..	..	..	..	..	4	..	2
NELSON—	..	..	..	..	..	..	..	..	..
Year 1884 .. ..	1,825	267	85	2,080	93	64	21	4,254	8,689
Year 1885 .. ..	1,467	170	81	1,472	88	43	176	2,146	5,643
<i>Increase</i> .. ..	..	..	..	..	..	..	155	..	..
<i>Decrease</i> .. ..	358	97	4	608	5	21	..	2,108	3,046
MARLBOROUGH—	..	..	..	..	..	..	..	..	..
Year 1884 .. ..	75	10	3	80	3	8	..	107	286
Year 1885 .. ..	63	5	4	5	6	..	4	54	141
<i>Increase</i> .. ..	..	..	1	..	3	..	4	..	..
<i>Decrease</i> .. ..	12	5	..	75	..	8	..	53	145
CANTERBURY—	..	..	..	..	..	..	..	..	..
Year 1884 .. ..	..	..	..	..	..	..	19	2	21
Year 1885 .. ..	..	..	..	..	..	..	..	..	..
<i>Increase</i> .. ..	..	..	..	..	..	..	..	..	..
<i>Decrease</i> .. ..	..	..	..	..	..	..	19	2	21
WESTLAND—	..	..	..	..	..	..	..	..	..
Year 1884 .. ..	2,393	239	130	561	107	74	38	7,036	10,578
Year 1885 .. ..	2,002	162	105	510	78	72	132	9,366	12,427
<i>Increase</i> .. ..	..	..	..	..	..	..	94	2,330	1,849
<i>Decrease</i> .. ..	391	77	25	51	29	2	..	..	..
OTAGO—	..	..	..	..	..	..	..	..	..
Year 1884 .. ..	2,897	180	161	1,365	86	105	13	7,880	12,687
Year 1885 .. ..	2,792	178	147	1,717	72	243	873	7,136	13,158
<i>Increase</i> .. ..	..	..	..	352	..	138	860	..	471
<i>Decrease</i> .. ..	105	2	14	..	14	..	..	744	..

## No. 4.

COMPARATIVE RETURN of the TOTAL AMOUNTS OF GOLDFIELDS REVENUE (exclusive of Gold Duty) collected in the several Districts during the Years 1884 and 1885, and the Quarters ending 31st March, 1885 and 1886, showing the INCREASE or DECREASE in respect of each District.

District.	Years 1884 and 1885.				Quarters ending 31st March, 1885, and 31st March, 1886.			
	1884.	1885.	Increase.	Decrease.	1885.	1886.	Increase.	Decrease.
AUCKLAND.								
Coromandel .. ..	£ 616	£ 490	..	£ 126	£ 129	£ 55	..	£ 74
Te Aroha .. ..	1,987	1,632	..	305	326	225	..	101
Thames .. ..	3,114	4,665	1,551	..	583	985	402	..
NELSON.								
Collingwood .. ..	136	173	37	..	34	56	22	..
Westport and Charleston	1,130	644	..	486	345	281	..	64
Ahaura .. ..	758	624	..	134	193	195	2	..
Reefton .. ..	1,770	1,500	..	270	605	404	..	201
Wangapeka .. ..	33	8	..	25	..	2	2	..
West Wanganui .. ..	91	..	..	91	14	..	..	14
Dunganville .. ..	..	221	221	..	..	52	52	..
Lyell .. ..	366	177	..	189	103	39	..	64
Notown .. ..	150	148	..	2	35	47	12	..
MARLBOROUGH.								
Havelock .. ..	182	87	..	95	39	33	..	6
WESTLAND.								
Hokitika .. ..	242	168	..	74	37	38	1	..
Kanieri .. ..	372	315	..	57	104	59	..	45
Greymouth .. ..	601	604	3	..	165	194	29	..
Ross .. ..	716	645	..	71	183	117	..	66
Stafford .. ..	232	231	..	1	46	44	..	2
Okarito .. ..	76	..	..	76	24	..	..	24
Greenstone .. ..	196	182	..	14	55	52	..	3
Maori Gully (Arnold)	98	98	..	..	23	27	4	..
Clifton .. ..	233	..	..	233	70	..	..	70
Kumara .. ..	509	567	58	..	151	154	3	..
Jackson's Bay .. ..	23	26	3	..	6	3	..	3
Goldsborough .. ..	242	223	..	19	63	58	..	5
OTAGO.								
Dunedin .. ..	92	71	..	21	22	40	18	..
Naseby .. ..	1,135	2,112	977	..	344	527	183	..
Black's and St. Bathans	238	311	73	..	84	55	..	29
Manuherikia .. ..	319	213	..	106	43	63	20	..
Clyde .. ..	104	139	35	..	14	71	57	..
Mount Benger .. ..	170	302	132	..	38	49	11	..
Cromwell .. ..	613	640	27	..	126	140	14	..
Queenstown and Arrowtown	896	756	..	140	271	178	..	93
Lawrence .. ..	741	766	25	..	129	160	31	..
Switzer's .. ..	203	277	74	..	57	176	119	..
Orepuki .. ..	293	432	139	..	55	105	50	..
WELLINGTON.								
Wellington .. ..	4	..	..	4	..	..	..	..
CANTERBURY.								
Christchurch .. ..	19	..	..	19	97	..	..	97
Totals .. ..	18,650	19,447	3,355	2,558	4,613	4,684	1,082	961
Total decrease .. ..	..	..	2,558	..	..	..	961	..
Net increase .. ..	..	..	797	..	..	..	71	..

Mines Department, Wellington, 30th June, 1886.

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, 1885.

