

1881.  
NEW ZEALAND.

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# THE GOLD FIELDS OF NEW ZEALAND

(REPORT ON).

*Return to an Order of the House of Representatives, dated 3rd August, 1869.*

“That it is desirable that the Government should cause to be laid upon the Table of this House, during each session, a Report embodying a general account of the present condition of the gold fields of the colony, their advancement or otherwise during the preceding year, and their probable prospects; together with particulars showing the average price of provisions during the year on each gold field, the rate of wages, estimated population, and such other information as would afford a comprehensive idea of the general condition of the mining interests in the colony; and that His Excellency be requested to forward a copy of such report to Her Majesty’s Secretary of State for the Colonies.”  
(*Mr. W. H. Harrison.*)

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SIR,—

Secretary for Gold Fields Office,  
Wellington, 1st July, 1881.

I have the honor to forward the general report upon the gold fields for the year ending the 31st of March, 1881, with the detailed reports of the Wardens for their various districts, and statistical information tabulated as in former reports, and also reports from the managers of water-races.

I have, &c.,

The Hon. William Rolleston,  
Minister of Mines.

JAMES MCKERROW,  
Secretary for Gold Fields.

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## REPORT

ON the gold fields of New Zealand during the past year there has been more than usual activity. This has been most prominently displayed in the prospecting of new country, and in the increased area of proved auriferous ground which has thereby become known.

*In Quartz Mining.*—Te Aroha and Coromandel in Auckland province; Mohaka in Hawke’s Bay, Terawhiti in Wellington, Mount Arthur in Nelson, and head of Lake Wakatipu in Otago province are localities in which more or less has been done in the discovery and testing of auriferous quartz veins. As frequently happens in quartz mining, there were at first in most of these cases greater expectations than subsequent experience has yet realized. It requires an expenditure of much hard work, time, and money before even the richest mine can be rendered productive. This necessary outlay is being made at most of the places named. In the alluvial mining districts also, of West Coast and Otago new ground has been explored, and in old ground improved machinery and more tunnels and sludge-channels have been brought to bear on deeper deposits.

These prospectings and preliminary works have not been done to the neglect of workings formerly opened out, as the increases under the various heads of revenue enumerated in Table No. 3, Appendix, will show, and also the very

considerable increase in the yield of gold in 1880 over 1879, in the following comparative statement of

## YIELD OF GOLD.

—	1879.		1880.		Decrease.	Increase.	
	Oz.	Value.	Oz.	Value.		Oz.	Value.
Auckland	37,901	£154,295	42,720	£176,416	..	4,819	£22,121
Marlborough ..	879	3,460	1,550	5,650		671	2,190
Nelson	2,993	11,424	3,222	12,223		229	799
West Coast	142,822	571,061	144,090	575,258		1,268	4,197
Otago ..	102,869	407,868	113,666	457,705		10,797	49,837
	287,464	1,148,108	305,248	1,227,252		17,784	79,144
Increase for 1880						17,784	£79,144

Comparison of the quarters ended 31st March, 1880 and 1881, show, on the other hand, a very great falling off for the first quarter of the current year. As explained in former reports, the only criterion we have of the yield of gold is in the quantity passed at the Customhouse for export. This, of course, takes no account of what is used up in the colony, which may be taken to vary from 10,000 to 20,000 ounces a year. Nor for so short a period as three months can any very reliable conclusion be come to as to the actual yield of the gold fields during that time, there being many contingencies which affect the quantities sold by the miners and shipped by the banks, which do not recur regularly within a three months' period, but which adjust to a much better average for a period of twelve months.

—	1880.		1881.		Decrease.		Increase.
	Oz.	Value.	Oz.	Value.	Oz.	Value.	
Auckland ..	11,787	£47,403	6,151	£23,779	5,636	£23,624	
Marlborough	215	850	..	..	215	850	
Nelson	1,096	4,129	250	1,000	846	3,129	
West Coast ...	33,615	134,426	23,822	95,286	9,793	39,140	
Otago ..	32,589	131,400	20,418	82,167	12,171	49,233	
	79,302	£318,208	50,641	£202,232	28,661	£115,976	..
Decrease for three months ended 31st March, 1881					28,661	£115,976	..

## STATEMENT of GOLD EXPORTED and VALUE for the years, as under.

Year.	Oz.	Value.	Year.	Oz.	Value.
1857	10,436	£40,442	1870	544,880	£2,157,585
1858	13,533	52,443	1871	730,029	2,787,520
1859	7,336	28,427	1872	445,370	1,730,992
1860	4,538	17,585	1873	505,337	1,987,425
1861	194,234	752,657	1874	376,388	1,505,331
1862	410,862	1,591,389	1875	355,322	1,407,770
1863	628,450	2,431,723	1876	318,367	1,268,559
1864	480,171	1,857,847	1877	371,685	1,496,080
1865	574,574	2,226,474	1878	310,486	1,240,079
1866	735,376	2,844,517	1879	284,100	1,134,641
1867	686,753	2,700,275	1880	305,248	1,227,252
1868	637,474	2,504,326	30th June, 1881	114,036	456,319
1869	614,281	2,362,995			
				9,659,266	£37,810,653

## MINING POPULATION AND ITS EARNINGS.

By reference to Table No. 9 it will be seen that the number of miners on 31st March, 1881, was 15,063, and as the number twelve months before that was 14,409, the mean number for the year will be 14,736. The gold exported for the same period was valued at £1,111,276. This does not include the gold used up in the colony; but excluding this uncertain quantity, and simply taking the export alone, as was done in former years in striking the average earnings per man, it will be found that this is £75 8s. for the twelve months ended 31st March, 1881. For the three preceding similar periods, going back, the average earnings per man were respectively £81 2s., £75 10s., and £97 10s., or for the four years—31st March, 1877,

to 31st March, 1881—an average of £82 7s. 6d. per man. In Victoria, the average for the four years ended 31st December, 1880, is £80 15s. per man. £82 7s. 6d. a year, or £1 11s. 8d. a week, would be a low average wage for men residing in a colonial town, but the miners, more especially the alluvial miners (and they greatly preponderate in number), reside in the vicinity of their workings, rent free, and, if they choose, on a residence area of one acre. On the West Coast and at the Thames firewood is abundant, and in Otago there are the lignite deposits side by side with the gold.

Subject to regulations, there are more than ten million acres of Crown lands over which the miners have the right to search and mine for gold, and to occupy whatever portion they may select for mining or residence purposes. For these privileges there is the annual payment of £1 for miners' right, £1 an acre of rent for ground held on mining lease, also registration fees of water-rights and other mining property which are almost nominal, and there is the gold export duty of 2s. an oz., which, although not paid by the miners directly, is none the less so indirectly. These various items amount to an average contribution per miner of about £3 a year, or a total of £49,000 for the year.

The collection of this revenue and the expense of administration of the gold fields is at the sole charge of the Government, but the revenue collected is paid over to the funds of the county within which it arises. Many of the miners have entered into farms or have interests in cattle, and still prosecute mining for a portion of the year at least. The search for gold has been the occasion of leading men into the country, and the result has supplied them with the means of settling it. There is a great deal yet to be done in this way, more especially on the west coast of the Middle Island, where there are extensive districts that, as they get opened up by roads, will afford thrifty men the opportunity of settling down and drawing on the auriferous deposits from time to time. All along the coast-line, from Cape Farewell to Milford Sound, there are to be found hardy pioneers who, in pursuit of gold and adventure, have settled down in some favourite spot, and in their independent mode of life find a charm which more than compensates for its solitude and isolation.

#### ALLUVIAL MINING.

From this source fully two-thirds of the year's return of gold was obtained, and the balance from quartz and cement crushings. The returns from these two classes of mining have maintained about the same proportion for several years. The vast extent of the auriferous gravels, extending as they do in the valleys and terraces over an area of country of upwards of ten million acres, will maintain the pre-eminence of this class of mining in New Zealand for many years to come. Water for sluicing and washing the deposits is an indispensable requisite in alluvial mining, and that is always attainable in abundance in the natural supplies of the country. The extent to which this has been availed of is manifest in the statistics of Table No. 12, from which it will appear that upwards of 5,000 miles of water-races have been constructed by the miners, at an estimated cost, with their attendant tail-races and dams, of nearly £800,000. This is exclusive of Government water-races and dams, which cost £450,000.

Ground-sluicing is the favourite mode of alluvial mining, and, with a plentiful supply of water and a good fall for tail-race, it is the most profitable and certain in its results, even in ground that would be far too poor to work by any other method. It is a most destructive process, for the claim being once opened out to the depth of the layer of auriferous drift, the water, with a head of 80 or 100 or more feet, is directed through a hose and nozzle against the face of the claim, which it cuts into, undermining hundreds of tons of stuff in a few hours, which keeps falling in and is passed on in a muddy stream through the long line of tail-race, where the particles of gold settle by their gravity. In this way the crust of the earth is washed away to depths of from a few feet to over a hundred. The value of gold obtained from a sluicing claim varies from a few hundred pounds sterling to many thousand pounds per acre.

The magnitude of the sluicing operations soon destroys the natural fall of the tail-race by the accumulation of spoil at its lower end. Many expedients are had

recourse to in order to overcome this difficulty. At Dilman's Town, Kumara, where there are 340 acres of proved payable auriferous ground in one basin—being two miles of the ancient bed of the Teremakau—advantage has been taken of the lower level of the present channel of that river, by running tunnels from it through the intervening terrace formation to a level below the auriferous deposits. Through these tunnels the sludge flows in a rapid current from the claims, and is shot into the deep bed of the Teremakau. There are several private tunnels in operation, and the Government has a tunnel sludge-channel of 87 chains in length in course of construction, the lower half of which has been completed and timbered in a very substantial manner, and it can be availed of as soon as the claim-holders have made their branch tunnels into it. The section of this tunnel is 11' by 7'. It may be compared, as in reality it is, to a gigantic underground sewer. It will cost over £14,000. The open sludge-channel at Naseby is another large public work of this class, it is 8 miles long, and cost £23,492. The conditions, however, for disposal of tailings are rarely so favourable as at Kumara and Naseby, especially at the former, and sludge-channels become impracticable where there is little fall. Recourse must then be had to the more expensive and laborious process of tracing the auriferous ground by tunnels, and raising it up a shaft to a platform sufficiently high to allow of fall for the tailings after the stuff is washed. This plan is adopted with great success at Orwell Creek, Ahaura.

But the most ingenious expedient for overcoming the tailings difficulty is in operation at Gabriel's Gully, Tuapeka. In that gully there is an accumulation of millions of tons of tailings from the earlier workings of the famous Blue Spur. This mass of stuff, and portions of the original ground on which it rests, have long been supposed to be payable if they could only be put through the sluice-boxes in a wholesale manner. There is plenty of water available, but not sufficient fall. The problem seemed insoluble until Mr J. R. Perry took it up. By his plan the stuff is forced up a pipe by a powerful jet of water let in from a nozzle at the lower end of the pipe. This jet has a head of over 300 feet, and so great is the suction induced by its ascent that as the stuff is fed into the lower end of the pipe by a stream of water it is at once drawn in and rushes up the pipe, and would be discharged at the top as from a catapult or volcano but for an iron hood which serves the double purpose of breaking any agglomerated nodules, and guiding the stuff within the sluice-boxes, along which it is carried by the water, and is shot over at a convenient distance from the workings. In this way the stuff, instead of being washed bodily away down a sludge-channel, is simply turned over and shifted a few hundred feet at most. By referring to Mr Carew's report in the Appendix a more detailed description of this ingenious plan will be found. It is a great mechanical success, and will pay, it is estimated, if the ground will only yield a few grains of gold per ton.

As another instance of the skill and enterprise at work in the development of the alluvial deposits, the dredging of the bed of the Clutha may be cited. For many years dredging-machines have been at work on that river. The principle and system of raising the stuff by a chain of buckets in these machines are almost identical with that of harbour dredges. They are moored on the river, the powerful current of which acting on paddle-wheels supplies the motive power which drives the buckets. The bed of the river being very rich at places the dredging has proved profitable to many. But the dredger, depending on the current of the river for power, can only work where that is strong. Another plan was to have a punt or platform moored on the river, and by means of a large scoop with a strong canvass bag attached stuff was raised by a lever, this was a very laborious process. Another plan was on the pneumatic-tube principle employed in sinking cylinders for the piers of bridges. In it, the miner was let down and worked on the bed of the river direct. But there was too much time and expense involved in shifting the tube, and this plan was soon abandoned. There was also a plan of submarine boat on the principle of the diving-bell, the boat and apparatus were constructed, but the project fell through. The dredger principle is the one approved by experience, and there are now four steam-dredgers to be placed on the river. They, of course, will be independent of current, and

will be able to work on any part, and should put through a great deal of stuff. This is essential to success, because the river bed has become greatly filled up with tailings from former workings, and that waste has all to be lifted before the fertile ground on the original bed of the river is reached.

*Float Gold.*—It has been found at Charleston that the gold does not all settle in the tail-race, but that on the union of the waters of several tail-races a small percentage, well worth saving, floats away on the stream. This is arrested by a series of blanket-tables placed across stream, like weirs, thereby causing the water to flow over all the tables in succession. The tables are washed in turn, and the gold streamed from the sand, and is caught up by mercury.

*Beach Gold.*—On the coast line, about two miles north of Charleston, there is a settlement of Shetlanders, who with their families have settled down in comfortable homes along the edge of the forest, and whose working time is divided between small farm cultivation and the washing of the fine gold from the sea sands, which, after certain weathers, are easily got at and found to be highly auriferous. These beach-claims are deemed valuable property, are kept carefully registered, and as much as £250 has been paid for the transfer of the right to work a few square yards of what, to a casual observer, would only appear a flat patch of barren sand and nothing more.

#### QUARTZ AND CEMENT MINING.

The returns from this class of mining for the twelve months ended 31st March, 1881, are—

	Tons of Quartz Crushed.	Ounces of Gold.
Auckland,—		
Coromandel ..	720	4,960
Thames	32,404	53,154
West Coast,—		
Reefton ...	25,926	17,802
Lyell	6,880	5,675
Marlborough,—		
Havelock ..	600	190
Otago,—		
Cromwell	4,511	3,602
Arrow (Macetown)	4,896	2,254
Skipper's ..	3,752	915
Hindon	766	326
	80,455	88,878 from quartz.
Lawrence	..	25,600 estimated from cement.
		<u>114,478</u> from quartz and cement.

The number of tons of quartz crushed is 4,000 tons greater than last year, this is entirely due to the Alpine Company's mine, Lyell, which, after a great deal of heavy preparatory work, has been crushing regularly for some time past. In the other districts there has been a slight falling-off. For the last three years the returns from quartz mining have fluctuated very little, the total tons crushed being the same annually within 4,000 tons and the yield of gold within 9,000 oz. These comparisons also bring out the fact that for three years the quartz-crushings of Auckland yielded from 1oz 10dwts. to 1oz. 17dwts. per ton, the West Coast from 13dwts. to 18½dwts. per ton, and Otago from 10dwts. to 18½dwts. per ton.

Comparing the quartz-crushings of New Zealand with those of Victoria, and taking the most recent annual returns they are New Zealand, 80,455 tons, 88,878oz. or 1oz. 2dwts. 2grs. per ton, Victoria, 968,883 tons, 466,404oz., or 9dwts. 15grs. per ton.

The average yield of quartz crushed in Victoria for the six years, 1874-80, was half-an-ounce, or 10dwts. per ton on the vast quantity of 5,619,776 tons. In New Zealand, although the average yield of gold has always considerably exceeded an ounce to the ton, yet quartz mining has not made such progress as this statement might suggest. There is plenty of stone, but with the higher price of labour and the difficult nature of much of the country, half-an-ounce to the ton would not pay as in Victoria. The consequence is that stone is left untouched

that would pay well if in the other colony. There are several ways in which quartz mining may be promoted in New Zealand. The most obvious are, especially in mountainous districts, (1) The opening of roads so that machinery and timber may be got on to the ground with moderate expense, (2) The granting of large areas in exceptionally difficult circumstances.

The wisdom of granting large areas has been strikingly exemplified in the history of the Alpine Company's mine, Lyell, already referred to. The mine is situate up a wild bush gorge six or seven miles distant from the nearest point of the dray road, it is high up on the mountain side, and how to get machinery there and get the stone down to a site where the stampers could be erected was a problem requiring much skill and courage to solve. A large outlay was necessary, which the company saw would have been folly to incur on a lease of no greater area than the usual  $16\frac{1}{2}$  acres. The Government accordingly, three years ago, allowed an extension of area to 50 acres, and since then, by a large expenditure and much determination, the mine has become one of the most prolific in the colony. About the same time the Welcome Company, at Boatman's, near Reefton, applied for an extension of area, so as to be enabled to drive through to some back country; after due inquiry the application was granted, and the success of that mine, after a thorough and costly blocking out of the lodes, has been very satisfactory to the fortunate shareholders. There is plenty of stone in the colony, and similar success seems to await other companies that have the skill, capital, and patience to fairly test and open new ground.

In keeping with the policy of encouraging costly mining enterprises, a company at Ross, Westland, seven months ago, was granted a lease of 100 acres, so as to warrant the heavy preliminary expenses of opening out the deep leads there, and likewise, the Rangitoto Silver Mining Company, also near Ross, after having expended many thousand pounds in prospecting the ground, has been allowed to acquire the freehold of 500 acres, with the object of enabling the company to raise more capital towards further development of the property.

3. The development of quartz mining would be promoted by diminishing the cost of working expenses, in the application of improved appliances, this is treated of under the head Aids to Prospecting, &c.