Product of the Goldfields in the District of	Entered for Duty at the Port of	During the Quarter ended 31st December, 1885.		Entered for Exportation to the 30th September, 1885.		Total entered for Exportation from New Zealand to the 31st December, 1885.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Auckland .. ..	Auckland .. ..	Oz. 15,663	£ 62,655	Oz. 1,465,103	£ 5,431,607	Oz. 1,480,766	£ 5,494,262
Wellington .. ..	Wellington .. ..	.. ..	.. ..	141	537	141	537
Marlborough .. ..	Picton .. ..	.. ..	.. ..	53,365	206,261	53,375	206,300
	Blenheim .. ..	10	39				
Nelson .. ..	Nelson .. ..	.. ..	.. ..	1,639,572	6,506,528	1,639,572	6,506,528
West Coast .. ..	Wellington .. ..	20	80	3,141,853	12,472,086	3,171,300	12,589,865
	Nelson .. ..	.. ..	.. ..				
	Westport .. ..	6,219	24,864				
	Greymouth .. ..	14,531	58,129				
	Hokitika .. ..	8,677	34,706				
		29,447	117,779				
Canterbury .. ..	Dunedin .. ..	.. ..	.. ..	24	96	24	96
Otago .. ..	Dunedin .. ..	17,733	71,627	4,424,792	17,451,077	4,444,472	17,530,319
	Invercargill .. ..	1,558	6,051				
	Riverton .. ..	389	1,564				
		19,680	79,242				
	Totals .. ..	64,800	259,715	10,724,850	42,068,192	10,789,650	42,327,907

Department of Trade and Customs,  
Wellington, 19th January, 1886.

WILLIAM SEED,  
Secretary and Inspector.

## No. 6.

RETURN of the QUANTITY and VALUE of GOLD ENTERED for DUTY for EXPORTATION from NEW ZEALAND, from 1st April, 1857, to 31st March, 1886.

Entered for Duty at	Produce of the Gold-fields in	During the Quarter ended 31st March, 1886.		Entered for Exportation to the 31st December, 1885.		Total entered for Exportation from New Zealand to the 31st March, 1886.		
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
Auckland .. ..	Auckland .. ..	Oz. 9,884	£ 39,040	Oz. 1,480,766	£ 5,494,262	Oz. 1,490,650	£ 5,533,302	
Wellington .. ..	Wellington .. ..	.. ..	.. ..	141	537	141	537	
Nelson .. ..	Marlborough .. ..	2	8	53,375	206,300	53,377	206,308	
Nelson .. ..	Nelson .. ..	952	3,804	1,639,572	6,506,528	1,640,524	6,510,332	
Nelson .. ..	West Coast .. ..	516	2,056	3,171,300	12,589,865	3,197,321	12,693,950	
		Westport .. ..	5,123					20,500
		Greymouth .. ..	13,432					53,730
		Hokitika .. ..	6,950					27,799
		26,021	104,085					
Dunedin .. ..	Canterbury .. ..	.. ..	.. ..	24	96	24	96	
Dunedin .. ..	Otago .. ..	21,437	86,019	4,444,472	17,530,319	4,467,227	17,621,610	
		Invercargill .. ..	315					1,260
		Riverton .. ..	1,003					4,012
		22,755	91,291					
Totals .. ..		59,614	238,228	10,789,650	42,327,907	10,849,264	42,566,135	

Department of Trade and Customs,  
Wellington, 10th April, 1885.

WILLIAM SEED,  
Secretary and Inspector.

## No. 7.

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, 1886.

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 }	10s. to 14s.	..	..
South Hauraki .. ..	{ 2 10 0 to 3 2 6 }	8s. 6d. to 10s. 6d.	£3	40in. by lin.
Te Aroha .. ..	{ 2 16 0 to 3 5 0 }	10s.	..	..
MARLBOROUGH—Pelorus and Wairau .. ..	{ 3 13 0 3 10 0 to }	..	£1	20in. by 2in.
NELSON—Wangapeka .. ..	{ 3 15 0 3 17 0 }	..	..	..
Charleston .. ..	{ 3 15 0 to 3 18 9 }	10s. to 15s.	£25s. to £2 12s. 6d.	40in.
Inangahua .. ..	{ 3 12 6 to 3 13 6 }	10s. to 15s.	..	..
Collingwood .. ..	{ 3 17 0 3 15 0 }	10s.	£2	40in.
Westport .. ..	..	£1	10s.	40in.
Lyell .. ..	..	..	..	..
WESTLAND—Hokitika and Kanieri	..	..	..	..
Waimea .. ..	3 16 0	£1	£3 to £4	40in.
Totara .. ..	..	..	..	..
No Town, Arnold, and Dun- ganville	3 16 0	..	15s.	40in.
Greymouth .. ..	3 16 0	..	£3	40in.
Greenstone .. ..	3 16 0	..	£3	40in.
Kumara .. ..	3 16 6	..	£3 to £4	40in.
Ahaura .. ..	3 16 0	..	..	..
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	12s. to £1	£1	40in.
Longwood .. ..	3 2 0	..	15s.	8in. by lin.
Orepuki .. ..	3 16 6	..	15s.	40in. by lin.
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 lin.
Maerae's, Hyde Hamilton, Serpentine } ..	3 15 0	..	£1 13s. 4d.	..
Maerewhenua	..	..	..	..
Cromwell .. ..	{ 3 15 0 to 3 17 0 }	..	£1 10s.	..
Waikaia .. ..	{ 3 12 6 to 3 15 0 }	..	10s.	40in.

## 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, 1886, and 31st March, 1885.

District of	Quarter ended 31st March, 1886.		Quarter ended 31st March, 1885.	
	Quantity.	Value.	Quantity.	Value.
	Oz.	£	Oz.	£
Auckland .. ..	9,884	39,040	6,839	26,441
Marlborough .. ..	2	8	..	..
Nelson .. ..	952	3,804	1,012	3,735
West Coast .. ..	26,021	104,085	31,487	125,887
Otago .. ..	22,755	91,291	24,579	99,152
Totals .. ..	59,614	238,228	63,917	255,215

Department of Trade and Customs,  
Wellington, 10th April, 1886.

WILLIAM SEED,  
Secretary and Inspector.