#### AIDS TO PROSPECTING, AND SUBSIDIES TOWARDS THE CONSTRUCTION OF TRACKS UPON GOLD FIELDS, ROCK DRILLS, &c.

Subsidies have been continued to most of the prospecting parties formed in the Provincial Districts of Auckland, Nelson, and Westland, referred to in last report, but the subsidy has now ceased in many of these cases, and, in view of the reduced amount voted last year, very few new applications have been granted. It is reported that the discovery of Te Aroha quartz reefs was brought into prominent notice through the operations of one of these parties assisted by the Government, and one of the several parties sent out by the Hokitika District Prospecting Association, receiving aid from Government, report having found an area of new auriferous country in Arahura District, but it is quite possible that both of these discoveries would have been made without the Government assistance, and there is no satisfactory result from the aid given to other prospecting parties.

The vote in aid of the construction of tracks and minor works upon gold fields has enabled the department to grant assistance during the year to various applicants (County Councils and others) guaranteeing an equal contribution, and subsidies have accordingly been agreed to in respect of proposals to construct roads or tracks at Coromandel, Thames, Aroha, and Wellington (Terawhiti) Districts, in the North Island, and in Nelson (Wangapeka, and Motueka to Mount Arthur reefs), Reefton, Grey, Hokitika, and Wakatipu Districts, in the South Island. Some of these works are in course of progress, and the department feels much greater satisfaction in granting subsidies in these cases (which are made subject to more specific control and conditions) than in distributing aid to prospecting parties, and it is expected that in many instances the aid granted towards improving the means of communication with auriferous country will lead to the best results.

Mr Wakefield has done the best which could be done with the diamond rock-boring machine, which, for various reasons, is by no means an easy matter to manage. In last year's report it was stated that this machine was on its way to Hokitika, to the order of the Westland County Council, and in due course a bore-hole of upwards of 400 feet was put down at Kanieri, at a site selected by the Council. This was effected under considerable difficulties on account of the loose nature of the strata passed through, and upon striking a heavy drift of small pebbles the engineer was obliged to discontinue operations. The machine was next sent to Kamo, Whangarei, to the order of Mr Joseph Bennett, and a bore-hole of upwards of 100 feet has been successfully put down, fire-clay, coal, slate, and scoria being met with, the two last of the hardest description, specimens of which can be seen in Mr Wakefield's office. Unfortunately some of the diamonds from the bit were lost by coming in contact with the coarse honey-combed scoria, and boring has since been very slowly proceeded with, awaiting a further supply of bort diamonds from Melbourne or Sydney.

The Inangahua County Council has recently offered to purchase the boring-machine at the full price, payment to extend over twelve months, and correspondence upon this subject has taken place with the Council, but the negotiations cannot be continued until the present engagement for hire has been completed. The County Council has been moved to this by one of their number, Mr Caples, who has recently made the tour of the Victorian gold fields. He was much impressed with what he saw there of the powerful aids the quartz-mining industry has in the application of machinery, notably the efficiency of the diamond drill as a prospector, and of the rock-drill, driven by compressed air, as an unwearied miner "that can reduce the working expenses *one-half* and time *one-fourth*, as compared with the ordinary hammer-and-drill labour"

In New Zealand, where we have so much water-power running to waste, the application of this power to compressing air and driving rock-drills would seem to be the prelude to a new era in quartz mining. It is true, as was noted in last year's report, the rock-drill has been at work at the Thames for some time, but its efficiency is not so well known as it is desirable it should be. And as Mr Caples has favoured the public with a concise account of rock-drills and their latest improvements in a paper, which is one of a series, in the *Inangahua Times*, of the 8th June, 1881, it will be to the public advantage that the opinions and observations of one so experienced and trustworthy as he is, should be made further known on a matter so important, and with that view his remarks are given in full, as follows:—

"Within the last few years great improvements have been made in the portability and efficiency of rock-boring drills, specially adapted for the opening and working of quartz mines. They are now widely distributed throughout the principal mining claims in Victoria, and no well-established mining company is without one or more of these effective machines. Those having the control and management of quartz mines cannot fail to see an easy, rapid, and economic system of mining within their reach, that can reduce the working expenses *one-half* and time *one-fourth*, as compared with the ordinary hammer-and-drill labour. Rock-drills, as a rule, create labour, for some mines are now being worked by rock-drills that would not otherwise pay. In ordinary tunnel-work, if the power-drill is constantly employed, two men are required to work it, and one man to remove the stuff and prepare to timber up. Driving at this rate would entirely depend upon the nature of the ground, whether 40, 60, or more feet be driven for a week's work. It is not so easy to calculate, with any degree of certainty, the amount of benefit derived to workmen employed in a mine where a rock-drill is at work, by the constant supply of pure dry air circulating through the mine. This dry air removes powder smoke, counteracts dampness, and draughts of damp air can be closed up—all which so readily attack the strongest constitution. An ordinary observer, seeing these little giants at work, boring drill-holes at a rate of 800 strokes per minute, and each stroke a quarter of a ton, would naturally say man was never intended to use up his puny strength battering up a drill-head. A person interested in a speedy method to develop or work a quartz mine, seeing the amount of work performed by a power-drill, cannot fail to notice the wonderful difference, when compared with the present slow system of manual labour. The same remarks can be applied by introducing the diamond drill, as a prospector and explorer, with a percussive drill—a host of miners in itself—to follow any discovery made by its fellow-worker with the diamond crown. This plan has been successfully followed at Stawell. Another success can from there be recorded in favour of the rock-drill, now working a mine with profit, that was before then closed on account of the stone being so poor it would not pay the ordinary expenses of raising and crushing. At the Great Northern Mine, Stawell, we (Messrs. Potts, Butler, and Collins), went down the shaft to see the rock-drill at work. The drill was working on the flat-reef stope, boring through a very solid mass of quartz. It was taken down and again fixed for another box, the time in doing so not being more than a few minutes. The time taken to bore 3 feet was *twenty* minutes, not including two minutes for changing drills. One drill being used on all occa-

sions to start the bore, and, after this, two ordinary mining-drills bored the distance. Two miners, I was told, could not bore the depth in four hours. The rock-borer was a  $3\frac{1}{2}$  National; but the manager informed me that a  $2\frac{1}{2}$  would be found more suitable for general mining purposes. Mr. David Whyte, one of the directors of the mine, stated, 'That the mine had been idle for a considerable time, not being able to pay current expenses to raise and crush the stone. The "National drill" was sent for as a test, and was then working six months. Two thousand tons of quartz were broken down and crushed during that time, which cleared off all liability on the mine, including the cost of rock-drill and air-compressor. We have a small balance on hand, and have sent for another rock-drill. In the selection of percussive power-drills by those who desire economic and progressive mining, a few facts will be found useful to follow. The construction should be simple, with the fewest number of parts consistent with efficiency. The material should be of the best, especially so for the inner parts, exposed to such enormous friction. The weight of rock-borer should be portable, for a workman to carry to any part of a mine, and set it to work, or take it down in a few minutes and bore with ease at any angle directed by a miner. Rapidity of action is not so necessary as to have all the working parts remaining constantly in working order, and not liable to go out of repair.'

"*The National Rock-drill*.—This borer is more extensively used than all others. It is well spoken of for all kinds of mining work, and was employed in seven of the mines visited by me. It weighs 168 lb. in 80 parts, and costs £125. Osbourne and Cushion, Collins Street, agents.

"*Mitchell's Rock-drill*.—This drill is one of the latest additions to a numerous class already seeking public patronage. Mr. Mitchell is a Sandhurst engineer, and was then in Melbourne applying for letters patent when we reached there. In company with Messrs. Hobbs and Naylor (two gentlemen from Stawell) we paid a visit to Harkness and Co.'s foundry, where the drill was carefully examined in all its parts, the improvements, so far, giving general satisfaction. Next day Mr. Mitchell arrived from Melbourne and brought his drill for a trial down the Extended Hustler's Mine. The place selected was a cross-cut drive, on a hard, close-grained, thick-bedded slate rock. The machine was fixed to work in a few minutes; a start being made, I took the following time: Sixteen inches were bored in  $4\frac{3}{4}$  minutes; 22 inches in  $5\frac{1}{2}$  minutes; 25 inches in 6 minutes. Our Stawell friends being quite satisfied, I asked Mr. Mitchell what headway could the machine make with blunt or badly-pointed drills? From a number of drills one was selected blunt, with one of the corners broken off. This drill bored 23 inches in seven minutes, without water. I left perfectly satisfied with the work performed by this little stranger. If this rock-drill can bore equally well in quartz, I make no doubt of it being far superior to all others. If the following points of difference supplied to me by Mr. Mitchell be correct, a great deal can be said in its favour: 'The weight of my rock-borer is about 145 lb. The jacket is cast in that expensive and durable metal called phosphor bronze, and the cost, with 30 feet of tubing, is only £85. The pressure used is 50 lb. for inch connection, and 60 lb. for  $\frac{3}{4}$ -inch. With this pressure it bores one-third faster than most of the other drills. The construction is simple, with fewer number of parts and no valve, so objectionable in others. The most inattentive workman cannot put it out of repair; careless feeding, or a drill breaking or bending, will cause it to stop—a sufficient cause to put other drills out of repair.'"

#### WATER RACES UNDER THE CONTROL OF THE MINES DEPARTMENT.

As stated last year, there are four water-races the property of the Government. Those under the control of the Department are the Argyle, the Nelson Creek, and the Waimea-Kumara races, upon the West Coast, the Mount Ida race, Naseby, being managed by the Trust under "The Mount Ida Water-race Trust Act, 1878," a report of whose transactions for the year ending 30th of April, 1881, will be found in the Appendix. These works have hitherto only paid a very small percentage of interest upon the cost of construction, and although efforts have been made during the past year to reduce the cost of maintaining the West Coast races, the heavy floods which occurred in March last caused so much damage as to remove all chance of showing any profit from the Waimea-Kumara race for a long time to come. These races, however, as stated in former reports, enable a considerable number of men to prospect and open new claims which could not be developed at all without the water races, and an industry is thus steadily maintained, the average annual earnings from which amount to about £140 for each man employed. In Table No. 20 will be found a statement of revenue and expenditure on account of the West Coast races for the year ending 31st March, 1881, and a similar statement for Mount Ida race for the year ending 30th of April is attached to the report by the Trust referred to above.

#### SETTLEMENT ON GOLD FIELDS.

On the Auckland gold fields 15 applications of 50 acres each were made on agricultural lease, and 28 selectors have taken up 5,369 acres under the homestead clauses of the Land Act. An area of 3,300 acres remains open for selection on the homestead system, and a further area of 1,000 acres is about to be proclaimed.

On the West Coast gold fields, Middle Island, every acre of clearing has to be won from the forest, and as the humid climate is unfavourable to the cultivation



of grain, the settlers are very much restricted to the cultivation of grasses and their products. Nearly all the settlers either have interests in mining ventures or other business, or are actually engaged in mining a portion of their time. The settling of the country, in the sense of farming it and engaging in nothing else, has very few representatives. The occupation of this part of the colony may, therefore, be said to depend almost entirely on its mining development, and settlement can only progress accordingly, and is necessarily slow.

On the Otago gold fields there have been many transactions in Crown lands, and some accession of settlers under the leasing of runs, the sale of pastoral and agricultural deferred-payment lands, and of agricultural leaseholders either completing the purchase of their leasehold, or exchanging their leases and coming under the deferred-payment system, by which they are enabled to exchange a rent of 2s. 6d a year for payment of 3s. a year. This is deemed an instalment of the price of the fee-simple of the land, which in the case of exchange leases is fixed at 21s. an acre; seven years, therefore, under exchange lease, completes the purchase.

The future disposal of the Otago runs, the leases of which expire in March, 1883, will require to be carefully watched in the interests of gold-mining; for it would be very easy, even after making considerable mining reserves, so to hamper alluvial mining with the rights arising under freehold property as to virtually put a stop to mining. The conflict of interests between the freeholders and miners at Maerewhenua gold field is a telling case in point. The same difficulty has arisen in other localities. The fifty or sixty miners who have Hindon as a centre, notwithstanding large mining reserves were made in their favour, have so strongly represented to the Otago Land Board the injury that might accrue to them from the further sale of land on Hindon Hundred that more than 10,000 acres of it is withheld from sale or application. But for this prohibition it would all have been purchased on immediate and deferred payments, the land being good, and only from eight to fifteen miles from Outram Railway Station by a good road, constructed last year under the Government scheme of "opening up lands before sale." With the object of giving the miners at Hindon an opportunity of attaching themselves to the soil, a village settlement of 430 acres of excellent land, surveyed into sections of from ten to twenty acres, is now open to their selection.

#### DEPARTMENTAL.

I have again, as in former years, to acknowledge the assistance of the Secretary of the Treasury, Mr Gavin, and of Mr Seed, Secretary of Customs, in furnishing the returns of revenue and gold export appended to this report; also the assistance of Mr Wakefield in the compilation of the other statistical information and collection of reports.

JAMES MCKERROW.

## APPENDIX.

### AUCKLAND GOLD FIELDS.

#### No. 1.

Mr. Warden KENRICK to the UNDER-SECRETARY for GOLD FIELDS.

SIR,—

Warden's Office, Coromandel, 22nd May, 1881.

During the past year the discovery of some rich leaders at the Tiki, some five miles south of Coromandel Township, has led to a revival of mining throughout the district. These leaders were first discovered at the head of the Matawai and Pukewhau Creeks, at the Tiki, on private land belonging to a Mrs. McIntosh, from whom leases of various-sized blocks were obtained. The County Council started to make a good pack-track on to the ground at once. This, with the assistance of a grant in aid from the vote for gold fields roads, has been formed into a very fair road, one that has rendered accessible a large extent of new ground. As yet not very much has been done towards proving the permanency of these leaders. Still, the work that has been done, and the yields from the stuff taken out and crushed, warrant the hope that this district will in the immediate future come to the front as a good gold-producer. At present the most important claims are Tiernan's, Heenan's, Blackmore's, and others, situated on the block of private land, some 564 acres in extent, before referred to. The block is known as "Moore's Grant," and is now owned by Mrs. McIntosh, formerly the widow of William Moore, who many years ago obtained the block of land from the Native owners. The land is not within a gold field, nor subject to gold-fields laws or regulations. It may be a question whether some provision should not be made for the regulation and inspection of gold mines on private lands; for, if left without control, miners are apt to become careless and neglectful of the needful precautions in underground workings. On the Government land adjoining this block many claims have been marked out, and in some cases licenses have been applied for; but, as it will take some time to prove these holdings, the returns and discoveries have, up to the present time, been confined to those claims taken up on private property.

The quantity of quartz crushed during the year is much less than during the preceding year, though the yield of gold is nearly equal, being 720 tons and 4,976 ounces for the year 1880–81, as against 1,296 tons and 5,190 ounces for 1879–80. The difference in yield is somewhat remarkable, in 1879–80 being slightly over 4oz. to the ton, whilst in 1880–81 it was close upon 7oz. to the ton. These figures are furnished by the Mining Registrar.

The Kapanga, owned and worked by English capitalists, are still going down with their main shaft. The manager is hopeful of shortly having something good to report.

The heavy work undertaken by the Tokatea and Bismarck Companies of putting in a tunnel on the Kennedy's Bay side of the range, at the No. 7 level, has at last met with success, having reached the Bismarck ground, leaving some 300 feet further to drive before reaching the Tokatea. It was early found that hand labour in such extremely hard ground would be too slow; the company therefore obtained rock-drills and machinery from San Francisco, with which they have succeeded in driving the level through the hard belt of country, reaching the lode-channel in the early part of March. The result, so far, has justified both the outlay and the anticipations formed of the result, golden stone having been at once met with in the Bismarck ground. Great hopes are entertained of the payable character of the large block both companies will have in hand when this important work is finished. The level, when completed, will be about 3,000 feet in length, giving to both companies about 200 feet of backs, and following the main lode for about 1,500 feet. The pluck and energy displayed in carrying on such a large undertaking deserves success.

The Union Beach Mine has not met with much success during the last year. It would appear as though all the known payable leaders in the mine have been nearly worked out down to the 180-foot level, but there is every reason to believe that, if the shaft begun two years ago had been gone on with, that these leaders, found so rich in the upper workings, would be found to have carried their rich deposits to the lower level.

The New Golden Pah has made a new start during the past year, and, with its splendid plant, should soon be able to prove the value of the ground. A few pieces of rich stone have been met with, and the prospects of the mine appear good.

Several leases have been applied for on the Whangapoua side of the range, on property owned by Mr. Harris, good prospects being found there. The terms on which this land is offered by the proprietor to miners, though not so good as those on which Government land can be obtained, are fair, and should induce prospecting. This may be said to be an almost entirely new district that is now being opened up between Castle Rock and the ranges to the East Coast. Should payable gold be found the find will be of considerable importance from the large extent of unexplored country in the vicinity.

In conclusion, I may safely say that the prospects of this northern portion of the Hauraki District have not been so bright for years past. The appearance of the town is—for Coromandel—brisk in the extreme. The empty houses, so long an eyesore in the place, are now nearly all occupied by people attracted by the finds at the Tiki and other parts of the field.

During the year there have been in the Resident Magistrate's Court 172 civil and 54 criminal cases heard. In the Warden's Court 24 cases have been disposed of; 6 licensed holdings have been

granted; 19 forfeited; 168 notices of marking-out new claims have been given; 129 claims have been registered; 175 miners' rights have been issued. I have, &c.,

The Under-Secretary for Gold Fields, Wellington.

HARRY KENRICK,  
Warden.

## No. 2.

Mr. Warden KENRICK to the UNDER-SECRETARY for GOLD FIELDS.

SIR,—

Warden's Office, Thames, 2nd May, 1881.