No. 9. RETURN showing the AVERAGE PRICES of PROVISIONS and LIVE STOCK for the Year ending 31st March, 1886.

Mining District.	Beer.		Brandy.	Bread wheat.	Butter fresh.	Butter salt.	Cheese.	Coffee.	Flour.	Grain wheat.	Cattle horned.	Goats.	Horses.	Sheep.	Swine.	Mkatt.			Pork.	Milk.	Rice.	Salt.	Sugar.	Tea.	Tobacco.	Wine.
	Per hd.	Per gall.														Per lb.	Per lb.	Per lb.								
AUCKLAND—																										
North Hauraki ..	90/	25/	1/3	1/10	2/	1/3	1/10	2/	13/	5/	5-15	12/	5-50	10/	20/	20/	2/	6	3	1-2	d	6	2/6-4/6	6/6	20/-25/	
South Hauraki ..	88/-100/	30/-35/	1/3	8/	1/9	1/3	8/	1/9	14/	5/	5-20	5/	5-20	8/-12/	15/	15/	4	4	3	1 1/2	1 1/2	4	2/	6/	16/-40/	
Te Aroha ..	100/	25/	1/3	8/	2/	1/3	8/	2/	13/	5/	5-9	5/	5-9	8/-12/	15/	15/	4	4	4	1	1	3 1/2-6	6/	40/		
MARLBOROUGH—																										
Queen Charlotte Sound ..																										
Pelorus ..	150/		1/	1/	1/	1/	1/	1/	18/		6-8	10/		13/					4	4						
Wairau ..			1/	1/	1/	1/	1/	1/	18/		6-8			13/					4	4						
NELSON—																										
Wangapeka ..			9/	9/	9/	9/	9/	1/9	14/		5		12-20	6/-8/	8/				4	4						
Collingwood ..	100/	38/	1/	7/8	2/	1/3	1/8	2/	15/	5/6	3-7		5-15	8/	15/				4	4						
Inangahua ..	130/	25/	1/3	1/	1/	1/3	1/	2/	21/	7/6	6-9		10-35	20/	60/-80/				6	6						
Lyell and Murchison ..	150/	28/	2/	1/	2/	1/6	1/	2/	20/	13/	10		15	16/	80/				9	9						
Westport ..	190/	21/-25/	1/	6/8	1/6-8	1/10	1/10	1/6-8	9/10/	3/6	4 1/2-12	15/-20/	6-40	15/-18/	8/-60/				6	6						
Charleston ..	180/	26/	1/6	1/3	1/10	1/3	1/10	2/	16/	5/6	7-10	20/	10-25	15/	20/-40/				5	5						
Alaura ..	120/-140/	25/	1/3-2/	1/3-2/	9/	1/3	1/3	1/9	15/	6/	5-9	20/	5-20	15/	60/				4	4						
WESTLAND—																										
Waimea ..	120/	25/-28/	2/	1/6	1/8	1/6	1/6	2/	15/-25/	6/	6-15	20/	10-50	15/-22/	40/-60/				6	6						
Totara ..	110/	26/	2/	1/6	1/9	1/6	1/9	2/	16/	5/	10	10/	20	15/	40/				5	5						
Hokitika and Kanieri ..	100/	25/	2/	1/6	1/	1/6	1/	2/	15/-20/	5/6	10	15/	10-20	15/-20/	20/-60/				6	6						
Okarito ..		30/	1/6	1/	1/	1/6	1/	1/	25/	7/	2-12	20/	5-25	20/	20/-60/				6	6						
Kumara ..	120/	23/6	2/	1/6	1/3	1/6	1/3	1/9	25/	6/	10-15	30/	10-40	20/	80/-120/				6	6						
Greymouth ..	100/-130/	24/-28/	2/	1/6	1/6	1/6	1/6	1/6	16/-18/	6/	5-12	20-60	10-40	20/	60/-120/				6	6						
Arnold ..	190/-140/	22/-28/	2 1/2-2 1/2	1/3-1/6	1/-2/	1/6-1/9	1/6-1/9	2/	20/-22/	6/-7/	7-11	20/	12-30	12-30	55/-60/				6	6						
Jackson's Bay ..			1/	1/6	1/6	1/6	1/6	1/10	16/-22/	7/	8-16	20/	10-50	15/-22/	40/-100/				7	7						
Greenstone ..	120/	25/	2/	1/6	1/8	1/6	1/8	2/	25/	7/	3-16	20/	10-50	15/-22/	40/-100/				7	7						
OTAGO—																										
Hindon ..	120/	25/	1/3	1/10	1/9	1/3	1/10	1/9	15/		4-7 1/2		6-40	9/	55/-55/				5	5						
Tuaspeka ..	110/-140/	25/-27/	1/	1/8	1/6	1/8	1/8	1/6	9/	3/-3/9			3-28	3/-8/6					2-4	4-6						
Cromwell ..			1/	1/8	1/6	1/8	1/8	1/6	9/																	
Clyde ..			1/0	1/10	1/9	1/10	1/10	1/9	15/	5/6	2-5		6-25	3/-10/	45/				5	5						
Alexandra ..	120/	30/	1/0	1/3	1/9	1/3	1/9	1/9	15/	5/6	2-5		6-25	3/-10/	45/				5	5						
Black's ..			1/0	1/10	1/9	1/10	1/10	1/9	15/	5/6	2-5		6-25	3/-10/	45/				5	5						
Roxburgh ..			1/3	1/8	1/9	1/3	1/9	1/9	15/	5/6	2-5		6-25	3/-10/	45/				5	5						
Queenstown ..	110/	28/	1/3	1/8	1/9	1/3	1/9	1/9	10/-14/	3/	5-10	10-30	10-30	5/-15/	20/-100/				8	8						
Orepuki, Longwood ..	80/	24/	1/3	1/8	1/9	1/3	1/9	1/9	9/6	3/6	3	10/	10	9/	20/				7	7						
Arrow (Wakatipu Gold-field) ..	120/	30/	1/3	1/8	1/10	1/3	1/10	1/10	13/-15/	3/6	5-10	15/	15-35	5/-15/	20/-100/				8	8						
Mount Ida ..	80/-120/	27/	1/3	1/10	1/9	1/10	1/10	1/9	13/	4/6	8	15/	15	2/6	60/				6	6						
Macrewhenua ..	100/	26/	1/10	1/10	1/10	1/10	1/10	1/10	10/	3/6	4 1/2-6	6-20	6-20	5/	25/-60/				4-7	3 1/2						
Waikata ..	180/	30/	1/	1/10	1/10	1/10	1/10	1/10	13/	4/	3 1/2-6		12	10/6	40/				4	4						

No. 10.  
TABLE showing the AVERAGE RATE of WAGES per WEEK for the Year ending 31st March, 1886.

Mining District.	General Managers.	Legal Managers.	Mining Managers.	Engineers.	Engine-drivers.	Stokers.	Blacksmiths.	Carpenters.	Miners.	Labourers.	Boys.	Chinese.	Agricultural Labourers.	Domestic Servants.
UCLAND— Te Aroha .. .. .	£ s. d. .. .. .	£ s. d. 1 0 0	£ s. d. £4 to £5	£ s. d. .. .. .	£ s. d. .. .. .	£ s. d. 2 8 0	£ s. d. 3 16 0	£ s. d. 3 6 0	£ s. d. 2 8 0	£ s. d. 2 2 0	£ s. d. 20/ to 25/	£ s. d. .. .. .	£ s. d. 20/ to 30/	8/ to 12/
North Hauraki ..	£4 to £5	£1 to £2	£4 to £5	£2 10/ to £3	£2 10/ to £3	2 8 0	£2 10/ to £3	£2 10/ to £3	2 8 0	2 8 0	15/ to 20/	.. .. .	2 2 0	10/ to 18/
South Hauraki ..	.. .. .	1 0 0	£4 to £6	£2 10/ to £3	£2 10/ to £3	2 10 0	£2 10/ to £3	£3 to £3 12/	£2 2/ to £2 8/	1 16 0	15/ to 20/	.. .. .	.. .. .	8/ to 12/
MARLBOROUGH— Wairau .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
Pelorus .. .. .	4 0 0	.. .. .	4 0 0	3 0 0	3 0 0	.. .. .	3 0 0	.. .. .	3 0 0	2 8 0	10/ to 20/	.. .. .	.. .. .	.. .. .
Queen Charlotte Sound ..	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
NELSON— Wangapeka .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
Collingwood .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
Inangahua .. .. .	7 0 0	£1 to £3	£5 to £6	2 8 0	3 10 0	3 0 0	£4 10/ to £5	£4 10/ to £5	2 8 0	2 2 0	0 12 0	.. .. .	36/ to 42/	7/
Charleston .. .. .	.. .. .	.. .. .	5 0 0	3 10 0	3 10 0	3 0 0	£4 10/ to £5	£4 10/ to £5	2 8 0	3 0 0	2 0 0	.. .. .	20/ to 30/	10/ to 12/
Westport .. .. .	.. .. .	.. .. .	5 0 0	3 15 0	3 0 0	3 0 0	3 10 0	3 10 0	3 0 0	£2 to £3	20/ to 40/	.. .. .	1 10 0	10/ to 15/
Lyell and Murchison .. .. .	6 0 0	1 0 0	6 0 0	3 15 0	3 0 0	3 0 0	4 4 0	4 4 0	3 0 0	2 10 0	5/ to 20/	.. .. .	25/ to 30/	10/ to 20/
Ahaura .. .. .	.. .. .	1 10 0	6 0 0	.. .. .	.. .. .	.. .. .	5 0 0	3 10 0	3 3 0	3 0 0	2 0 0	.. .. .	2 0 0	20/
WESTLAND— Waimea and Stafford ..	.. .. .	.. .. .	2 0 0	.. .. .	.. .. .	.. .. .	£3 10/ to £4	£3 10/ to £4	3 0 0	£2 8/ to £3	0 15 0	.. .. .	2 10 0	15/ to 20/
Totara .. .. .	6 0 0	1 10 0	4 10 0	3 0 0	3 0 0	3 0 0	£4 to £4 10/	£4 to £4 10/	£2 10/ to £3	1 10 0	.. .. .	.. .. .	3 0 0	10/ to 20/
Hokitika and Kanieri ..	£3 to £4	1 0 0	£4 to £5	3 0 0	3 0 0	3 0 0	4 0 0	4 0 0	3 0 0	3 0 0	1 10 0	1 10 0	3 0 0	10/ to 20/
Kumara .. .. .	5 0 0	2 0 0	4 0 0	4 0 0	4 0 0	3 0 0	3 0 0	4 10 0	3 0 0	3 0 0	1 10 0	.. .. .	1 10 0	10/ to 15/
Greymouth .. .. .	.. .. .	1 0 0	6 0 0	£4 to £5	£3 to £3 10/	3 0 0	4 0 0	4 16 0	3 0 0	£2 14/ to £3	0 15 0	.. .. .	1 10 0	10/ to 20/
Okarito and Jackson's Bay ..	.. .. .	.. .. .	5 0 0	4 0 0	.. .. .	.. .. .	3 12 0	3 12 0	3 0 0	3 0 0	.. .. .	.. .. .	1 5 0	15/
Maori Gully (Arnold) ..	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	4 0 0	4 0 0	3 0 0	3 0 0	20/ to 30/	.. .. .	1 10 0	15/
Greenstone .. .. .	4 0 0	.. .. .	2 0 0	.. .. .	.. .. .	.. .. .	£4 to £4 10/	4 10 0	3 0 0	3 0 0	1 10 0	.. .. .	30/ to 40/	15/
Goldsborough and Stafford ..	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	£4 to £4 10/	4 10 0	3 0 0	£2 14/ to £3	15/ to 20/	.. .. .	.. .. .	20/
OTAGO— Hindon .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	3 0 0	3 0 0	42/ to 55/	2 2 0	10/ to 20/	.. .. .	£45 to £50	£30 to £35
Tuapeka .. .. .	£3 to £4	£20 to £50 per annum	£3 10/ to £5	£3 to £3 5/	55/ to 63/	.. .. .	50/ to 63/	£3 to £3 10/	42 to 48/	36/ to 42/	.. .. .	15/ to 20/	per annum	5/ 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	£2 10/ to £3	48/ to 54/	15/ to 25/	.. .. .	£1 & rations	10/ to 20/
Clyde .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	4 0 0	4 0 0	3 0 0	2 8 0	10/ to 20/	.. .. .	1 0 0	10/ to 15/
Alexandra .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	4 0 0	4 0 0	3 0 0	2 8 0	.. .. .	.. .. .	1 0 0	15/
Black's .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	3 0 0	3 12 0	2 8 0	1 15 0	0 15 0	.. .. .	1 0 0	15/
Roxburgh .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	3 0 0	3 0 0	2 8 0	2 2 0	1 0 0	.. .. .	2 2 0	15/
Waikais .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	4 0 0	4 10 0	3 0 0	3 0 0	10/ to 15/	.. .. .	20/ to 25/	12/6 to 15/
Orepuki and Longwood ..	6 0 0	1 0 0	5 0 0	4 0 0	3 0 0	2 10 0	4 0 0	4 10 0	3 0 0	3 0 0	.. .. .	.. .. .	£45 to £50	£30
Arrow (Wakatipu Gold-eld) ..	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	3 10 0	3 12 0	2 8 0	1 5 0	1 0 0	.. .. .	per annum	per annum
Mount Ida .. .. .	.. .. .	.. .. .	3 10 0	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	12/ to 16/	14/
Maerewhenua .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	3 0 0	3 0 0	2 10 0	2 10 0	0 10 0	.. .. .	with rations	.. .. .