In furnishing the annual report upon the Hauraki Gold Fields for the year ending 31st March, 1881, it is gratifying to be able to say that the anticipations of a revival in gold-mining contained in my previous report have been realised. For the first nine months of the year the yield of gold was in excess of the previous year, 33,300oz. as against 33,045oz. The falling-off during the quarter ending 31st March last is due to the stoppage of the various batteries in consequence of the deficient supply of water, the long spell of dry weather experienced this season having materially reduced the quantity of water in the county race, from whence the motive power for the batteries is now obtained. This revival has not been confined to a small increase in the quantity of gold produced, but has shown itself in the large area of old ground that has been retaken up in different localities, as also in the large extent of new country opened up for mining by recent discoveries.

Commencing at the northern end of the district, adjoining the Coromandel District, there has been a considerable amount of prospecting done by subsidized parties and individual miners, proving the existence of gold-bearing leaders over a large extent of comparatively untried and unknown country towards the east.

At Tapu Creek (Hastings), where very rich gold has been got in the past, several claims have been taken up during the year. A water-race, some forty chains in length, is being brought in to the battery that has so long been deserted, but which is now being repaired and got ready for use. Stone is being raised in one claim ready to bring down to the battery, and there is every indication that this long-neglected portion of the district will come to the front again and justify the expectations that were formed of it by the rich discoveries made in the early days of the field.

The grant of money made by the Government towards the completion of the road between the Thames and Coromandel will materially assist in making the Tapu Creek District better known. I trust that it will be possible to spare funds sufficient to bridge the Waikawau River during the present year, as it is a very much-needed work, and one that would benefit both the Thames and Coromandel Districts.

At Tararu Creek, further south, recent prospecting has proved the existence of stone apparently in payable quantities. A claim has been taken up with the intention of working in a company. Valuable hematite ore exists in large quantities up this creek, a considerable amount having been raised during the past year. In addition to the valuable paint made from this ore, recent experiments have shown that a large percentage, 75 to 80 per cent., of iron is contained in the ore. Capital is forthcoming to work the discovery on a large scale; but, unfortunately, no title can be given to the ground by the Government. In my previous report I suggested the time had arrived when the agreements made with the Natives should be revised, with the object of obtaining the power to grant licenses to work for other minerals than gold. It would, undoubtedly, be of great advantage to the district—I might say to the colony—that this power should be obtained, for hematite, iron, silver, lead, and coal are known to exist throughout this part of the peninsula; but to all applications for leave to prospect for the same I have been compelled to return the one answer—viz., that on Native lands gold only can be mined for under the existing agreements.

The County Council, during the present winter, purpose spending some £1,400, £700 of which is a subsidy from the vote in aid of gold-fields roads, in making a pack-track along the main range and leading spurs towards Tapu from the Thames, connecting with the beach by tracks down the Tararu and Puru, and other creeks. It is believed that this work will enable ground to be taken up and worked that would not otherwise be done, besides opening much new ground for prospecting.

At the Thames proper some discoveries of importance have been made at the Karaka and Hape Creek, but as the claims are reported upon by the Mining Inspector in detail, it is not necessary for me to say more than that the prospects of this, the centre of the district, are good, but that its future will depend in a great measure upon the thorough prospecting of the deeper levels. The Big Pump Company have, with the aid of contributions from both county and borough authorities and various claims, drained the water in the claims within the area affected by their operations to the 400-foot level, but as yet little or nothing has been done towards prospecting the ground thus rendered available. If this is not soon taken in hand, it is certain that the contributions will fall off, and the opportunity of testing the low levels be lost. There is still a large area of comparatively untried country towards the East Coast known to be gold-bearing, but as yet scarcely visited by the prospectors, the difficulty of access being at present great.

Further south again, towards Puriri, there has been a good deal of prospecting carried on during the year. One subsidized party have reported the discovery of a payable reef upon which they are now working. I have strong hopes that much new ground will be taken up in this locality during the year. Between this place (Puriri) and Tairua, on the East Coast, some old ground has been taken up with very encouraging prospects. Work on a limited scale has always been carried on in the Tairua Ranges, but the inaccessible nature of the country has always limited the area; the extent of gold-bearing country as yet untouched in this locality is very large. The completion of a good road between Puriri and Tairua, on the East Coast, would do much to open up that part of the district to the miner, besides facilitating the existing large traffic between Tairua and the Thames.

The recent census returns show a population of 551 souls in and about Tairua. A bad, at times almost impassable, pack-track is at present the only means of communication these people have with the Thames, their natural outlet.

From Puriri to Owharoa, a distance of about twenty miles, no mining is at present being carried on. At Owharoa and the adjacent District of Waitekauri, some very important finds have been made during the past year. Much new ground has been taken up and old ground reworked. The returns have, as at the Thames, been considerably reduced by the stoppage of the battery at Owharoa for want of water; but, judging from present indications and recent discoveries, I should say that this part of the district will show well to the front during the coming year. The number of mines at work here has considerably increased of late, and they have a large area of untouched ground to prospect and work upon.

A subsidized prospecting party have been at work at Waitekauri during the past two months, as yet with no discovery of importance. A good track is much needed at Waitekauri now that the population is on the increase. In the past the communication between the mines and the battery was a wooden tramway; latterly this has been so neglected that considerable difficulty has been experienced in getting stone down at all. I understand that the County Council purpose to form and repair the tracks with the aid of the subsidy from the gold-fields vote granted to them. Last year Owharoa and Waitekauri formed the southern boundary of the existing gold workings. During the year a discovery, that appears to be of some importance, was made on the Waihi plains, at what is now known as Waitete. This is some fifteen miles from Owharoa, on the road to Katikati, but within the existing gold field, and within the Thames County boundaries. A good road exists for a portion of the way for dray traffic from Ohinemuri, Paeroa, past Owharoa; a small expenditure contemplated by the County Council will make a road on to the ground at Waitete. At present a good horse-road exists; in fact during the summer a buggy was driven right up to the ground. The reef consists of a large body of stone, some 30 to 40 feet thick, first found on a bare fern hill, rising directly from the plains. A crushing has shown that this stone, or a portion of it, will go about one ounce to the ton. The reef has been traced through several claims, and a very large area of ground has been taken up. A battery is arranged for, and will probably be on the ground about the end of July next; good water-power is found within a mile of the reef, and a site for the battery has been selected within about 20 chains of the workings, it being proposed to construct a race to bring the water in. Mr. Percy Smith, the Chief Surveyor, has kindly consented to spare a surveyor to lay off some business sites; some of these have already been applied for. One accommodation-house and three stores are either built or about to be built. The sudden stride that the gold workings have now taken towards the south is both important and significant, the Aroha and Waitete workings offering incontestible proof that the whole of the range of hills running towards Katikati and Tauranga are gold-bearing. Time will most probably show what they will pay to work. Mining applications are taken at Paeroa at the Resident Magistrate's Office for the Owharoa, Waitekauri, and Waitete workings; up to the present this has been found sufficient to satisfy the public convenience and requirements.

The present prospects throughout the Hauraki District, from Coromandel to the Waihi Plains (Waitete), encourage and justify the most hopeful anticipations in the immediate future; there seems every probability of a much larger number of miners being employed during the coming year, with a consequently increased yield of gold. I trust that the future will show that I have not been over sanguine in predicting this much for this district.

From the Waikawau up to the Kaueranga small settlements have been commenced under the Homestead system, which, by placing small blocks of land within the reach of men with little or no capital, has been the means of retaining and settling many industrious miners within the district.

It will be seen from the attached return that, whilst the population of the district has slightly increased, offences against the laws have decreased considerably, speaking well for the orderly nature of the population, both European and Native.

The survey of a road through the Komata Block removes the last semblance of Native obstructions from the district, and the completion of this much-needed road will be a great boon, opening up as it will for occupation a considerable extent of good land.

The following cases were heard and business transacted in the Resident Magistrate's Court during the year: Civil, 454; criminal, 332. Paeroa: Civil, 80; criminal, 37. Warden's Court, Thames: 32; applications for registration, 324; claims taken up, 272; claims abandoned, 117; licensed holdings granted 39, forfeited 9, refused 6; miner's rights issued, 895. Agricultural leases granted, 350 acres; forfeited, 150 acres; in occupation, 3,750 acres 2 roods 39 perches.

#### *Te Aroha District.*

A subsidized prospecting party, founded by Mr. Adam Porter, was started in the month of August last to prospect the Aroha District under the working management of Hone Werahiko, an experienced Maori miner, well acquainted with the district. About the 20th September Mr. Porter reported the discovery of gold on a spur of the main Aroha Range, adjacent to the Hot Springs. Mr. Porter produced several loose pieces of stone of undoubted richness. Subsequently over 1 cwt. of loose stone was picked up in the same locality as the first discovery, all showing gold freely. A small leader was discovered and found to be gold-bearing. I had 1 ton of the stone broken out and taken to Grahamstown; this, on being crushed, yielded 1 oz. of retorted gold. A prospecting claim of nine men's ground (3 acres) was granted to Hone Werahiko, A. Porter, and party. The discovery being on land in the Aroha Block, included in a reserve promised to the Natives, it was necessary to arrange with them for permission to mine. Mr. Wilkinson, the Native Agent, succeeded in concluding an agreement with the Native owners, granting the required permission conditional on the revenue received from miners' rights and business licenses being paid to them. The field was declared open for gold-mining on the 25th November last. A considerable rush at once took place to the ground, and some ninety claims were at once pegged off, many of them several times over. A large number of town sections were also taken up; in fact, so great was the demand for them that considerable difficulty was experienced in meeting it. As with the claims, many of these sections were pegged off by several claimants, giving rise to some troublesome disputes. After the opening, the prospectors took out some two tons of stone from a small leader in their claim, this, crushed at Grahamstown, together with some of the loose stones picked up on the surface, yielded 40 oz. of melted gold. In consequence of the loss of time incurred before all the disputes were settled but little work was done prior to the Christmas holidays, in the

majority of cases the miners leaving for Thames, Auckland, or Waikato to spend their Christmas. After the holidays work was resumed with vigour, with the result that gold-bearing stone was discovered in many claims, well-defined leaders or reefs being found. In the Aroha Mountain and adjacent spurs the country proved to be very hard and difficult to work; to the north, on the Omaha line of reef, some two or three miles off, the country was much more favourable; further south again the same favourable class of country was found. Considering the limited time within which actual work has been carried on (about three months) much has been done, though not always to advantage. The inexperience of many, who were miners for the first time, caused much work to be wasted. On the 12th February the unfortunate occurrence of a Maori being murdered in the vicinity of the Aroha Township, presumably by a European, caused a restless, unsettled state of feeling to exist between the Maori and European population. The Maoris, a large number of whom were miners, at once deserted their claims, a number of European miners doing the same; work in consequence was almost at a stand-still for nearly a month in many claims. However, the result of the work actually done, and of the various trial test-crushings at Grahamstown, led to the formation of a crushing company for the purpose of erecting a battery to thoroughly test the stone from the different claims. This battery is now in course of erection, and will probably be ready for work about the end of April. A good deal of stone has been raised, and is ready for crushing, in the various claims. The Prince of Wales has from 150 to 200 tons taken from a well-defined reef of about 4 feet thick; they anticipate it going between half an ounce and one ounce to the ton. The Morning Star has a reef of about 2 feet thick showing gold; they have some 50 tons ready, and expect an ounce to the ton. The Smile of Fortune has the same reef, and are engaged in getting ready for the opening of the battery. Clunes, Sunbeam, Our Boys, and All Nations have all gold-bearing stone. Crushing alone can prove if it is payable.

On the Omaha line of reef a large body of stone was proved gold-bearing, running from 4 to 10 feet in thickness, and traced through several claims—Tui, Native, Homeward Bound, Gold Fields, Treaty of Waitangi, and others. This locality was a favourite with the Natives, who were largely interested in most of the claims, doing a considerable amount of work before the murder above alluded to took place. I am glad to say that they appear to have got over their scare, and are now gradually returning to their claims.

There can be no doubt that the failure of the prospectors to discover the leader from whence the specimens came that were picked up in their claim, has thrown a considerable damper over the field. From the first but little capital was put into the mines from abroad, and that little came chiefly from the Waikato—the miners who took up claims at the first rush were not a moneyed class; the work was found to be heavier than was at first anticipated, a very hard bar or belt of rock being met with in many of the claims. As their means or credit became exhausted, many miners began to drop off, leaving the field, seeing no prospect of an immediate return for their labour in the absence of funds sufficient to enable them to carry on expensive underground work, where powder and the gad would be required. Others applied for protection, to enable them to leave to try for work elsewhere. I have protected many claims until the battery starts, on the above plea alone, in the expectation that the majority will return, and give the ground a fair trial.

The usual reaction invariably occurring after a rush to a new gold field, coupled with the special causes noted above, will, in a measure, account for the present depressed state of things on this field. At present there are about one hundred and fifty miners on the ground, with a total population of about three hundred, excluding, in both estimates, Maoris. To summarize the present and future prospects of this gold field, I may state that I still hold the opinion expressed in my previous and first report—namely, that a permanent gold field has been opened; but it is one that will take both time and money to develop. Several lines of gold-bearing reefs have been discovered; four, at least, of these will require to be proved at the lower levels before they can be said to be payable or not. If the crushing from the stone taken out at the upper levels should prove payable, money will no doubt be found to prove the claims further; if otherwise, further temporary depression may be anticipated, but the eventual result will still be that the discoveries already made will be further tested. It must not be forgotten that over 150 lb. weight of loose rich stone has been picked up on the surface, and as yet has not been traced to any leader or reef. A shaft has been sunk at the foot of the hills for some 50 feet, through broken quartz mullock; the shaft was abandoned, without having reached solid formation. The main range rising abruptly from the plains, with this débris at the foot to a depth as yet unknown, would indicate that the reefs will have to be sought for, or followed down to a considerable depth before reaching the sandstone formation, which has been apparently broken up by an upheaval of the hard rock above referred to. In the Prospectors' Claim the leaders appear to pinch out when running into this hard country, whilst to the north and south of the Aroha Mountain, where the sandstone formation appears undisturbed, on or close to the surface gold-bearing veins of quartz have been traced to a considerable distance through more than one claim.

I am of opinion that the diamond rock-drill, now in possession of the Government, could with advantage be used to test the nature of the ground on the flats at the foot of the Aroha range. A more favourable site for an inland town than the Aroha could not have been selected. Placed on a navigable river, connected by fair roads with the Waikato, and by water with the Thames and Auckland, with a large extent of good agricultural land in the immediate vicinity, it is probable that a permanent town would sooner or later have been built in this locality, independent of any gold discoveries. The Lincolnshire farmers' settlement would almost have insured this.

The manifest importance of a gold field in the centre of an agricultural district should alone justify further exploration of the reefs that have already been proved gold-bearing, and will, I believe, eventually prove payable.

In forwarding a list of the cases heard in the Warden's Court, it will be understood that I do not include the disputes occurring at the opening of the field in respect of the ownership of claims and business sites. These were arbitrated upon by me outside the Court, prompt settlement of the disputes being necessary. A large number of cases were thus settled.

Cases heard.—Warden's Court, 40; civil cases, Resident Magistrate's Court, 9;\* criminal, 5;

\* The Resident Magistrate's District was not proclaimed until February last.

number of claims registered, 78 (780 men's ground); number of notices of pegging-out, 179 (1,969 men's ground); number of licensed holdings granted, 10 (115 men's ground); number of miners' rights issued, 762; number of business licenses, 195; number of registrations, 198.

20th April, 1881.

HARRY KENRICK,  
Warden.

### No. 3.

Mr. Mining Inspector McLAREN to the UNDER-SECRETARY for GOLD FIELDS.

SIR,—

Mining Inspector's Office, Thames, 19th May, 1881.

I have the honor to forward herewith statistics with report on mining operations carried on in the Hauraki North, Hauraki South, and Te Aroha Gold Mining Districts, for the year ending 31st March, 1881.

*Hauraki South.*—Mining has not advanced so much as was anticipated during the year. This may be partly accounted for from the fact that at deep levels, where a number of men were employed, and the works of a very expensive character, there has as yet been no adequate return of gold, prospecting being much retarded on account of difficulties to be overcome, which are not felt where operations are carried on nearer the surface or above sea-level. The works which were also undertaken in the claims adjacent to the Alburnia and Whau mines, by extending their levels, have not yet been advanced sufficiently to cut the reefs, and the returns from that locality have been very limited so far. Towards the end of the year 1880 a considerable number of the Thames miners were present at the opening of Te Aroha Gold Field, consequently the return from the mines here was affected by skilled labour being withdrawn for a time. The excessive dry weather for the last three months reduced the quantity of water in the creeks, and the crushing mills for that time were mostly idle. The water from the large race has been laid on as the motive-power for driving, either by turbines or water-engines, many of the crushing-machines that were formerly driven by steam-power. It therefore is to be expected that the effects of droughts will in future cause greater stoppage of work in the summer season, through being unable to get the quartz crushed, than was formerly the case.

*Kuranui Hill United Mine.*—A large amount of prospecting has been done at the No. 3 level; about 400 feet has been driven on the reef which was cut in the previous year, and it is to be regretted that this work has not given more satisfactory results; small bunches of rich specimens have been found in several branch veins, but the main reef has not yet yielded payable quartz at this level, and further operations here are for a time suspended. From the workings of the mine near the surface the yield of gold has exceeded last year's returns. The company, on their own account, have had crushed 1,092 tons of quartz for 1,064 oz. of gold, value £2,725 16s. 10d., and for the tributers, 1,604 tons for 4,022 oz., value £11,359 1s. 9d., of which the company has received at tribute £2,142 18s. 11d., the remainder, £8,672 18s. 1d., being the men's share. The surface levels are by no means exhausted, and may be expected still to yield considerable quantities of gold, giving employment to numbers of men; and in the deep levels, although no extent of payable quartz has yet been found, the prospects have been such that no doubt further attempts will soon be made to prove the reefs at a greater depth.