No. 11.

NUMBER of MACHINES employed in ALLUVIAL and QUARTZ-MINING for the Year ending 31st March, 1886.

Mining District.	Machinery employed in Alluvial Mining.										Machinery employed in Quartz-mining.										Approximate Value of all Mining Plant included in this Return.			
	Puddling Machines.	Whims.	Whips or Pulleys.	Sluices, Toms, and Sluice-boxes.	Water-wheels.	Hydraulic Hose.	Pumps.	Dredges.	Quicksilver and Compound Cradles.	Derricks.	Stamp-heads crushing Cement.	Boring Machines.	Steam-engines employed winding, crushing, &c.		Crushing Machines.	Stamp-heads.	Water-wheels.	Whims.	Whips or Pulleys.	Derricks.		Buddles or Berdians.		
													No.	Aggr. h.p.										
<b>AUCKLAND—</b>																								
South Hauraki ..	..	..	..	..	..	..	..	..	..	..	..	..	25	600	22	458	23	..	..	..	..	208	105,000	
North Hauraki ..	..	..	..	..	..	..	..	..	..	..	..	..	8	210	7	65	3	..	..	..	..	..	30,000	
Te Aroha ..	..	..	..	..	..	..	..	..	..	..	..	..	1	20	2	50	4	..	..	..	..	76	18,000	
<b>MARLBOROUGH—</b>																								
Ravencliff and Queen Charlotte Sound	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pelorus & Wairau ..	..	..	..	130	2	4	..	..	..	..	..	..	1	12	..	..	..	..	..	..	..	..	1,546	
<b>NELSON—</b>																								
Wangapeka ..	..	..	..	47	..	1	..	..	3	..	..	..	..	1	..	4	1	..	..	..	..	..	..	
Collingwood ..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	5	1	..	..	..	..	..	2,500	
West Wanganui..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Inangahua ..	..	..	..	..	..	..	..	..	..	..	..	..	12	228	18	285	15	2	3	..	55	..	124,580	
Charleston ..	..	..	..	80	3	70	..	..	50	..	13	..	..	..	..	..	..	..	..	..	..	..	3,000	
Lyll ..	..	..	..	23	14	..	1	..	..	..	..	..	..	4	..	45	3	..	..	..	..	..	11,000	
Murchison ..	..	..	..	45	27	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,200	
Westport..	..	..	..	46	6	27	..	..	..	..	..	..	..	2	..	20	2	..	..	..	..	..	7,000	
Ahaura ..	..	..	..	500	2	350	1	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	6,800	
<b>WESTLAND—</b>																								
Waimea and Stafford	..	..	1	1,000	2	230	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,000	
Totara ..	..	..	8	40	3	40	6	..	..	..	..	5	220	..	..	..	..	..	..	..	..	..	14,000	
Hokitika and Kani-eri	..	2	40	70	..	30	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,500	
Greymouth ..	..	..	..	1,800	1	356	25	..	40	..	8	..	..	..	..	..	..	..	..	..	..	..	5,000	
Arnold ..	..	..	..	882	6	113	..	1	..	..	3	33	..	..	..	..	..	..	..	..	..	..	2,596	
Kumara ..	..	8	20	70	2	55	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,000	
Goldsborough	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Greenstone ..	..	..	..	1,000	..	34	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,500	
Okarito ..	..	..	..	50	3	..	3	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	
<b>OTAGO—</b>																								
Hindon ..	..	..	..	9	..	1	..	..	..	..	..	1	20	2	20	1	..	..	..	..	..	..	4,000	
Tuapeka ..	..	..	..	500	15	10	30	3	..	125	..	..	..	..	20	4	1	..	..	..	..	..	12,000	
Clyde, Alexandra, Cromwell, Roxburgh, Black's	..	..	..	..	..	150	..	4	..	..	..	..	..	3	40	2	2	..	..	..	..	..	20,000	
Orepuki and Longwood	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Waikaia(Switzer's)	..	..	..	410	5	60	..	..	..	..	3	24	..	..	..	..	..	..	..	..	..	..	4,480	
Arrow (Wakatipu Goldfield)	..	..	..	200	6	70	1	..	..	..	..	..	..	5	45	5	2	..	1	10	..	..	15,000	
Naseby ..	..	..	..	180	..	90	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,700	
Kyeburn and Clarke's	..	..	..	70	..	18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	480	
Hamilton's and Sowburn	..	..	..	40	..	25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	400	
Hyde and Fullerton's	..	..	..	15	..	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	200	
Macrae's, Strath-Taieri, and Shag Valley	..	..	..	50	..	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	150	
Maerewhenua ..	..	..	..	30	..	14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	300	
Serpentine ..	..	..	..	20	..	5	..	..	..	..	..	..	..	1	5	1	..	..	..	..	..	..	600	
St. Bathans, Ida Valley, and other localities	..	..	..	60	..	40	..	..	..	..	1	16	1	10	..	..	..	..	..	..	..	..	2,500	
Queenstown ..	..	..	..	300	..	50	..	..	..	..	..	..	..	6	90	..	..	..	..	..	..	..	24,000	
Clyde, Roxburgh, Alexandra, and Black's	2	4	3	396	13	4,000	10	7	30	4	..	1	12	2	8	1	..	..	..	..	..	..	21,700	
<b>Totals ..</b>	<b>2</b>	<b>14</b>	<b>72</b>	<b>8,063</b>	<b>110</b>	<b>5,870</b>	<b>78</b>	<b>15</b>	<b>123</b>	<b>7</b>	<b>138</b>	<b>9</b>	<b>61</b>	<b>1,395</b>	<b>77</b>	<b>1,170</b>	<b>66</b>	<b>7</b>	<b>3</b>	<b>1</b>	<b>349</b>	<b>452,732</b>		

SUMMARY.

Auckland ..	..	..	..	..	..	..	..	..	..	..	..	..	34	830	31	573	30	..	..	..	284	153,000
Marlborough ..	..	..	..	130	2	4	..	..	..	..	..	..	1	12	..	..	..	..	..	..	..	1,546
Nelson ..	..	..	..	741	52	448	2	..	53	3	13	..	12	228	26	359	22	2	3	..	55	156,080
Westland ..	..	10	69	4,912	17	863	35	1	40	..	..	9	8	253	..	..	..	..	..	..	..	34,596
Otago ..	2	4	3	2,280	39	4,555	41	14	30	4	125	..	6	72	20	238	14	5	..	1	10	107,520
<b>Totals ..</b>	<b>2</b>	<b>14</b>	<b>72</b>	<b>8,063</b>	<b>110</b>	<b>5,870</b>	<b>78</b>	<b>15</b>	<b>123</b>	<b>7</b>	<b>138</b>	<b>9</b>	<b>61</b>	<b>1,395</b>	<b>77</b>	<b>1,170</b>	<b>66</b>	<b>7</b>	<b>3</b>	<b>1</b>	<b>349</b>	<b>452,732</b>

## No. 12.

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, 1886.

Mining District.	Water-races.				Tail-races.		Dams.		Reservoirs.		Ground-sluices.	
	No.	Length in Miles.	No. of Sluice-heads.	Approximate Cost.	No.	Approximate Cost.	No.	Approximate Cost.	No.	Approximate Cost.	No.	Approximate Cost.
AUCKLAND—				£		£		£		£		£
Hauraki North ..	11	8	35	20,000	..	..	..	..	..	..	..	..
Hauraki South ..	26	20½	103	85,000	1	80	1	60	1	600	..	..
Te Aroha ..	4	2	14	7,500	..	..	..	..	..	..	..	..
MARLBOROUGH—												
Pelorus ..	32	42	61	4,500	18	1,500	16	400	6	300	..	..
Wairau ..	7	7	36	700	6	400	3	60	..	..	..	..
NELSON—												
Wangapeka ..	4	3	7	50	5	100	3	*	..	..	..	..
Collingwood ..	54	61¼	130	4,180	29	585	38	1,190	..	..	..	..
Inangahua ..	144	123	853	29,265	244	12,709	295	9,073	..	..	..	..
Charleston ..	245	135	287	22,300	187	6,762	417	9,600	1	3,000	70	3,000
Westport ..	204	182	824½	13,628	55	6,900	112	3,518	..	..	..	..
Lyell ..	48	36½	213	6,500	18	1,687	33	2,045	..	..	15	1,500
Murchison ..	49	40	148	4,000	12	420	13	627	..	..	33	3,100
Ahaura ..	43	15¼	124	1,782	38	9,102	30	1,329	..	..	350	12,000
WESTLAND—												
Totara ..	60	50	150	80,000	90	7,000	40	1,500	10	1,000	40	400
Hokitika and Kanieri ..	237	135	225	14,000	147	1,400	136	1,250	..	..	..	..
Kumara ..	112	70	530	14,300	125	15,000	20	2,000	11	7,500	20	200
Greymouth ..	184	152¾	445½	24,000	100	2,205	96	2,310	..	..	65	1,900
Maori Gulley (Arnold) ..	215	208	361	10,360	220	3,725	242	3,110	..	..	..	..
Okarito ..	23	25	220	1,500	2	30	7	70	..	..	..	..
Greenstone ..	100	50	200	10,000	40	2,000	35	2,500	..	..	..	..
Stafford and Goldsborough	380	260	700	22,000	450	7,000	510	6,000	180	2,500	300	3,700
OTAGO—												
Hindon ..	20	32	36	3,320	8	125	29	600	..	..	12	80
Tuapeka ..	331	1,073	1,132	21,460	683	9,200	256	7,900	†	†	†	†
Clyde ..	36	118¾	84½	8,858	28	675	20	430	†	†	†	†
Black's ..	64	297	245	22,892	78	14,700	54	11,350	†	†	†	†
Queenstown ..	96	157	334½	10,000	150	4,000	40	1,700	11	550	†	†
Alexandra ..	44	229½	151	15,845	38	1,775	42	1,000	†	†	†	†
Roxburgh ..	60	140¾	222	15,201	68	12,250	33	1,675	†	†	†	†
Cromwell ..	179	719	655	86,280	200	3	60	3	†	†	†	†
Waikaia ..	71	249	236	4,900	242	3,140	135	3,931	†	†	30	160
Orepuki and Longwood ..	125	130	300	18,000	52	2,300	54	500	..	..	..	..
Arrow (Wakatipu Goldfield)	110	151	213	9,000	180	4,750	30	1,800	30	700	†	†
Naseby ..	90	230	255	27,500	120	10,000	68	7,000	..	..	..	..
Kyeburn and Clarke's ..	73	218	240	10,200	45	2,500	20	1,500	..	..	..	..
Hamilton's and Sowburn ..	31	106	80	5,500	25	2,000	15	1,000	..	..	..	..
Hyde and Fullerton's ..	18	90	64	10,150	15	3,000	10	500	..	..	..	..
Macrae's, Strath-Taieri, and Shag Valley	26	42	43	4,000	20	400	18	1,200	..	..	..	..
Serpentine ..	36	88	93	5,000	25	2,000	7	400	..	..	..	..
Macrewhenua ..	18	168¾	44½	14,735	20	786	25	1,547	..	..	..	..
St. Bathans and Ida Valley	72	293	309	30,200	45	1,200	8	1,300	..	..	..	..
Totals ..	3,682	6,179	10,404½	698,606	3,851	153,356	2,971	91,975	250	16,150	935	26,040