*Southern Cross Mine.*—The ground held by this company was formerly known as the "Tookey" Mine, and was purchased at the same time as those other properties were disposed of on which the County Council held mortgages. The surface portion has been worked with payable results; 412½ tons of quartz were crushed for a yield of 512 oz. of gold. An additional area of ground has been acquired by this Company, being a portion of the late Imperial Crown claim. The 100-foot level from the United Pumping Association shaft has been cleaned out and repaired, and the manager is engaged in prospecting several of the reefs and veins which were cut when that drive was made eleven years ago. It is also intended to prospect at the 400-foot level, now that the ground is drained to that level.

*Caledonian Mine.*—The ground having been sold, the original proprietors became the purchasers and re-formed the company, calling it the New Caledonian Gold-mining Company. Operations were commenced on No. 3 level as soon as the water was sufficiently drained, a great deal of driving was done on the reef, and a connection with No. 2 level made by a winze which ventilates the workings. A change was effected in the management, and the new manager confined his operations to prospecting at Nos. 1 and 2 levels, and a large reef has been found at No. 1 which has a very promising appearance. As the richest deposits of gold were obtained in former years at this level, further operations, it is to be hoped, may develop a rich patch in this reef, and when the mine is well opened up there is very little doubt that payable quartz will be got, and the Caledonian again come to the front as a gold-producing mine.

*Golden Calf Mine.*—Work was carried on at the No. 3, or lowest level of this mine, when the water was lowered sufficiently to admit of operations being resumed. The reef, which had been payable at the upper levels, was cut and driven on for about 200 feet, and prospects obtained shewing good returns may therefore be expected when the ground is sufficiently opened up and ventilated. The manager is now engaged in putting up a rise from the lower workings to No. 2 level, and when this is completed he will be able to send large quantities of quartz to the mill and employ an additional number of hands.

*Cure Mine.*—Operations by this company have been confined to opening up No. 7 reef at the No. 2 level, and working those portions which were payable. The manager intends to further extend the No. 2 level cross-cut to prospect that portion of the ground lying to the south-east. The tributers have been very successful, getting excellent returns from small veins which have branched off from No. 5 reef.

*Red Queen, Manukau, Don Pedro, Inverness, and Prince Imperial Mines* have been entirely worked by tributers, who have been only moderately successful.

*Waioatahi Mine.*—This mine continues to be very successfully worked; 2,294 tons of quartz have been crushed, yielding 3,832 oz. of gold, value £10,000. Operations have been confined to working on the reefs and veins at Nos. 2 and 3 levels; 672 feet of driving has been done, and 456 fathoms stope out on the different veins and reefs; 39 men are constantly employed. The prospects of the mine are very good; there is more than twelve months' work to stope out the ground already opened

up; part of the late Imperial Crown ground has been purchased, and, no doubt, more payable quartz will be found when it is prospected.

*Golden Crown Mine.*—The New Golden Crown Gold-mining Company are now the owners of this mine, from which such rich returns have been obtained in the past. Operations were commenced and vigorously carried on to open it up. The battery, which belonged to the old company, was purchased and put in repair in a substantial manner, a water-engine driven by water from the reservoir was substituted for steam power, and a great saving thereby effected in the working expenditure; the cost of which, including the price paid for the mine, amounted to £3,000. Crushing was commenced about the beginning of September, and from that time until the end of March the battery of 20 stamps has been fully employed, as will be seen from the following returns: 2,101 tons of quartz were put through for a yield of 1,933 oz. 19 dwt. of gold, value £5,152 15s. 1d. This amount of quartz came from various leaders and reefs which had been left years ago, as they were then thought too poor to be worked with profit, and also from some fresh lodes which were cut near the surface at the battery level. The surface levels have been cleared and repaired, the shaft overhauled, and the winding-gear put in good order. The 100-foot level has been thoroughly secured, and a great deal of driving done on the reefs, and winzes are also opened to connect with the battery level. The mine is well opened up, and payable quartz is available to keep the mill employed for at least another twelve months; the number of hands employed were on an average 31 per month for the year.

*Queen of Beauty Mine.*—The only work done in this mine has been pumping and enlarging and repairing the shaft as the water is lowered; this has taken up more time than was anticipated when pumping operations were commenced. The machinery for driving the pump by water-power has worked satisfactorily, and a greater saving effected than would be by using steam-power for that purpose. The depth to which the water is now lowered is considerably under that from where the big pump is raising it. Although the lower levels are not yet clear of water, the manager intends to let portions of the mine (to tributers) from which the water has recently been drained.

#### MOANATAIARI DISTRICT.

*Moanataiari Mine.*—In this mine a large amount of work has been done; about 2,000 feet of driving and 5,000 fathoms of reefs and leaders stoped out, the quantity of quartz crushed from which was 7,196 tons, yielding 4,769 oz. of gold, value £12,017 11s., on the company's account. On the part of the tributers a great deal of ground has been turned over, and 1,171 tons of quartz crushed for a yield of 2,209 oz., value £5,888 13s. 7d.: 108 men have been employed by the company, and the average number of tributers 60 monthly. Very little work has been done on the large reef, mentioned in my last year's report, tapped in the second cross-cut south from the tunnel; a rise has been put up for 70 feet, and the drive east extended 40 feet; as it is estimated that there is about 20,000 square fathoms of this reef over the level, the amount of work done is by no means sufficient to test it. In the Nonpareil cross-cut the drive has been extended for 900 feet, and a rise put up to connect with the old shaft, the upper levels from which are being cleared up and repaired in the direction of the Waitemata workings. In the Point Russell Creek level 450 feet has been driven on reefs, but the returns of gold have been as yet very moderate. The chief portion of the gold was from the leaders on the north side of the tunnel; these were followed downward from the tunnel to the 80-foot level, where they become poor and unremunerative. Rock-drill operations have been entirely suspended in further extending the main tunnel, and it is to be regretted that this is not kept continually going a-head, as in time it could be extended as far up the creek as the Alburnia Mine, and become the outlet for and effectually drain the whole of this part of the field down to sea-level.

*Coliban Mine.*—This claim has been successfully worked, and the run of gold is being followed downwards, the quartz yielding from 2 to 3 oz. per ton.

*Reuben Parr Mine.*—The low level is still being continued, but no payable run of gold has yet been reached.

*Alburnia Mine.*—This mine still continues to be one of the most profitable, and furnishes employment for a large number of men: 3,163 loads of quartz have been crushed on behalf of the company for 8,327 oz. of gold, and by the tributers 1,500 loads for 3,054 oz. 19 dwt. There have been 1,450 feet of cross-cutting and driving on reefs, and a great deal of ground stoped out in the deep and other levels. A drive lower than the Sons of Freedom tunnel has been begun, which will prospect the Watchman and Middle Star sections of the mine at a greater depth than the reefs have yet been worked. The Sons of Freedom level will be driven through the Whau ground in order to test the reef at the eastern end of the Alburnia. Another reef has been cut at the Whau level, which promises well, and operations for opening it up are in progress. A winze is being sunk on Dixon's reef to the 160-foot level, and a large block will be opened on it. The works in the mine generally are for the purpose of further developing those reefs which have already yielded rich returns, and the prospects of the mine are so promising that a continuation of success is almost to be relied on. The company's battery of 23 stamps is driven by a water-engine 35-horse power.

*Whau Mine.*—There has been a considerable falling-off in the returns from this mine compared with what I mentioned in my last year's report. The rich deposit of gold which was found near the boundary of the Alburnia Mine did not extend for many feet into the Whau ground. The mine is now being well opened up under skilful management, and payable returns obtained from branches of the main reef; and there is every prospect of sufficient gold being got to give profitable returns to the company, and enable them to employ a number of men for years. Several prospecting works in connection with the Alburnia Company are projected to test the reef at greater depths, and which will also be of benefit to the adjacent mines, more especially the extension of the Sons of Freedom tunnel.

*Punga Flat District.*—New North Devon Mine: The mine is now entirely wrought by the company, the tributers' term having expired in August. In conjunction with the Columbia Company, a quartz and mullock pass, with good ladder-road, has been formed to connect the present low level with the Sons of Freedom tunnel. This enables them to send quartz to the mill for less cost than formerly. The returns of gold have been very satisfactory, and, as the mine is well opened up, future prospects are also very good.



*Albion, Columbia, Victoria, and Bendigo United Mines.*—Prospecting drives have been carried on in these mines, but no gold of any consequence has yet been found. However, they are still persevering with considerable energy in the endeavour to get on the run of those reefs which have been so rich in the Alburnia and Whau mines.

*Waiotahi District.*—The Pinafore, Little Maggie, Spero Meliora, St. George, Camelia, and Primrose Claims have all paid well, and a number of other claims are getting fair returns. The ground lying between the Waiotahi and Moanataiari Creeks, which, until very lately, failed to attract any attention, has again been occupied, and small parcels of quartz tested from there have in most instances given satisfactory returns. The Hopeful, Luck's All, and Bright Smile Claims, near the head of the Waiotahi, are being well tried, and several payable reefs have been found: 40 tons of quartz from the Bright Smile yielded 200 oz. of gold.

*Karaka Creek District.*—City of Manchester and Adelaide Claims are both paying well, and a few claims further up the creek are being worked on the small veins, where parcels of specimens are frequently got, and the miners making good wages. In the upper part of the creek a number of men have taken up claims since the formation of the dray-road, as it is now possible to get quartz conveyed to the mills; but when wet weather sets in this road will be impassable, so that the place is not likely to have a fair trial before next summer.

*Hape Creek District.*—The Hape Creek Company's mine has produced sufficient gold to give profitable employment to a number of men who are chiefly tributers, and several claims on the creek have been taken up, and from some of them fair returns of gold have been got.

*Te Papa Gully District.*—Star of Te Papa Mine: This mine has paid very well indeed; the reef is from 4 to 14 feet in thickness, and the quartz yields from 15 dwt. to 2 oz. to the ton. The proprietors have purchased a crushing machine at the Hape Creek, and are in a fair way to get handsome returns. They have also acquired the Major Claim, and from one of the old levels in that mine, by driving a short distance, they can cut their reef 80 feet deeper, when a splendid block can easily be got at.

The other claims in this district are being steadily worked, but the returns are only moderate.

*Tararu District.*—The returns of gold from this district have not been satisfactory; the crushing from the Sunbeam reef did not prove payable, and the claims at Fiery and Ohio Creeks not yielding as was expected.

*Tairua.*—The Reward Claim has been worked by a party of tributers, who have met with fair success, and the New Golden Arrow, Filibuster, Deeside, and New Guinea Claims had payable returns.

*Ohinemuri and Owaharoa Districts.*—Radical Mine: The tributers in this ground have had several rich returns, which was the cause of other claims being taken up and worked. The Smile of Fortune Claim is also paying, and good returns are expected from the new claims.

*Waitekauri District.*—Waitekauri Mine: Fresh discoveries have been made which greatly improved the prospects of this part of the field; parties of tributers have met with rich returns, and large paddocks of quartz are now waiting to be crushed as soon as water can be had, and in the Welcome and Diamond Claims rich specimens have been found, so that, on the whole, the prospects of the district are now much brighter.

*Waihi or Waitete.*—The large reef mentioned in my last annual report has been further tried, and a great improvement in the prospects has been the result; drives have been put through it in two different places, and a trial crushing from each yielded at the rate of 1 oz. per ton. The shareholders of the Martha Claim intend to erect a battery, but before doing so they are driving a level from the south side of the hill, which will cut the reef much lower, and thoroughly prove that the gold will extend downwards. The reef, where tried, is of great width, and a return of an ounce to the ton will pay handsomely, as water-power for crushing purposes is available at the Ohinemuri River, about a mile from the claims, and as the country is flat the expense of conveying quartz to the mill will not be very great. Fair prospects have also been obtained from several claims near the Martha, and should payable quartz be found in the low level there is no doubt but that a crushing machine will be erected without delay. A very favourable opinion of the future success of this district exists among all who have visited the claims and inspected the reef, and as no great difficulty will be experienced in making a good road to the claims, the place will soon have a fair trial.

*Tapu District.*—Several parties of prospectors have been searching for payable gold in the ranges, but with what success I have not yet been made acquainted.

The following return shows the quantity of quartz crushed and gold obtained during the year:—

Month.		Quartz Crushed.	Tailings Treated.	Yield of Gold.
		Tons cwt. qr. lb.	Tons cwt. qr. lb.	Oz. dwt. gr.
April, 1880	..	2,077 10 0 2	771 9 0 0	4,880 15 6
May "	..	2,532 6 1 22	1,453 15 0 0	5,396 14 0
June "	...	2,789 19 3 26	1,243 10 0 0	6,547 9 18
July "	..	2,795 2 1 2	1,603 10 0 12	3,468 2 0
August "	..	2,998 18 3 2	1,684 18 0 20	4,754 10 0
September, 1880	..	2,283 3 3 15	778 10 0 0	4,561 9 6
October "	..	2,867 19 0 16	1,288 10 0 0	3,606 2 21
November "	...	3,875 5 0 14½	1,558 0 0 0	4,671 4 6
December "	..	3,617 15 3 26	1,097 15 0 0	6,699 5 6
January, 1881	..	2,695 2 2 21	936 10 0 0	3,054 1 2
February "	..	1,700 5 1 26	417 0 0 0	3,102 6 0
March "	...	2,171 5 0 17	295 0 0 0	2,912 2 12
Total	...	32,404 14 3 21½	13,128 7 1 4	53,154 2 5



## HAURAKI NORTH OR COROMANDEL.

Mining matters were very dull for the first half of the year; this may be accounted for that prospecting in most of the claims had been confined to the surface portions of their ground which is nearly exhausted. On the other hand, the works for opening up the reefs in the Kapanga Mine and on the Tokatea Range, at deep levels, are of an expensive character, and can only be advanced slowly on account of the difficulties to be contended with.

*Tiki District.*—About the month of September attention was directed here by gold found on a block of land within the proclaimed gold field boundaries, but being private property does not come under the Gold Mining Districts Act. Good prospects and parcels of rich specimens were obtained in several claims which have been thrown open for gold-mining purposes. This was the cause of claims being taken up in the vicinity on the gold field, and prospecting in that locality is now extensively carried on. The terms under which the owners of the land have leased it to the miners are not so satisfactory as those under the Gold Fields Regulations, and a considerable amount of time has been wasted, as men were unwilling to disclose particulars regarding finds of gold until satisfactory arrangements could be concluded with the owners of the land. Crushings from several of the claims on the private property have been from five to nine ounces to the ton. A claim called the Success, also on private property, is being worked, and some very rich quartz has been found. This is situated on the range about mid-way between Tiki and Tokatea, near the Whangapoua track.

*Tokatea Range.*—Several claims held by miners are worked with moderate success, and three parties of tributers in the Pride of Tokatea Mine are making fair wages.

*Tokatea and Bismarck Mines.*—Very little work has been done at the surface and upper levels of these mines, a few tributers only were employed. The principal work, which is carried on by both companies equally, is driving the low level tunnel from the Kennedy Bay side of the range; this has reached a distance of 1,050 feet from the entrance. The reef has been tapped in the Bismarck ground, and water in great quantities is flowing through the tunnel; this will have the effect of draining the reef, enabling the manager to rise and sink to make connection with the upper level, when good returns may be expected. The tunnel has still to be driven about 450 feet before the boundary of the Tokatea Mine is reached, but as the ground is now softer since the reef was cut it can be finished more speedily and for less money per foot than what it has already cost, and as it will be continued on the lode the quartz can be tested as it is broken out. The amount already expended on this tunnel is nearly £6,000, and it has taken two years' work, as the rock has been very hard. One of the National rock-drills has been used. The ground is now so much softer that the use of the drill has been discontinued, and driving is done by hand labour at a cost of 30s. per foot, three shifts of men being continually employed. The patience and energy displayed by these two companies is well deserving of success.

*Kapanga District.*—Kapanga Mine: Sinking the shaft has been continued, and it has now reached a depth of 370 feet; the reef at this point is calculated to be about 460 feet from the surface, so that a considerable time will yet elapse before the shaft can be sunk deep enough to cut it. The reef has only been worked down to the 300-foot level, therefore a large block of it will be open as soon as the shaft is down to the desired depth. The mine is drained by a pump, which is worked by a beam-engine; the pump pipes are 15 inches in diameter, but, as the water is not yet very heavy in the shaft, only 10-inch plungers are used.

*Beach District.*—A very limited amount of work has been done in the mines in this locality. The Union Beach, which yielded large returns of gold in the past, have ceased working at deep levels; the present workings are in the hill above sea level, where a few men are employed by the company prospecting, and two small parties of tributers are making fair wages working on small veins near the surface. The Golden Pah Mine are confining their operations to prospecting at the 80-foot level in the shaft, and the water has been allowed to rise since the Union Beach Mine ceased pumping from their low level. The United Mine, next the Union Beach, are employing a few men working on surface leaders.

The quantity of quartz crushed and gold obtained during the year was as follows: Tons crushed, 720; gold obtained, 4,960 ozs.

The future prospects of Coromandel are more hopeful than they have been for some time past. The advancement of the Tokatea Tunnel to the vicinity of the rich reefs worked in the upper parts of the Tokatea and Bismarck Mines will soon determine their value, at a depth of over 200 feet from previous workings where gold was left in the floors of the drives, and successful returns from these mines will no doubt cause other companies holding ground on the Tokatea Range to prospect at deeper levels. The rich patches of specimens found at the Tiki has caused numerous parties to prospect in that district, and when batteries are erected and the miners settle down to regular work some good returns may be expected. The very rich stone from the Success Mine has given encouragement to other holders of ground in that neighbourhood, and prospecting is carried on with energy. Although in the Beach District mining has been very dull for a time, there is no doubt but that a reaction will soon take place, and a scheme be adopted for the further development of the mines. The surface portions which are over sea level have not been so rich as where the reefs were worked underneath; and as lower levels can only be reached by the expenditure of capital, the claims would be more valuable properties if amalgamation of interests was effected, and the cost of sinking shafts, pumping water, and driving levels, was borne by combining the resources of the various companies who hold ground here.