\* Not known.

† Included in dams.

‡ Included in tail-races.

§ No record.

## No. 13.

RETURN showing the REVENUE and EXPENDITURE on account of CONSTRUCTED WATER-RACES maintained by the Government, from 1st April to 30th September, 1885, and from 1st October to 31st March, 1886.

Name of Race.	1st April to 30th September, 1885.						1st October, 1885, to 31st March, 1886.						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 ..	419	0	10	419	0	10	603	2	10	654	13	4	654	13	6
Waimea-Kumara ..	5,759	11	11	6,553	12	6	1,292	1	11	5,820	0	9	5,578	13	5
Kumara Sludge-chan. ..	1,112	18	1	1,260	7	10	2,909	10	7	1,077	0	6	1,105	13	5
Argyle ..	205	2	5	205	2	5	199	7	7	230	0	3	230	0	3
Mikonui ..	50	0	0	50	0	0	..	..	..	50	0	0	50	0	0
													2,623	5	7

## No. 14.

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, 1886.

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—		£	£		£	£		£	£
North Hauraki* ..	..	..	..	..	..	..	..	..	..
South Hauraki and Te Aroha	27	545,800	44,519	..	..	..	281	4,035,518	155,367
MARLBOROUGH—									
Pelorus ..	..	..	..	..	..	..	..	..	..
Queen Charlotte Sound ..	..	..	..	..	..	..	..	..	..
NELSON—									
Collingwood ..	..	..	..	..	..	..	1	20,000	8,250
West Wanganui ..	..	..	..	..	..	..	..	..	..
Westport ..	..	..	..	..	..	..	14	368,000	179,583
Inangahua ..	2	60,500	42,768	..	..	..	30	624,250	251,376
Lyell ..	..	..	..	..	..	..	10	266,000	139,616
Murchison ..	..	..	..	..	..	..	3	72,000	37,320
WESTLAND—									
Hokitika and Kanieri ..	..	..	..	..	..	..	1	150,000	129,766
Greymouth† ..	1	12,000	9,500	..	..	..	..	..	..
Ahaura ..	..	..	..	..	..	..	1	3,200	2,876
Totara ..	2	180,000	160,000	..	..	..	4	48,000	13,000
Kumara ..	..	..	..	..	..	..	1	16,000	14,600
Greenstone ..	1	6,000	6,000	1	4,480	4,480	..	..	..
Waimea and Stafford ..	1	..	..	..	..	..	1	15,000	3,500
OTAGO—									
Hindon ..	..	..	..	..	..	..	1	1,200	900
Tuapeka‡ ..	11	40,675	18,602	..	..	..	8	80,200	40,000
Cromwell ..	2	24,000	14,000	..	..	..	..	..	..
Clyde, Black's, Alexandra, and Roxburgh ..	..	..	..	..	..	..	7	66,100	33,135
Orepuki and Longwood ..	..	..	..	..	..	..	..	..	..
Arrow (Wakatipu Goldfield)	..	..	..	..	..	..	24	308,150	155,000
Naseby (Mount Ida) ..	12	62,720	61,620	..	..	..	..	..	..
Queenstown ..	..	..	..	1	24,000	16,600	2	41,000	30,000
Maerewhenua ..	..	..	..	..	..	..	1	3,600	3,600
Totals ..	59	931,695	357,009	2	28,480	21,080	390	6,118,218	1,197,894

\* No record kept.

† Not in operation.

‡ No return.

## No. 15.

RETURN of the NUMBER of MINING LEASES and AGRICULTURAL LEASES in Force on the 31st March, 1886, the EXTENT of GROUND LEASED, and RENTAL per ANNUM.

Mining Leases.				Agricultural Leases.			
Mining District.	No.	Gross Acreage.	Rental per Annum.	Mining District.	No.	Gross Acreage.	Rental per Annum.
AUCKLAND—		A. R. P.	£ s. d.	AUCKLAND—		A. R. P.	£ s. d.
Hauraki North ..	..	..	..	Hauraki, Ohinemuri	94	4,476 3 2	321 5 0
MARLBOROUGH—				NELSON—			
Wairau and Pelorus	1	16 1 38	17 0 0	Collingwood ..	11	622 2 5	63 17 0
Qn. Charlotte Sound ..	..	..	..	Inangahua ..	47	2,871 3 6	344 10 6
NELSON—				Charleston ..	23	542 2 24	45 11 6
Collingwood ..	17	205 1 31	205 0 0	Westport ..	28	2,045 0 20	215 11 6
West Wanganui ..	..	..	..	Lyell ..	36	1,805 0 14	199 13 0
Inangahua ..	47	1,170 3 17	943 7 6	Ahaura ..	50	2,543 2 10	280 7 6
Charleston ..	27	156 1 24	150 0 0	Wangapeka ..	1	46 0 0	5 15 0
Ahaura ..	14	130 3 28	130 0 0	WESTLAND—			
Westport ..	28	389 2 14	395 10 0	Greymouth ..	11	902 3 13	90 10 0
Lyell ..	12	281 1 15	245 0 0	Arnold ..	9	569 3 14	63 6 0
Murchison ..	2	31 0 28	32 0 0	Greenstone ..	1	89 0 0	11 2 6
WESTLAND—				Totara ..	2	22 0 0	2 15 0
Kumara ..	1	10 0 0	10 0 0	Kumara ..	2	69 2 13	8 15 0
Totara ..	5	59 0 0	59 0 0	OTAGO—			
Greymouth ..	1	4 0 0	4 0 0	Waikaia ..	5	349 1 15	51 5 0
Arnold ..	4	28 0 0	28 0 0	Tuapeka ..	175	50,317 3 6	7,342 11 10
OTAGO—				Cromwell ..	33	4,109 0 0	513 12 6
Waikaia ..	5	49 2 0	50 0 0	Clyde, Alexandra, Black's, Roxburgh	32	5,842 2 36	731 12 6
Orepuki and Longwood ..	..	..	..	Mount Ida District	30	5,333 2 7	668 10 0
Cromwell ..	7	95 0 0	95 0 0	Arrow (Wakatipu Goldfield)	39	2,038 0 18	255 7 6
Hindon ..	3	45 1 4	46 0 0	Queenstown ..	33	1,029 2 20	130 0 0
Tuapeka ..	35	161 1 19	174 0 0	Totals ..	662	85,626 3 23	11,345 18 10
Clyde, Alexandra, Black's, Roxburgh	24	215 2 14	227 0 0				
Naseby ..	49	363 0 0	363 0 0				
Arrow (Wakatipu Goldfield)	44	307 3 38	317 0 0				
Queenstown ..	41	341 0 9	347 0 0				
Totals ..	367	4,061 3 39	3,837 17 6				

## No. 16.

RETURN of the NUMBER of LICENSES under "The Gold-mining Districts Act, 1873," for the Year ending 31st March, 1886.

Mining District.						Number.	Gross Acreage.	Rental per Annum.		
AUCKLAND—							A. R. P.	£	s.	d.
North Hauraki	..	..	..	..	..	21	148 2 1	436	0	0
Grahamstown	..	..	..	..	..	171	1,326 1 5	3,980	0	0
Te Aroha	..	..	..	..	..	97	153 2 0	462	0	0
Totals						229	1,633 1 6	4,878	0	0

## No. 17.

RETURN of CASES in the WARDENS' COURTS, and COSTS AWARDED, for the Year ending 31st March, 1886.

Mining District.	Number of Mining Disputes adjudicated on.	Aggregate Amount of Value.		Amount of Costs awarded.	Cases wherein Judgment has decreed Specific Performance.
		Claimed.	Recovered.		
		£ s. d.	£ s. d.	£ s. d.	
AUCKLAND—					
North Hauraki	7	..	..	3 17 0	6
South Hauraki	126	44 3 11	44 3 11	152 18 0	..
Te Aroha	43	364 1 8	270 3 3	17 6 0	5
MARLBOROUGH—					
Pelorus and Wairau	..	..	..	..	..
NELSON—					
Collingwood	..	..	..	..	..
Inangahua	21	76 0 0	16 15 0	59 17 6	..
Lyell	6	193 6 8	45 16 8	8 8 0	..
Westport	15	726 6 0	725 6 0	21 6 0	..
Charleston	15	90 10 0	6 0 0	13 14 0	..
Ahaura	8	51 0 0	10 0 0	12 3 0	..
Murchison	..	..	..	..	..
WESTLAND—					
Hokitika and Kanieri	11	190 0 0	10 10 7	15 18 0	..
Waimea and Stafford	19	41 7 0	11 1 0	13 11 0	4
Totara	10	1,015 0 0	5 0 0	29 7 0	3
Kumara	9	2,037 10 0	341 10 0	23 18 0	..
Greymouth	24	51 11 0	11 3 0	39 3 6	4
Arnold (Maori Gully)	15	61 10 0	1 2 0	4 8 0	..
Greenstone	6	..	..	7 19 0	3
Okarito	4	150 0 0	..	0 12 0	..
OTAGO—					
Hindon	1	..	..	6 0 0	..
Tuapeka	24	256 17 8	53 0 0	31 1 0	..
Cromwell	14	..	..	11 18 0	..
Alexandra	5	10 0 0	..	11 15 0	..
Roxburgh	6	..	..	10 14 6	..
Black's	11	75 0 0	20 18 0	45 15 0	..
Clyde	2	6 0 0	..	5 8 0	..
Waikaia	17	50 0 0	..	0 13 6	1
Orepuki and Longwood	31	392 0 6	114 0 0	71 7 0	..
Arrow (Wakatipu Goldfield)	7	187 0 0	115 2 4	8 3 6	..
Queenstown	11	109 0 0	93 0 0	24 11 0	..
Naseby	49	650 16 0	19 4 6	17 10 0	..
Maerewhenua	1	..	7 17 1	0 11 0	..
Totals	518	6,829 0 5	1,921 13 4	669 13 6	25

H. J. H. ELLIOTT,  
Under-Secretary for Goldfields.

Mines Department, Wellington, 23rd June, 1886.