## TE AROHA GOLD-MINING DISTRICT.

This field was opened on the 25th November, 1880, with a grand flourish of trumpets, and as much noise made about it as if it was beyond doubt a rich gold field, which opinion was kept up by interested individuals and by others who were ignorant of quartz gold-mining; but the general opinion of the Thames gold-miners who had experience soon came to be that there was nothing to warrant an extensive rush. The gold obtained by the prospectors on the surface and in the leader which they afterwards found did not continue down to any great depth, as the rock became very hard and pinched out

the quartz, and in the neighbouring claims no discovery of any moment was made, the Prince of Wales Claim being the only one which may be said to have had a slight show.

The Morning Star Claim, situated considerably to the south of the Prospectors, is stated to have found fair gold, but as I have not seen the prospects I am unable to give an opinion.

Ruakaka District, situated about two or three miles north of the Prospectors' claim, is a much more kindly-looking country for mining, containing large bodies of quartz showing a little gold, and which might be made payable if a battery was erected driven by water-power, where large quantities of quartz might be put through at a cheap rate.

A company has been formed and a small battery is being erected, which, within a month or two, will enable the miners to prove the true value of the prospects obtained from their claims.

Rushes of this unfortunate nature are to be deplored, sweeping away, as they do, years' savings of many poor men; not but that there may be good gold in the district, but the nature of the prospecting work, the hard rock to be driven through, and the consequent slow progress that can be made, necessitate the expenditure of much time and money before any adequate returns can be had.

#### GENERAL REMARKS.

The general prospects of the whole of the fields tend to point to the fact that we shall still have a continuation of mining prosperity.

Although deep mining has not received the attention which should have been devoted to it, a considerable amount of prospecting in the ranges is, however, now carried on, adding to the gold-producing portions of the district.

At Ohinemuri the prospects are much brighter than they have been for some years back.

I am pleased to be able to report that, with one exception, we have been free from serious mining accidents. This one happened at the Moanataiari Mine, to a man named John McGregor, who arrived at the mine too late to accompany the others who relieved shift at 3 p.m.; he had therefore to descend the shaft by the ladders, as the engine is stopped at that hour. It is very difficult to explain how the accident could have happened, as the ladder is a very safe one. The supposition is that his candle went out, and he thought he had reached the level when he was on a stage ten feet above it, and he must have fallen this short distance and been killed.

Another accident of a less serious nature occurred in the Waiotahi Mine to two miners named David Downes and Edwin Copeland; they were engaged in replacing a prop which had been blown out by a shot, when a portion of the wall fell and rolled over on them before they could get away.

I have, &c.,

JAMES M. McLAREN,  
Mining Inspector.

The Under-Secretary for Gold Fields, Wellington.

## MARLBOROUGH GOLD FIELDS.

### No. 4.

Mr. Warden ALLEN to the UNDER-SECRETARY for Gold Fields.

SIR,—

Warden's Office, Picton, 31st March, 1881.

I have the honor to forward you my annual report and returns for year ended 31st March, 1881. The returns will show an increase in numbers of miners employed in my district, and in works and appliances for gold-mining purposes. The revenue collected has exceeded my last year's estimate, and a larger amount of gold has been found. Still, my report must principally consist of great expectations unrealized in the past, and of problems to be solved in the future. I briefly as possible report as follows:—

*Pelorus Mining District* (known as the Wakamarina Gold Field).—The population and yield of gold will compare favourably with the previous year. Although miners have been passing to and fro between Wakamarina and Wairau Valley, I do not think that the limited population in this district has decreased during the past year. In my last report I mentioned a movement to establish companies for working claims in this district. I am still of the opinion that the formation of *bona fide* companies is the only means of profitably working this gold field. The following companies have been at work during the past year: A small company known as Mitchell and party have been engaged sluicing at the Forks. A second small company of masters without men, known as the Gorge Company, started with atmospheric cylinders to work the bed of the Wakamarina River. And a third company, known as the Wakamarina Alluvial Hydraulic Sluicing Company, have commenced extensive preparations for working on Arthur's Terrace. During the past year Mitchell and party have amply repaid themselves for their time and labour expended on their claim; and, although a very unnecessary degree of caution is generally adopted by miners in describing the result of their labours, this party acknowledge that they have done well. During the present dry season the members of this company can afford to take well-earned relaxation, their claim being at present protected for want of water. With regard to the Atmospheric Company, with such a superfluity of managers, the result could not long remain a matter of doubt. The cylinders and apparatus have for some time past been left unused on the spot where last deposited, and are likely to remain there until better arrangements are made. One of the managers or directors, on speaking to me some time ago about the prospects of the company, suggested the advisability of selling the plant for what it would fetch. I am inclined to think that, even under good management, the plan of working by atmospheric cylinders would not be found to answer in rocky gorges of rivers. The apparatus is no doubt adapted for prospecting river beds, and there is ample room in the Wakamarina River for such a prospecting company to work with reasonable probability of success. There is yet a large quantity of gold to be obtained from the bed of this river.

*The Wakamarina Alluvial Hydraulic Sluicing Company*.—This company have not yet completed their preliminary operations. As I hope during the present year that I may have to report their successes, I would suggest an abbreviation of the title. During the past year this company has been

steadily at work, under very judicious management. Their manager, Mr. McGlashan, reports that the construction of their head- and tail-races commenced about last November. These works are of considerable magnitude, and comprise, in the tail-race, a solid rock-cutting of about 279 feet; average depth 32 feet, with a base of about 2 feet 6 inches. The head-race consists of an open race through rough bush country, about three miles long, with about fifteen chains of fluming, and several dams, to intersect small streams. It is expected that the necessary work will be completed about the end of April. About 700 feet of 7-inch iron piping will be used where practicable, in place of canvas or rubber hose. The manager hopes to bring ten heads of water to bear on the ground to be sluiced. Good gold has been found on Arthur's Terrace, the site of this company's claim, and they hold a lease of 10 acres of ground. It is true that this terrace, like almost all other alluvial ground, has been found patchy, but with good management they may fairly look forward to their venture proving a success. Should the result of their labours prove satisfactory, I have no doubt that other undertakings of the same nature will be at once started. Messrs. Trent, Diamante, and Co. have undertaken a rather heavy piece of work in the bed of the Wakamarina. They have taken up a claim known as the Hit or Miss Claim. They propose to divert the river from its present course into a flume they have built on the bank of the stream, discharging the water into its usual bed, below their claim. They imagine that, with the aid of a powerful endless pump, they will be able to keep the portion of the river-bed, from which the natural stream has been diverted, dry enough to enable them thoroughly to test the ground. I think there is very little doubt that there are large deposits of gold in the river-bed; but I am afraid the appliances of this company are scarcely sufficient to enable them to carry out their proposal. I believe they have not "bottomed" yet, and should we have rainy weather, they would be driven out of their claim. If they meet with success, it will be well deserved. Some of the miners working in pairs, on ordinary claims, are doing well—to use their own description, "making tucker." I find this description embraces very wide limits.

I think there is good hope of a better report of this district next year.

*Wairau Valley Mining District.*—There has been very little progress in this district during the past year. The number of miners at work has decreased. This, I consider, is owing to the scarcity of water in summer time, and the attractions of the more profitable work of shearing on neighbouring runs. Miners are scattered about in the different gullies and valleys, from Ward's Pass to Lambert's Gully; I can only mention the principal workings. When I visited this gold field a short time ago, the principal attraction appeared to be Birch Hill Gully. I found about eighteen miners at work in this valley and the adjoining blind gullies; some heavy work had been done, and a very good water-race cut. Miners were at work in the creek and on the hill sides. I was informed that good payable gold had been found in some of the claims. I only found one party who would acknowledge that they were doing more than "making tucker." The same report will apply to Tipperary Gully, where I found about fourteen men at work. At Arm Chair Creek, where very good gold has been found, I noticed a considerable reduction in the number of miners. This, I think, is in a great measure owing to want of water and the temporary demand for labour on the runs. Miners were out prospecting several other valleys and gullies in this district. Good gold has been found in Bartlett's Valley and Onamalutu, on freehold land. A small rush has taken place lately to Lambert's Valley, where good gold has been found. The two quartz claims in Bartlett's Valley have been abandoned. I believe good payable gold will be found in the country extending from Birch Hill Creek down the north bank of the Wairau through the Kaituna to Havelock. I believe that good payable quartz reefs are to be found in the dividing ranges between the Wakamarina and Wairau Valley. It is simply a work of time—a problem for the future.

It is not a healthy state of matters when we have to describe a gold field as a "convenience"; and summing up the Wairau Valley field as a whole, it may almost be looked at in this light. I have frequently heard it stated that when miners are tired of digging they go shearing, and when nothing better turns up they come back digging. In this way an increase may be expected in the population of these gold fields during the coming winter. The ground is very patchy, but the gold is there. It requires better appliances, such as sluicing, to make this gold field pay.

The miners in this district are at present working under great disadvantages. The greater part of the Wairau Gold Field is bounded along the bank of the river with freehold sections, and isolated freehold sections are to be found up the different gullies. It is clearly impossible for miners to know if they are trespassing on freehold property or not, as these sections, with few exceptions, are not marked out on the ground. With two exceptions, the holders of runs under lease on this gold field appear to desire to act liberally towards miners, and not to offer vexatious obstructions to their working on leasehold land. I know of only one leaseholder who appears to take active measures to obstruct miners in their work. I think this should be prevented for the future. The question of renewal of these leases will probably arise next year, and the power of obstruction should be removed.

#### QUEEN CHARLOTTE SOUND MINING DISTRICT.

The whole of the claims in this district are quartz claims held under lease. We have no alluvial diggings in this district.

*Golden Eagle Claim.*—The original Golden Point and Kaipapa leases have now become the property of a new company styled the Golden Eagle Company. The work of this claim appears lately to have been more systematically and steadily carried on, and, I think, under very good management. Exciting specimens are not as plentiful as in olden times, and the work of depositing expensive machinery on the ground has not been continued by the present company. The mine manager (Mr. Heiden) states that the full complement of men have been employed during the past year in continuing the work of sinking the main shaft. They are now down 220 feet below the surface of the ground. In his meagre, but trustworthy, report to me, although he appears carefully to abstain from introducing the word "reef" in any way, yet he speaks hopefully of the prospects of the company. Very good stone has been taken from this claim, and the leaders or reefs are to be found. I believe in the *bona fides* of this company as at present managed, and if they succeed in finding a good reef their success will be well merited.

*Ravenscliff Claim.*—The Ravenscliff Company holds leases of several claims in this district. The result from the working of the claims to the present date has not been very satisfactory. I obtain my information from the annual report of this company published in London. It appears by this report that, during the year ended 30th June, 1880, six crushings of stone have taken place. Results as follow: 1,056 tons of stone crushed, yielding 320 oz. gold; maximum proportion of gold from stone crushed, 8 dwt. 16 gr.; minimum, 2 dwt. 14 gr.; average, say, about 6 dwt. 7 gr. per ton. The shareholders are informed that a great loss has been occasioned by a quantity of the gold escaping with the tailings. An elaborate system of assaying of tailings and of calculations has been published, apparently with the view of convincing all concerned that if this gold had not been lost the results would have been more satisfactory. It is perhaps unnecessary to extract any more information from this report. I may briefly state as follows: A new mine manager has been appointed, and it is the intention of the company to adopt a fresh system of saving the gold, the opinion of experts being that the present process of amalgamation is not suited to the extraction of such fine gold as is met with in the quartz of this mine. I conclude with copying a very suggestive paragraph from the directors' report: "The Board having made these arrangements (referring to proposed alterations in process of saving the gold) consider that the operations, which in the meantime have recently been kept within very moderate limits, should be vigorously resumed, and to that end they propose to make a call on the shares of the company very shortly." It would appear that the directors are determined to try and make their undertaking a success. A great amount of work has been done on the claim, capital has been invested in the mine by successive companies, and good stone has been at different times discovered. It will be a great disappointment if, after all their efforts, it is found that the gold cannot be obtained at a reasonable cost.

*Coal Discovery.*—Though not exactly within the limits of my duty to make any report concerning the late coal discoveries, I may say that I have recently visited the preliminary workings that have been undertaken to test the size and value of the Picton coal seams. The report published some time ago by Mr. McKay, of the Geological Department, concerning the coal deposits in this district will, I believe, prove to be a correct report, with the exception that the seams appear likely to prove much larger than he anticipated. The extent of the seams has of course not yet been proved. Probably in two or three months' time the value of the discovery will have been finally decided.

*Estimated Revenue.*—The following is the estimated revenue for the year ending 31st March, 1882:—Miners' rights, £200; business licenses, £25; registration, £7; water licenses, £5; Court fees, £3; rents of leases, £110: total, £350.

I have, &c.,

J ALLEN,

Warden.

The Under-Secretary for Gold Fields, Wellington.

## NELSON GOLD FIELDS.

### No. 5.

Mr. Warden BROAD to the UNDER-SECRETARY for GOLD FIELDS.

SIR,—

Nelson, 2nd April, 1881.

I have the honor to inform you that during the past year I have visited the Tadmor and Wangapeka Districts. At the old Tadmor and Sherry River diggings a limited number of men continue to earn moderate wages. At Wangapeka proper about a dozen men are still working the bed of the stream with apparently satisfactory results.

An effort is being made to test the value of the supposed line of reef known as Doran's. A prospecting association has been formed for that purpose. Scarcely any mining was done upon the reef at Wangapeka, although thousands of pounds were expended in machinery; and, the money being exhausted in this way, there were no means left for opening up and testing the reef. Creditors pressed, the companies had to throw up their leases, and wind up without anything having been done worth speaking of in the shape of mining. There is a large body of stone, forming what seems to be a well-defined reef, and it is satisfactory to know that its gold-bearing capabilities are to be put to the proof.

I have, &c.,

The Under-Secretary for Gold Fields, Wellington.

LOWTHER BROAD.

### No. 6.

Mr. Warden GUINNESS to the UNDER-SECRETARY for GOLD FIELDS.

SIR,—

Warden's Office, Collingwood, 4th April, 1881.

I have the honor to enclose statistics, &c., required in your Circular No. 90.

Since taking charge of this district, on the 10th November, 1880, I have to report that very little progress appears to be making in it; rumours are rife of works being contemplated, and I have recommended that six new leases should be granted, situate at Mount Arthur, but, owing to the lateness of the season and the want of a pack-track, I fear that little work can be looked for in that locality until next spring, and until a thorough trial of the reefs there has been made. It is premature to offer an opinion as to the value of this new field.

A few days ago a sample of coarse gold was brought to me, alleged to have been obtained from the Goulund Downs, about nine miles from the forks of Brown's River and the Aorere; the finder, who was, at Mr. George Blackett's request, looking for a track to the Goulund Downs, informs me that his party found gold of a similar nature in all the creeks which they tried on the Downs, also several quartz reefs running in a northerly direction. The party had not means or time to test these reefs, but they are satisfied that alluvial gold is to be found in considerable quantities. This gold field is, however, practically shut up for want of a track about eight or ten miles long, which the pro-

spectors say could be made at an easy gradient, for a sum of £500 at the most. I wish to point out that a dray-road is now nearly completed to within one mile of the junction of Brown's River and the Aorere, and the pack-track above alluded to would, if made, open the country to the saddle of the Goulard Downs, over which it is possible to drive stock to the Heaphy and thence to the Karamea; therefore the formation of this small track would be the means of opening up the valley of the Aorere to the settlers at Karamea. It would be of great advantage to this district, even should the supposed gold field not prove a payable one. I may add that this field was worked by a few men years ago, who all state that the formation of the track suggested would be the means of enabling many miners to set to work there, as several parties would at once take up claims if they had facilities for getting supplies brought on the ground.

I have, &c.,

FRANK GUINNESS,

Warden.

The Under-Secretary for Gold Fields, Wellington.

## No. 7

Mr. Warden REVELL to the UNDER-SECRETARY for GOLD FIELDS.

SIR,—

Warden's Office, Westport, 14th May, 1881.

I have the honor to forward herewith the statistical returns for the Buller District for the past twelve months, and to make the following general report:—

### WESTPORT MINING DISTRICT.

Mining operations in the various centres known as Addison's Flat, Buller Road, Northern Terraces, Waimangaroa, Mokihinui, and Karamea continue steady and yield fair returns to all who have command of a good supply of water. No new discoveries have been reported, but in many instances where ground is available large areas have been taken up either under lease, extended claims, or double area regulations.

At Waimangaroa a small portion of the ground, formerly withdrawn from the gold fields for railway and coal-mining purposes, but again thrown open by Proclamation in July, 1880, has been occupied for mining purposes. Several residence areas have also been taken up along the south bank of the river on each side of the Wellington Company's line of railway, and in most instances good cottages have been erected thereon.

In February last I visited the Mokihinui River, which appeared to possess a good bar and bar harbour, under a bold bluff and steep ranges on the north side, closely timbered to the water's edge. A valuable seam of coal had been opened out by Mr. Charles Corr, about three miles up the river. Vessels of light draft could be taken up for two miles, and from thence a good tramway, one mile in length, had been constructed to the mine. The coal had a good bright appearance, but I am not aware whether the quality has ever been tested.

At the Karamea there are some twenty or thirty miners working in different localities, most of whom occupy and cultivate small patches of land. This settlement is almost isolated, the road from Westport being almost impassable, and in many places very dangerous for either man or horse.

The Westport Coal Company have got into full working order, and are sending large quantities to the port for shipment.

### CHARLESTON SUB-DISTRICT

The principal methods of working are: Ground-sluicing on the terraces and creeks, black sand claims on the sea beaches, and gold-saving tables set in the creeks and tail-races.

There are six or eight claims on the south end of the Nine Mile Beach, north of Charleston, which have been fairly worked throughout the year, with profitable results to the owners, as they are able to secure the gold before it has time to travel further north, after intercepting it at low water, some 800 to 900 feet from high-water mark. The other claims on the Nine Mile Beach, and the beaches in and about Brighton, have been covered up with grey sand for the greater part of the year, and therefore unworkable; but the owners set considerable value on them, and keep them regularly protected by registration.

The use of the tables for saving the fine gold in the tailings washed down the tail-races and creeks from the terrace workings has become quite an industry in itself, and the owners, commonly termed fly-catchers, earn good wages during ordinary wet weather, but the tables in themselves are costly, and during floods are liable to be either damaged or swept away, thereby entailing great outlay in repairs.

The want of water is a great drawback in mining operations; the miners, having chiefly to depend on the rainfall, have erected dams and reservoirs wherever possible to keep up a regular supply, but during the past year they have had comparatively little broken time, and may generally be said to have earned fair returns for their labour.

At Croninville sixteen extended claims, averaging 4 acres each, have been taken up. The ground is very deep, and ground-sluicing is the principal mode of working, the tailings being run into the Gorge and Totara River, whilst the larger stones are thrown back on the worked ground. About half of these claims have been working and washing out good yields of gold; but the enormous quantity of tailings run out has so blocked up the machine sites that the owners have had to abandon the washing sites, and are now driving tunnels from the Totara River, some 300 to 400 feet in length, to their claims. Good prospects have been obtained from all these claims, but the cost of opening them out and preparing the washing machines is a very heavy item. Frequently during the year the supply of water to the claims in full work has run short. When all the claims are in full work the supply will be altogether inadequate unless other races are brought in from other sources of supply in the vicinity. The agricultural leases held by Mr. Costello on the Totara River, about two miles below the workings, are likely to prove rather a serious obstacle to the profitable working of their claims through the running of large quantities of tailings into the river bed.

Several small parties have been out prospecting up the ranges in and about the Totara and Four Mile Rivers; but, so far, nothing of any consequence has been discovered, although good indications of gold have been obtained.

The yield of gold is about one thousand ounces in excess of last year, whilst the population and revenue shows a fair average increase.

#### LYELL MINING DISTRICT.

Mining operations in this part of the district show a marked improvement both with regard to alluvial and quartz mining.

Several new reefs have been discovered, and nineteen gold-mining leases having been applied for is a strong indication of the increasing importance of the district.

In December last a small rush set in to Welshman's Terrace, situate on the north side of the Buller River, between the junction and the Lyell. The prospectors, McIntosh and party, got very good wash-dirt on the side of the range about one hundred and fifty feet from the top of the terrace; several claims were taken up and one shaft sunk 90 feet, when the party were beaten out by water. Others drove in tunnels from one to two hundred feet in length without striking the lead. Since then most of the claimholders have retired from want of funds and the great difficulty in driving these tunnels, on account of the excessive quantity of water and the loose nature of the gravel, which required the utmost care to keep it from running and blocking up the tunnels. There are three or four parties still working; and the gold obtained from McIntosh and Newton's claim is of a coarse shotty nature, very little water worn. If these parties succeed in striking a defined lead there is ample ground for a thousand miners to occupy. Small quantities of good gold have also been obtained from the adjoining gullies and watercourses.

There are a large number of miners located on the Central and Upper Buller, and in the various sources of the Matakītaki, many of whom hold either extended claims or double areas, and are making fair wages.

Quartz mining has received a considerable impetus, from the continuous remunerative results obtained by the United Alpine Company and the great extent of stone found in the several levels. This company intend adding five head of stampers to their battery, and three berdans. This machinery is lying at the Lyell, awaiting the completion of the new road to the company's mine.

The New Creek Company's battery is in course of erection, and several of the other companies have taken up their leases and are preparing to start.

The Lyell Low-Level Company has been successfully floated; they hold a special claim of 63 acres along the line of their proposed tunnel and in close proximity to the ground held by the United Alpine Company, and which dips into the special claim.

A party is being formed to prospect the Manuka Flat, above the Lyell Township, which is believed to be auriferous, but too great an undertaking for single parties to attempt.

The returns show that the population has increased, and the revenue and yield of gold is largely in excess of that of last year.

The roads through the district, with few exceptions, are kept in fair condition, all being let under maintenance contracts; but in many places they are subject to the action of floods, which cause considerable damage and impede the traffic for three and four days at a time.

There is an urgent necessity for a good punt on the Inangahua River, at the junction. The constant detention of the wagons for a week or ten days at this point is a serious drawback to the traffic to the Lyell, and entails an additional charge on the freight of goods; but, unfortunately, the boundaries of the Counties of Inangahua and Buller have been so defined that this ferry lies within the bounds of the County of Inangahua, whilst the Buller County derives all the revenue from the Lyell District.

The cutting of the bush lines and tracks through the bush on the south side of the Buller River, between the Lyell and Maruia, is much needed to enable more prospecting to be done, for the country is very rugged, and covered with dense bush. One bush line is being traversed from the Lyell towards the Mokihinui, and a similar line might be run with advantage from Boatman's towards the Lyell.

Six thousand eight hundred and eighty tons of quartz were crushed by the United Alpine Company, giving a yield of 5,674 oz. 11 dwt.

The statistical returns show that there are 391 water-races, of an aggregate length of 346 miles, capable of carrying 1,179 heads of water, valued at £27,515; 169 tail-races, valued at £10,962; 450 dams and reservoirs, valued at £10,929; 250 ground-slucies, valued at £11,500; which, together with the mining plant and machinery, estimated at £13,000, makes the total value of all mining property in the district to be £73,906.

Regular sittings of the Resident Magistrate's and Warden's Courts have, with few exceptions, been held on the dates appointed at Westport, Charleston, Lyell, and Reefton, and once, in March last, at Hampden.

In consequence of the great distances between the several Courts, I have to travel 360 miles per month to hold eight sittings of the Court. The constant work in the saddle during all weathers is most fatiguing, and I find it very difficult to keep the appointed dates for the sittings of the Courts.

I append herewith return showing the total population, cases disposed of in the Resident Magistrate's and Warden's Courts, the number of rights, licenses, and registrations issued during the year at each office, and the estimated yield of gold.

I have, &c.,

W H. REVELL,  
Warden.

The Under-Secretary for Gold Fields, Wellington.

The population of the district is estimated at 3,881 souls, located as under:—

Sub-districts or Localities.	European.	Chinese.	Total.
Westport	2,237	6	2,243
Charleston	893	Nil.	893
Lyell	695	50	745
Total	3,825	56	3,881

The following is a return of miner's rights, licenses, and registrations issued during the twelve months, with comparative column showing the increase over the year 1880 :—

	Westport.	Charleston.	Lyell.	Total, 1881.	Total, 1880.	Increase, 1881.
Miner's Rights ..	228	290	267	785	672	133
Business Licenses, £5	1	1	2	4	2	2
„ £3	10	3	9	22	15	7
Water Licenses, 2s. 6d.	121	217	121	459	245	214
„ 5s.		1	..	1		1
Registration, 10s.	10	14	1	25	20	5
„ 1s. .	331	1,232	327	1,890	1,644	246
Applications ..	156	454	281	891	567	324
Gold-Mining Leases	4	7	19	30	16	14

The revenue for the twelve months, amounting to £4,394 0s. 8d., with a comparative table showing increase over the year 1880 :—

increase over the year 1880:—

	Westport.			Charleston.			Lyell.			Total.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Warden's Department	1,197	7	7	773	9	10	973	12	3	2,944	9	8
Resident Magistrate's Department	187	19	0	63	0	0	60	2	0	311	1	0
Fees, Licensing Court ..	15	11	0	17	0	0	10	19	0	43	10	0
Spirit licenses	625	0	0	215	0	0	255	0	0	1,095	0	0
	<hr/>			<hr/>			<hr/>			<hr/>		
Total, 1881	2,025	17	7	1,068	9	10	1,299	13	3	4,394	0	8
Total for year 1880	1,862	15	2	887	6	4	1,050	14	8	3,800	16	2
	<hr/>			<hr/>			<hr/>			<hr/>		
Showing an increase of	163	2	5	171	3	6	248	18	7	594	4	6

The following is the return of cases disposed of in Resident Magistrate's and Warden's Courts during the year, showing an increase in the civil and Warden's cases as compared with the year 1880 :—

	Civil.	Criminal.	Warden's.	Total.
Westport	205	108	15	328
Charleston	45	16	28	89
Lyell ..	51	36	28	115
Total, 1881	301	160	71	532
Total for year 1880	246	190	28	464
Showing an increase of	55		43	68

The estimated yield of gold in the district is 23,570 oz. :—

	Oz.
Westport	6,600
Charleston ..	6,270
Lyell	10,700
Total ..	23,570

## No. 8.

Mr. Warden REVELL to the UNDER-SECRETARY for GOLD FIELDS.

SIR,—

Warden's Office, Reefton, 11th May, 1881.

In compliance with your Circular No. 90, of 29th January, 1881, I have now the honor to forward you the returns called for therein, and my report upon this portion of my district during the past twelve months.

I have, since the date of my last report, continued to hold fortnightly sittings of the Resident Magistrate's and Warden's Courts here, and the subjoined tables will show the business transacted and revenue collected, &c.

The cases disposed of in the Resident Magistrate's and Warden's Courts, Reefton, were: Civil, 298; criminal, 101; Warden's, 23: total, 422.

The revenue collected was as follows: Warden's Department, £1,873 7s.; Resident Magistrate's Department, £321; fees, Licensing Court, £17 18s.; spirit licenses, £968 10s.: total, £3,180 15s.

The following is a return of miners' rights, licenses, and registrations issued during the twelve months: Miners' rights (£1), 367; business licenses (£5), 1; ditto (£3), 20; water-race licenses (2s. 6d.), 123; ditto (5s.), —; registrations (10s.), 13; ditto (1s.), 423; lost miners' rights, 3; transferred business licenses, 3. Applications: Mining rights, 303; gold-mining leases, 20; special claims, 4; cancellation leases, 5; protection leases, 5; agricultural leases, —.

The population of sub-districts is as follows :—Reefton: European, 963; Chinese, 10: total, 973. Murray Creek: European, 383. Black's Point and Crusington: European, 102. Boatman's, Italian Gully, Due North, Redman's, Landing Creeks, and Cronaden: Europeans, 445; Chinese, 100: total, 545. Maori Gully, Soldier's, Devil's, and Slab Hut Creeks, and Merrigigs: Europeans, 88; Chinese, 181: total, 269. Grand total, 2,272.

The Black's Point Low-Level Tunnel Company, of which I made mention in my last report, has since started work and driven a tunnel a distance of some 270 feet, at a cost of £1 9s. 6d. per foot. This sum is of course exclusive of the cost of the iron rails laid down. A small broken gold-bearing reef was crossed after about 200 feet had been driven, but, as it has not been opened out, nothing can be said at present of the discovery. It is contemplated shortly letting a much larger contract, as rock-boring apparatus will be required. A director of the company is now on a visit to Victoria, where he will inspect the principal mines in the several mining districts, with a view to reporting upon the rock-boring machinery in use there.

Having in view the advantages, &c., to be derived from this tunnel, it has been proposed that a low-level tunnel should be driven at Boatman's, and that the operations should be carried out by the several companies whose mines are in that locality. There are two courses open: one is to drive from the Fiery Cross Company's shaft, which, if adopted, would follow the line of reef north; the other is from Little Boatman's Creek, which would cross-cut the reefing country and would consequently be more of a prospecting nature. The latter course, however, would have the drawback of being of greater length, and would also require greater expense than the other in order to connect with the batteries already erected.

The Welcome Company has erected a splendid ten-head battery at a cost of about £4,000, and, as during its erection the mine was well opened up, the battery is likely to be fully occupied, and good returns may be expected for a considerable time to come. The great cost entailed upon companies in this field in erection of machinery has more than once been commented upon in previous reports; and to show what advantages may be derived from cheap carriage, &c., I may mention that a battery similar to that erected for the Welcome Company was recently erected at Te Aroha at a cost of under £1,000.

A new industry, so far as this field is concerned, has been started in the Boatman's District, a plant having been erected for the treatment of quartz-tailings that had, during the past eight years, accumulated in the creek, and, I believe, with payable results. Other undertakings of a similar character will shortly be started. The Just-in-Time battery has for some time past been profitably engaged in treating the tailings stacked there.

The yield of gold for the year ended 31st March, 1881, is as follows: Quartz mines, 17,802 ozs. 7 dwts. 4 grs.; alluvial workings, 5,812 ozs. 19 dwts. 8 grs.: total, 23,615 ozs. 6 dwts. 12 grs. The gold from the mines, at £3 17s. per ounce, would amount to about £68,541 11s., and the alluvial gold at £3 16s. to £22,089 8s., making a total of £90,630 19s. The above yield is made up as stated in the following table, showing the amount of "calls made," "dividends declared," &c., in Inangahua District from 1st April, 1880, to 31st March, 1881.

Name of Company.	Calls Made.	Dividends Declared.	Quartz Crushed.	Yield.
	£ s. d.	£ s. d.	Tons.	Oz. dwt. gr.
Welcome Gold-Mining Company ..	512 12 6	3,750 0 0	1,100	3,209 0 0
Hopeful Gold-mining Company	600 0 0	600 0 0	860	859 0 0
Fiery Cross Extended Gold-Mining Company	500 0 0			
Specimen Hill Extended Gold-Mining Company	900 0 0			
Oriental Gold-Mining Company	233 6 8			
Phoenix Extended Gold-Mining Company	1,650 0 0		2,300	994 5 21
Golden Treasure Gold-Mining Company ..	133 6 8			
Eureka Gold-Mining Company				
United Inglewood and North Star Gold-Mining Company	237 10 0	..		
Nil Desperandum Gold-Mining Company	335 8 4		192	74 7 22
Homeward Bound Gold-Mining Company	166 13 4	..		
Golden Fleece Extended Gold-Mining Company		10,800 0 0	4,620	5,572 6 0
Energetic Gold-Mining Company		1,800 0 0	8,423	3,311 19 15
Dauntless Extended Gold-Mining Company	100 0 0			
Inangahua Low-Level Tunnel Gold-Mining Company	600 0 0			
Just-in-Time Gold-Mining Company	466 13 4	700 0 0	938	783 13 0
Caledonian Extended Gold-Mining Company	1,333 6 8			..
Inkermann Gold-Mining Company	291 13 4			
South Hopeful Gold-Mining Company	266 13 4	..		
Orlando Gold-Mining Company	66 13 4			
Keep-it-Dark Gold-Mining Company		2,000 0 0	5,115	1,989 0 0
Result Gold-Mining Company ..	850 0 0			
Wealth of Nations Gold-Mining Company	975 0 0		2,378	804 2 0
Sundries	10,218 17 6	19,650 0 0	25,926	17,597 14 10 204 12 18
Alluvial gold ..				17,802 7 4 5,812 19 8
				23,615 6 12



This shows a slight increase upon last year's return, and that the dividends exceed the calls by £9,431 2s. 6d.

There are 51 gold-mining leases in this district, of which 22 are situated at Boatman's, 18 at Murray Creek and Crusington, 2 at Larry's, and 9 at Soldier's and Rainy Creeks, and Antonio's. These leases have, with few exceptions, been properly connected by the Survey Department with trig. stations, which will prove of great value to the Courts, when adjusting cases of encroachment, and materially assist in the reduction of the costly litigation heretofore existing.

Five of the registered companies have taken advantage of the provisions of "The Mines Act 1877 Amendment Act, 1879," by obtaining protection for 12 months, thereby relieving the shareholders from the frequent calls which have been found excessively burdensome during the last two years.

The majority of the companies have secured the services of competent mining surveyors, a step likely to lead to good results and prevent encroachment and litigation.

There are about two hundred Europeans and two hundred and eighty Chinese employed in alluvial mining throughout the district, making fair average wages. There has been a considerable increase in the Chinese population, a good number having recently arrived, and others are expected. This is doubtless in consequence of the good reports from those who have long resided here, and it may fairly be presumed that they are satisfied that there is a large area of country lying idle which will enable them to earn fair wages, if not large piles. They have established two large stores in Reefton, one at Maori Gully, and they contemplate shortly opening another at Boatman's. They employ two pack-horses, which are constantly at work.

The proposed construction of the railway to connect the East and West Coasts *via* Reefton has naturally commanded considerable attention on the part of the people here, as it cannot fail to be of the greatest importance to the place. It is advisable that early steps should be taken to reserve the land along the proposed line until the question is settled.

During the past twelve months a pack-track, some seven or eight miles in length, has been constructed from Devil's Creek to the Big River by the County authorities, and subsidized by the Government to the extent of £300; but, as the District Engineer was unable to certify that the work was carried out in accordance with the specifications, the Warden's certificate has been withheld until the matter has been adjusted. This track has opened up a considerable area of alluvial ground, and provided remunerative employment for a number of miners, chiefly Chinese.

Another application has been made to the Government to subsidize the formation of a similar track from the Blackwater to the Big River, and it is anticipated that this will prove beneficial to the district and open up an extensive tract of payable ground in the back country.

The surveying of a line from the head of Boatman's to Lyell might be undertaken with advantage to the district, and would prove of great assistance to miners in prospecting for reefs, which are confidently believed to exist in that as yet unexplored country, and, if carried out, the whole of the country from Rainy Creek to Lyell, a distance of 30 miles, would be connected.

The statistical returns show that there are 130 water-races of an aggregate length of 116 miles, capable of carrying 443 heads of water, of the value of £20,360; 60 tail-races, value £3,695; and 73 dams, of a value of £2,599; which, together with the mining plant and machinery, estimated at £78,070, gives the total value of all mining plant at £104,724.

In conclusion, I may state that the district is in a sound condition, and I think it is a significant fact that there are no idle hands in the place. Hopes are entertained that the ensuing twelve months will be marked with greater success, and a larger output of gold than has been the case for the past two or three years, and I trust that these hopes will be fully realized.

I have &c.,

W. H. REVELL,  
Warden.

The Under-Secretary for Gold Fields, Wellington.

## WESTLAND GOLD FIELDS.

(Including part of Nelson South-West Mining District.)

### No. 9.

Mr. Warden STRATFORD to the UNDER-SECRETARY for GOLD FIELDS.

SIR,—

Warden's Office, Greymouth, 13th April, 1881.

I have the honor to forward herewith the statistical returns of the mining districts under my charge, except that of Kumara, which I have already sent in from that place, and to add a general report for the year ending the 31st March, 1881.

There are about 2,400 miners in my district north of Teremakau; of these 500 are Chinese. The principal mode of working is by sluicing and tunnelling; I am not aware of any quartz mining within my boundaries.

*Barry Town, or Seventeen-mile Beach.*—There are about 300 miners on this field, principally located in the immediate neighbourhood of the prospectors' claim. Quite recently several parties have set in to work at a place about six miles further north, and with moderate success, proving that the lead of gold continues in a northerly direction on a narrow strip of terrace which lies between the ranges and the ocean, stretching out at least twenty miles. The Seventeen-mile Flat is being prospected with boring-rods, but with no results up to the date of my report. The prospecting parties have only very recently commenced operations. This portion of my district is likely to become better known when made more accessible than at present, an event probable, as I understand the Government has agreed to subsidize the expenditure of £400 by the County Council in forming a new approach to the diggings through a well-known agricultural flat called Coal Creek. The advantage of this for

better developing the mining industry will be obvious, when I explain that the only approach from Greymouth to the diggings at the present time is by the ocean beach at low water, all goods being packed out at about 8s. per 100 lb.

*Brunnerton and Langdon's.*—Between Brunnerton and Langdon's, on the north bank of the River Grey, are a few miners scattered about. Of their average earnings or mode of working I am unable to afford you any reliable information.

*South Beach.*—The coast-line between Greymouth and the Teremakau—a distance of ten miles—finds employment for about 50 miners, all engaged in sluicing operations on what is termed the "Back Lead," evidently an old beach-line situated about 50 yards from high-water mark. The largest holders of water rights are the Leviathan and Great Extended Water-Race Companies, who have been sluicing in this neighbourhood for the past twelve or thirteen years with very satisfactory results. They display a remarkable reticence respecting the amount of their earnings, and transfers of interests in these companies are not of frequent occurrence.

*Cameron's Terrace.*—About five months ago a rush set in to Cameron's Terrace, on the north bank of the Teremakau. Owing to the difficult nature of the workings the population rapidly dwindled down to about 45 *bonâ fide* miners, who are now engaged taking up extensive tail-races to drain the ground, which is of a swampy nature and difficult to work. The miners in this district seem disinclined to engage in any venture unless they can procure extended areas.

*Rutherglen.*—Manuka Flat and Rutherglen find employment for about seventy Europeans and fifty Chinese. The Cornish party are the principal holders of water rights in this district, and, judging from the prices obtained by the transfers of one or two interests during the past month, the results of their mining operations must be satisfactory. The miners, as a rule, are making good average wages. The once flourishing and busy township of Rutherglen has now only a small store, and two or three huts.

*Welshman's.*—Limestone and Welshman's, situate seven miles from Greymouth, with a mining population of about forty Europeans and seventy Chinese, continue to yield average returns. The want of water for sluicing operations is much felt in this district during the summer months.

*Marsden.*—A few miners are scattered through the Marsden District (I speak of that portion north-west of the New River), who, with the residents in the Township of Marsden, number about forty Europeans, with their families, also about twenty Chinese. Mining matters in this district are stagnant, no fresh finds having been discovered for some time past, and the old claims are worked out.

*Greenstone.*—The population of the district remains about the same as last year. I am unable to state the yield of gold from this district, as it is sold in different places. A prospecting association was formed about eight months since, and parties sent out by them to prospect the country; about three weeks ago they discovered gold in ground situate about three-quarters of a mile from Revell Terrace; but, owing to recent wet weather since the discovery—their shaft having become filled with water—they have been unable to give the ground a fair trial. Miners who have visited the locality seem to think there is every probability of the ground proving payable and extensive. New ground is greatly needed at Greenstone, as most of the old claims are now worked out.

*Creek Claims.*—There are several parties, principally Chinese, working on the bed of the Greenstone Creek; but they have at times very great difficulties to contend with, as in wet weather the creek frequently rises to such a height as to flood their claims, thereby causing them a great deal of trouble to get them into working order again; otherwise they appear satisfied with their earnings. Chinese, as a rule, are inoffensive and industrious, and they often take up ground and work it after Europeans and others have abandoned it as being unpayable.

*Quin's Terrace.*—There are still a few claims at work on this terrace, and the owners making fair wages; but the greater part of them have been worked out and given up.

*Hayes's Terrace.*—There are several parties working claims by sluicing process; the ground is rather difficult to work, owing to there being a great number of large stones in it.

*Cape Terrace.*—A rush took place to this terrace about eighteen months ago, and although the ground has not proved to be so good as was at first anticipated, still there are a large number of miners making a fair living.

*Arnold Subdivision.*—During the past year nothing has occurred of a special nature; no new ground has been opened up and but little prospecting done. The miners are chiefly engaged in sluicing operations, not more than about a dozen are driving out the ground; they appear to be making average wages. There are no rich claims in this portion of my district, and the ground is poor.

*Dunganville.*—At Dunganville there are many good paying claims, especially those situate on the New River Lead, several yielding from £6 to £10 a man per week. In developing this lead there has been heavy outlay, some parties working for two years before the gold was struck. The claims are worked by tunnels, some from 1,000 to 2,400 feet long. It is satisfactory that these parties, after so much loss of time and outlay, are now reaping the reward their enterprise deserves. About fifty miners are employed on this lead. Twenty-five miners are at work on the Eight Mile, and their claims are yielding average returns.

*Wood's Creek.*—There are about twenty-five men working, who are said to be doing fairly. The rest of the mining population is scattered over the district at Liverpool's, Coca Bulla, Irishman's, &c., and the miners are in most cases satisfied with their earnings. Although no new ground has been opened up in this division during the past year, the old claims have maintained a steady yield. A good number of double area claims have been granted, as an inducement to men to undertake prospecting ground costly and difficult to work. As far as I can judge mining is not waning here.

*No Town.*—In mining operations during the past year there is nothing new to report upon. No fresh ground has been opened up, and no prospecting to speak of done. The old claims are yielding average returns, and the mining population remains much the same as it was a year ago. All the miners in this locality appear to be well employed, and generally earning from £2 to £3 a week. The workings are chiefly sluicing, but some thirty or forty men are engaged tunnelling. The population is scattered, the largest centre being at Red Jack's, where there are about forty miners.

*Joyce's Gully.*—About twenty-four men.

*Abe's Gully.*—Twenty men, the remainder distributed amongst the several gullies branching off the No Town Creek. There is a track in existence over this ground (from No Town to Molloy's), but it is almost impassable in winter, and never good even in summer. The distance is about seven or eight miles, chiefly level, with the exception of the pass over the range at Bill's Gully.

*Ahaura Division.*—The population has decreased slightly during the past twelve months, some having left for the Seventeen-mile Beach, others for New South Wales, and a few for the west coast of the North Island. The River Grey makes serious encroachments upon its banks every flood. The best agricultural land in the district is suffering through these incursions. A pack-track about  $5\frac{1}{2}$  miles long, being a deviation of the Amuri Road, was made by the Government about nine months ago. It has proved highly beneficial to residents at Kopara and Haupiri, also to drivers of stock from Amuri and Canterbury. About  $6\frac{1}{2}$  miles are still required to make travelling safe and easy between Ahaura and the Kopara-Haupiri District. About twelve months ago a small rush set in at the back of Lake Haupiri, but owing to the want of tracks and the consequent scarcity and costliness of provisions, nearly all the men abandoned the place. They made about £3 per man a week, the whole of which was required to pay for provisions. The distance from the end of the present track at the head of the Nelson Creek Water-race to the site of the Haupiri diggings is eight or nine miles, and it is said that it is an easy country for the construction of a pack-track. At present provisions are taken from Greymouth through Ahaura. The distance *via* Hatter's Terrace and Lake Hochstetter would be about one-half of the present route, and the risk and inconvenience of crossing Lake Haupiri in small canoes would be avoided if a track was made from the head of Nelson Creek (Government) Water-race. Miners, as a rule, have been doing tolerably well, have avoided Law Courts, and worked harmoniously together. Provisions of all kinds are lower in price than at any previous time.

*Nelson Creek.*—Owing to the constant and abundant supply of water rendered available for ground-slucing purposes by the Government Water-race from Lake Hochstetter, extensive mining operations are being carried on continuously at Nelson Creek. In proportion to the number of men engaged in mining, the yield of gold from this locality has been very good during the past year, but a very high percentage of it goes to the Government for water. Most of the claims using water from the Government race are being worked out with great rapidity. Several claims were abandoned last year, and only about three new ones were opened. The Nelson Creek Prospecting Association have had men in the field searching for fresh auriferous deposits, but they have met with no success so far.

*Orwell Creek.*—There has been a slight decrease in the mining population of this valley; still there is no doubt that more gold has been produced in spite of the diminution. Until lately three of the largest claims were held by registered companies, who got very little gold. About twelve months ago these claims were sold to private parties of miners, and, with brief occasional intermissions, have been paying very well ever since. In one of the claims (the Napoleon Hill) the weekly dividend frequently amounts to £15 per man, and sometimes even more—the number of shareholders being twelve.

*Moonlight Creek.*—All the miners here appear to be satisfied with their earnings. It is generally supposed that few of them are making less than £4 per week. A considerable number of Chinese are located in some of the back gullies. Last winter the County Council made a track from Ahaura to River Grey, in the direction of Moonlight Creek, and it has proved of great benefit and convenience to miners and settlers in that neighbourhood. The quartz reefs at Moonlight and Blackball, about which speculative excitement is worked up from time to time, are now quite neglected and deserted.

*Callaghan's Creek.*—The few men employed are all doing well, apparently. One or two parties of Chinese have begun to work there.

*Half-ounce, Granville, Duffer's, Teviot, and Waipuna.*—All these places are in immediate proximity to each other. Very few miners are left in these localities; several have gone away during the last twelve months. No new finds have been made. It is extremely probable that further diminution of population will ensue.

*Blackwater, Little Grey, and Mossy Creek.*—Very few European miners working in these valleys now. Large numbers of Chinese there. A considerable quantity of land has been taken up in the Little Grey District lately, for farming and grazing purposes.

In concluding my report, which I must admit is meagre enough, I beg to remind you that I have only had charge of this district for six months, and have been unable to inform myself thoroughly of its progress and requirements, my time having been fully occupied in holding Courts and acquainting myself with the offices under my supervision. I make this explanation as an apology for the scanty information afforded about so large and important a district. I am unable to enclose a return of gold exportation, as I have not been able to obtain reliable information on this subject.

During the past year there have been 352 civil and 276 criminal cases heard in the Resident Magistrate's Courts north of Teremakau (this return excludes Kumara business); and in the Warden's Court 78 cases on complaints, 102 mining disputes on objections, and 1,062 applications. The total amount of revenue, exclusive of gold duty and Kumara revenue, has been £5,422 8s. 10d. This does not include the revenue paid into borough accounts.

I have, &c.,

H. A. STRATFORD,

Warden.

The Under-Secretary for Gold Fields, Wellington.

## No. 10.

Mr. Warden STRATFORD to the UNDER-SECRETARY for GOLD FIELDS.

SIR,—

Warden's Office, Kumara, 4th April, 1881.

I have the honor to forward herewith annual statistics for the Kumara portion of my district, and to make the following report of the progress and state of mining matters:—

*Population.*—The European miners have, I think, slightly decreased since the last report was furnished, owing chiefly to the Temora rush. The Chinese remain about the same as last year.

*Gold*.—I estimate the produce of gold for the year at 32,000 oz., which I believe to be correct, but there is no official record to check calculations by

*Mining*.—There have been no new discoveries during the year of much importance. A rush took place during the month of December last to land situate on the southern bank of Teremakau River, between a farm known as Hughes's, and Noonan's Hotel, but the parties who tried it were unable to obtain sufficient prospects to justify them in setting in to work; they have now all left it with the exception of the prospectors.

*Larrikin's Terrace and Dunedin Flat*.—A large number of claims, situate at Larrikin's Terrace and Dunedin Flat, which were taken up at the commencement of the rush as ordinary claims, have been worked out by driving process, and the parties which held them are now applying for land in larger areas, which they intend sluicing as soon as the Government Sludge-channel is ready for that purpose.

*Government Sludge-channel*.—The first section of this important work is now completed, and the second just commenced. It is expected that the channel will be ready for miners to sluice into in about four months. This will be a great convenience, and beneficial to the district generally. Several parties have already commenced cutting races into the channel so as to be ready for running their tailings into it as soon as it is declared open for that purpose. While the first section of the channel was being constructed a fair sample of gold was obtained, at a depth of about one hundred feet below the ground at present being worked on Dunedin Flat.

*Long Tunnel Tail-race*.—This company was formed some three years ago for the purpose of cutting a tunnel tail-race from Teremakau River to Shamrock Lead, to enable them to work ground in that neighbourhood by means of sluicing. The tunnel has already been driven to Shallow Lead, a distance of about two thousand feet from the commencement, and it is proposed to drive it two thousand feet further, to Shamrock Lead. At present there are sixteen men employed in driving the tunnel, and as soon as they commence sluicing, which will be in a very short time, they expect to be able to give employment to a much larger number. This race will be the means of opening up the whole of the gold fields west of the Government Sludge-channel. The depth of the race at its present termination is one hundred feet.

*Government Dam, Kapitea Creek*.—During a very heavy fall of rain on the 12th of March last, the dam-bank of the Government dam in the Kapitea Creek gave way, through the great pressure of water. This will be a considerable loss to the district, being the principal source of supply for the Kumara Gold Field. I understand that it will take three months at least to repair the damage done. As a rule, miners seem satisfied with the result of their labours. Some of the claims in the district are paying well, principally sluicing claims, although there are undoubtedly some poor ones.

When I took charge of this district in October last, fortnightly sittings of the Resident Magistrate's and Warden's Courts were held, but I soon found it necessary to attend weekly

*Prospecting*.—A prospecting association was formed here in June last, and prospecting has been going on by the parties they have organized since that time, but up to this date they have not met with much success. I should mention it receives Government support under the Prospecting Rules.

I have, &c.,

H. A. STRATFORD,

Warden.

The Under-Secretary for Gold Fields, Wellington.

## No. 11.

MR. WARDEN GILES to the UNDER-SECRETARY for GOLD FIELDS.

SIR,—

Warden's Office, Hokitika, 28th April, 1881.

I have the honor to forward the usual statistical returns for that part of the Westland Gold Fields under my charge. The general state of the gold field is much the same as it was last year. Such particular points as deserve attention will be mentioned in connection with the subdistricts to which they relate.

*Hokitika and Kanieri*.—I mentioned last year the prospecting operations of the Hokitika District Prospecting Association. This association has continued to employ small parties of men prospecting in various parts of the district up to the present time, but hitherto without any success at all. The total amount actually paid to this association by Government in the way of subsidy is £169 12s. 6d., which will be raised, by amounts still due for work done within the twelve months ending the 31st March, to a little over £200. A great many shafts have been sunk, but in no instance has gold been found in sufficient quantity to pay for working.

*Waimea*.—This district contains two centres, the Townships of Stafford and Goldsborough, at each of which a Court is held in alternate weeks. The new Courthouse at the former place, lately obtained at a very moderate cost, has proved a great accommodation to the residents, who would otherwise have had to go to Goldsborough to transact all their Court business. The gold mining of this district is largely dependent upon the water obtained from the Government race, and any interruption of that supply is severely felt by the miners. This race sometimes breaks away in floods, and the loss of water thus caused, unless repairs are promptly done, adds materially to the general damage caused by large floods in the Waimea Creek and its tributaries. The largest and most disastrous of these floods that has occurred for many years was on the 12th March last, when a very great amount of damage was done to mining property in that locality.

Litigation in the Waimea District has considerably increased during the year, the number of cases shown in the present return being 49, as against 34 in the previous year. The causes of this were partly described in my last report, and they are still in full operation. The creeks and watercourses become more and more filled up with tailings, the level of the beds being raised many feet higher than it was in former years, and the rights which were then granted have by this means become quite altered, both in the mode in which they are capable of being used and in their bearing upon other rights, which some years ago could scarcely have been expected to be ever likely to interfere with them. This com-

plication of conflicting rights, increasing as time goes on, is often the cause of much difficulty and trouble.

A good deal of ground in this neighbourhood is now worked by Chinese, and when they have cases in Court the want of a trustworthy interpreter is much felt. Attention was called to this subject by Mr. Mackay, in his report of last year for the Grey District, and there is no doubt that whatever pains may be taken, by visiting the ground in dispute, or by other means, to arrive at a correct understanding of the case, the administration of justice cannot be satisfactory with such interpreting as is now available.

*Totara*.—Prominent in the affairs of this district is the question of the Mikonui Water-race. It is not necessary for me to dilate upon the importance of this work to the district, or the reasons why it should be proceeded with, these considerations being already well known to the Government, with whom the further prosecution of the undertaking is probably only a question of ways and means.

*Ross*.—The most remarkable feature in the history of Ross and its neighbourhood during the past year has been the formation of the Ross Gold-Mining Company, who have obtained a special claim of 100 acres, for the purpose of working the deep ground at Ross Flat—long known, if united testimony is to be trusted, to be richly auriferous, but now for many years abandoned, owing to the difficulty of draining the workings at a depth of 300 feet, in ground so close to the sea level. At the time this company was projected the Ross Borough Council had a proposal on hand for bringing up a long tunnelled tail-race for drainage purposes, through the flat, which would enable the ground to be worked without difficulty to a depth of 90 feet. It is doubtful, however, whether the Borough Council could have found legal powers for such an undertaking, which will be carried out in a much more legitimate manner by a mining company. The new company has now undertaken this work, and is at the present time carrying on the construction of the tail-race. The completion of this work, besides being of much benefit in itself, will materially diminish the difficulty of draining the lower levels by reducing about one-third the height to which the water must be lifted, and by this means, together with the improved mode of working the deeper ground which they propose to adopt, the managers of the company are sanguine that they will be able to get out the gold which everyone appears to believe is there. The area granted to this company as a special claim is unusually large, and may be, for anything I know, unprecedented in New Zealand. But in recommending the application to the Government I was influenced by the consideration that the time has come in the history of this coast when no further progress can be expected without the free introduction of capital—when the jealousy in disposing of lands supposed to be rich in gold or other minerals, which at an earlier period may have been justifiable, should give way to a more liberal system by which we may hope to attract the capital which is essential, but which will not consent to such restrictions of area and of tenure as have hitherto been customary. There is no doubt that so large a grant might have been expected to raise some outcry, however unreasonable, on the score of locking up ground from the “working miner.” But I have been gratified by the manner in which the proposals of this company have been received by the “working miner,” who has been intelligent enough to see that by some such scheme as this alone can ground be opened which has been so locked up by nature from his operations. In arranging the terms and conditions of the grant of the special claim, I have taken all the precautions that I could think of to protect all the rights, present and future, of those concerned, and I hope the result of what has been done will be increased activity and prosperity in the district.

Silver seems sufficiently akin to gold to justify my referring in this place to the Mount Rangitoto Silver Mining Company, who for the last five years have held a lease of 500 acres on the side of that mountain. Work has been done at intervals in this mine, but hitherto without much result. Lately, however, it appears that some specimens from the mine have been so far favourably reported on in London as to cause a renewed effort to work the ground. It is said that capital can now be obtained for this purpose if the freehold of the ground can be obtained, and with this object an application was made to the Land Board to offer for sale the land comprised in the lease under the provisions of the Westland Appendix to the Land Act of 1877. The Land Board, after some deliberation, decided in favour of the application, influenced by reasons very similar to those which I have already mentioned in connection with the Ross special claim. A day has been fixed for the sale of this ground, and the applicants allege that if it is purchased by them, immediate steps will be taken towards the development of the mine.\* Should their anticipations be realized another important factor in the prosperity of the Totara District will be at work, and every one such can scarcely fail to lead the way to others.

The return of gold shipped at Hokitika for the 12 months ending 31st March, 1881, exclusive of that on which duty has been paid at any other port, is as follows: Gold, 47,377 oz. 11 dwt. 5 gr; duty, £4,737 16s.

I have, &c.,

J GILES,

Warden.

The Under-Secretary for Gold Fields, Wellington.

## No. 12.

MR. WARDEN BIRD to the UNDER-SECRETARY for GOLD FIELDS.

SIR,—

Warden's Office, Okarito, April 2nd, 1881.

I beg to forward herewith statistical returns respecting the Okarito District, for the year ending 31st March, 1881. In regard to mining matters generally I have nothing of importance to communicate. Since my last report there was a small rush in the neighborhood of Lake Mapourika, and there were at one time about 180 men on the ground, but out of these only a small number were practical miners possessing the requisite means for prospecting; and, therefore, owing to the difficulty of working the ground, many were obliged to return without even taking up a claim. At present there are from 70 to 80 men in the vicinity of the Okarito River and Lake Mapourika, and the generality of

\* The 500 acres has been purchased by the company.

them are making from £2 to £4 per week. I am still confident that a payable gold field will be opened up in this locality, but it may take a considerable time owing to the nature of the country and the absence of capital among the miners to allow them to prospect on a large scale.

There have been some fine samples of gold obtained near the Paringa River and Abbey Rocks, and I think it very probable that the road now being made from the Paringa to Haast will open up a large extent of auriferous country. A number of miners are working and prospecting up the Wataroha and Waiho Rivers with various results, but I believe on the whole satisfactory. There are also about 40 men working on the various sea-beaches, but they have generally to be contented with small wages, except an occasional patch of surfacing, which at times fully repays them for the loss of time spent in working very poor ground.

I think the future prospects of the district are favourable, and look forward to a steady increase of population and revenue, which though small is steadily improving.

I have, &c.,

FRANK BIRD,  
Warden.

The Under-Secretary for Gold Fields, Wellington.

## OTAGO GOLD FIELDS.

### No. 13.

Mr. Warden ROBINSON to the UNDER-SECRETARY for GOLD FIELDS.

SIR,—

Warden's Office, Naseby, March 31st, 1881.

I have the honor, in accordance with instructions, to present my annual report on the district under my charge for the past year.

Owing to some official changes the district was in September last considerably increased in extent, by the addition of the Black's division, which includes the important mining localities of Drybread and Tinker's, and which had previously formed part of the Dunstan District.

The year that is past has not been signalized by any important discoveries, but on the whole it has been a fairly good one for the mining interest. The winter was mild and open, and there was nothing like the usual interruption of mining operations by frost. Water also has been generally in fair supply although there have been some periods of drought, during which all but the most permanent sources of supply gave out for a while.

In the immediate neighbourhood of Naseby the fine supply of water brought in from the Manuherikia River by the Mount Ida Water-Race has been the means of keeping a number of miners almost constantly employed, who, if depending upon the smaller local supplies, would have been liable to frequent stoppages.

Though there have been no positively new discoveries, I am glad to be able to mention that there has been a considerable extension of mining over ground in the vicinity of older workings. This has especially been the case along the course of Enterprise and Coalpit Gullies, near Naseby, in ground commanded by the Government water. The same remark applies to the vicinity of St. Bathans, where the workings known as the Two Mile and Vinegar Hill are the principal attractions.

In the Hyde division the most important item of interest in mining has been the enterprise of McKay and party, who have been engaged for some time in the work of turning the Taieri River, at a bend about seven miles below the Hyde Bridge, with the object of working the bed of the stream. It is a heavy undertaking, and is the first attempt of the kind that has been made in this part of the gold field. I hope in my next report to be able to chronicle a success of what is certainly a bold enterprise. The rich ground opened by Holverson at the Fillyburn, as mentioned in a former report, has not been found to extend so far as was anticipated. The gold seems to have been confined to a mere patch of ground, where it was exceedingly rich, but the efforts made to trace it further have been unavailing.

Some of the claims about Vinegar Hill and the Two Mile have been giving very good returns to their fortunate owners, and in consequence a considerable amount of ground has been taken up in the neighbourhood, principally on mining leases. There can be no doubt that a permanent field of great promise has now been opened.

In the St. Bathans basin a large area of ground, which has for a long time been lying waste and apparently worked out, has recently been granted as a special claim to a miner who intends to work it thoroughly and on a large scale of hydraulic mining, for which he has special facilities. This ground was originally held in a great number of claims and worked by sinking shafts. It was then mostly worked over by sluicing, until the work came to a stand for want of fall; but many of the claim-holders, being satisfied there was more gold to be got, held on to their ground, keeping it protected in the hope that some day they might be able to work it. The rights of these men were at last all bought up by the miner now referred to (Mr. Ewing), and he has every confidence that he will find it pay him handsomely to work the ground for the third time.

At Maerewhenua there has been a slight improvement in mining affairs, and rather more gold is understood to have been obtained than in some former seasons, but no important change is to be noted.

Quartz-mining has never attained any great importance in this district. For some years the only mine continuously and systematically worked has been that at Rough Ridge, known as Withers'. There has, however, been some activity in prospecting about the Rough Ridge, and it is understood that one or two small parties have been getting out some payable stone. At Serpentine the Serpentine Company have stopped work for many months. Other miners, however, have not been disheartened by their failure, but have been searching diligently for and testing new reefs, with the result that some more mining leases have been applied for. In one instance it is understood that some Dunedin capitalists are concerned in the venture, but nothing definite is known as to the prospects.

In the Black's division the principal workings are at Tinker's and Drybread, where sluicing on a large scale is carried on by strong companies with marked success. No new discoveries are to be reported from this quarter.

Settlement upon the land has gone on slowly, there being but little land open for selection in the district. It is expected there will be a good demand for the block at Gimmerburn that is to be opened early next month. The low prices ruling for produce have had a very depressing effect upon the agricultural interest, and the want of a railway to bring them into communication with a larger market has been urged by the farmers on every possible occasion. The starting of the flour mill at Naseby, which will be ready to begin grinding in a few days' time, will no doubt be some relief to them, by making it worth their while to grow a moderate quantity of wheat.

The new agricultural leases taken up during the year represent an area of 2,860 acres, and 6,394 acres have been taken on deferred payments. In the same period 5,302 acres previously held under agricultural leases have been converted into freehold, and one lease for 194 acres has been exchanged for a deferred-payment license. The total area at present held under agricultural lease is 20,141 acres, and on deferred payments 19,656 acres.

The yield of gold for the year, so far as it can be ascertained, has been about 27,500 oz., value £103,125. This includes the gold from the Black's division.

The total revenue from all sources has been as follows: Gold revenue, including rents on mining and agricultural leases, £3,892 3s. 3d.; rents on deferred payments, £2,427 5s. 4d.; total, £6,319 8s. 7d. This shows a decrease as compared with last year. The large area of agricultural leases converted into freehold during the year accounts in part for the falling off, as rents on these lands have ceased to be payable, but the principal deficiency is on the deferred-payment land. A great deal of this was purchased at a ruinously high rate, and the holders have in some instances found it impossible to keep up their payments. Several, indeed, have surrendered their licenses, taking advantage of an arrangement by which they will be able to purchase outright, or obtain valuation for their improvements.

I forward the usual statistical returns. With reference to the return of cases in the Warden's Court, I have to remark that, in addition to these cases, there were heard in the Warden's Court 597 applications for mining privileges, 29 applications for mining leases, and 21 for agricultural leases. Of these various applications 88 were opposed, and the hearing of the objections was in many of the instances a lengthy business, involving adjournments and visits to the ground.

I have, &c.,

H. W. ROBINSON,

Warden.

The Under-Secretary for Gold Fields, Wellington.

#### No. 14.

Mr. Warden KEDDELL to the UNDER-SECRETARY for GOLD FIELDS.

SIR,—

Warden's Office, Clyde, 6th June, 1881.

I have the honor to submit the following general report of the progress and condition of mining affairs in the district of which I am in charge:—

With respect to the first six months of the yearly period to which my report refers, *i.e.*, to the end of September, 1880, my duties were confined to the charge of the Dunstan District, but since that time, on Mr. Stratford's removal to Greymouth, I have assumed the supervision of both districts.

*Dunstan District.*—In this division of the combined districts there has been little to call for special notice; the number of miners employed has not diminished, and the return of gold will be found to bear favourable comparison with that of last year. At Roxburgh the sluicing claims on the banks of the Molyneux have been steadily worked, and the yield of gold from that portion of the district (though I have not shown the items separately) contribute a very large proportion of the aggregate amount stated. The mining in the Mount Benger portion of the district is exclusively alluvial sluicing claims, both on the Molyneux and at Waikaia and Pomahaka; but public attention both here and higher up the river, above Alexandra, has lately been attracted by the success attending some of the dredging-machines, and in the last-named locality two large areas of the river bed have been applied for by parties who show their *bona fides* in the large outlay of money invested in their respective plants; each are constructing powerful steam-dredges on new principles, and they anticipate good results; if as successful as they expect I believe it will lead to many others being introduced. There have been two applications for mining leases over land containing quartz reefs, but as yet they have shown no yield. One at Conroy's Gully has languished through want of local support; it was attempted to be worked, as is usual, from Dunedin, but the lack of interest taken by those residing in the immediate neighbourhood has tended to retard progress, and I regret it, inasmuch as I believe from the early prospects of the undertaking it was well worth a trial, and I am in hopes it will not yet be allowed to fall through. The alluvial workings at Tinker's and Drybread, which have always shown prominently forward in former reports, I have left to Mr. Warden Robinson, who has since October visited Black's. At Cromwell the alluvial workings at Bannockburn are continuing to give highly remunerative employment to a large number of miners, and in other localities, on the banks of the Kawarau and Molyneux, and on the terraces adjoining the latter river, the work of last year has been steadily proceeding. The Chinese are everywhere prosecuting the same work with the same plodding untiring industry both at Alexandra, Dunstan, and Cromwell, and contribute very largely to the yield of gold. They work on very friendly terms with their European neighbours, and are a peaceable, well-conducted section of the community. The rush at Panama Gully, on the Fork Run, on Lake Hawea, is still occupied by a few miners, but its early promise has not been realized. It is reported that lately a reaction has taken place, and that some good prospects have been made. The gold from this portion of the district is of very inferior quality, and contains an alloy of some base metal which has not been discovered in any of the finds on the Clutha. The quartz claims at Bendigo have continued in steady work, and lately declared a further dividend; a good deal of dead work has been accomplished, and they are now working on the reef with renewed hope and encouraging prospects.

*Wakatipu District.*—This district may be divided into two divisions, Queenstown and Arrow. At Queenstown alluvial mining keeps up a steady average. Few men are leaving the district, but on the



other hand there are few additions. The mining population consists mostly of the survivors of the old rush some eighteen years ago, who for the most part are settled down for life. They appear to be satisfied with small but steady returns, and in many portions of this locality, the Shotover, and its bordering terraces, there is abundant land untouched to yield them a living. It should be stated, however, that much of this ground is unworked on account of the limited supply of water at the high levels, which, of course, is an indispensable essential in working these sluicing claims. An instance of what can be done by energetic labour, combined with skilful knowledge and capital, may be seen at Skipper's Point, where an old resident, a miner, a Mr. John Aspinall, has a plant valued at about £3,000. A great deal of work has been done here, and all carried on with a system and object. His enterprise has been up to the present very successful, and the claim has yielded and continues to yield great quantities of gold, and there are years of remunerative work before them. Most of these alluvial claims are worked in parties of two or four men, and often in single areas held by one man. There is a prejudice against combination of forces, generally resulting in a mining company; the miners' experience is unfavourable to this step, and, as in the instance above mentioned, few have capital enough to undertake work on a large scale. There has lately become vacant a large claim held by the Shotover Terrace Company, or rather, the company being in course of liquidation, the ground will soon be open for occupation. This locality has proved very rich in times past, and a considerable track of country of similar formation and position is yet untouched in this neighbourhood. At Moke Creek and Moonlight, tributaries to the Shotover, the workings are mostly managed by the Chinese, and they bring down a steady return to the banks here. From the knowledge I have acquired of the land in the neighbourhood of the Shotover and its tributaries, I have no fear of the diminution of the yield of gold; indeed I believe that, should any wonderful discovery of a rich find attract any large number of miners, most of whom would bring more energy to bear on their labour than the settled population now working, there is a great probability of very extensive deposits being discovered.

*Arrow Division.*—Alluvial mining in this portion of the district has been allowed to flag until very recently, when it appeared to recover slightly, the attention of the many being called to the prospecting of the quartz reefs of Macetown, which place is about central of this division.

*Quartz Mining.*—This branch of mining industry has been more energetically followed in the Arrow division, and chiefly at Macetown. Many of these claims have shown good prospects, and were looked on very favourably by the public outside the gold fields as well as by the mining population of the district. Their early history and promise have been the subject of former reports, but I regret to state this year has not been marked with any great successes. There are many drawbacks to working these mines, which are situated at a considerable elevation, to which all timber and mining requisites have to be packed, over indifferent roads unsuitable for wheeled traffic. From the prospects I have seen I have good hopes of their ultimate success. When the working expenses are so heavy it is difficult to keep alive the interest among distant shareholders. The discovery of a quartz reef at the head of Lake Wakatipu, referred to in my predecessor's last report, has more than realized its first promise, and the proprietors have imported a plant of crushing machinery. Their prospects are very good, and I look forward to a favourable mention in next year's report of this claim.

*Gold Returns.*—The yield of gold in the respective divisions of my district, according to bank returns which have been kindly supplied me by the different bank agents, is as follows: Dunstan, 30,484 oz.; Wakatipu, 11,204 oz.: total, 41,688 oz.

*Agriculture and Settlement.*—I have to report very satisfactory progress under this very important head. The past harvest was most satisfactory, and vigorous preparations for next year have been made. Many of the agricultural leases, having matured, have passed into the lessees' hands as freeholds, and many more are likely soon to undergo the same change. There is a growing demand for land, which, in the immediate neighbourhood of the centres, is difficult to find, and the mining reserves are frequently the subject of application for settlement.

I have, &c.,

JACKSON KEDDELL,

Warden.

The Under-Secretary for Gold Fields, Wellington.

## No. 15.

Mr. Warden CAREW to the UNDER-SECRETARY for GOLD FIELDS.

SIR,—

Warden's Office, Lawrence, 23rd May, 1881.

I have the honor to forward herewith statistical returns for the Tuapeka and Waikaia Gold Fields for the past year, and to report as follows:—

Gold mining in the Tuapeka District has been carried on with about the usual success; the principal part of the gold obtained in the district, as for some years past, has been won at the Blue Spur. Several of the original fifteen years' mining leases at that place have lately expired, and the Spur is now being resurveyed, as a preliminary to applications for new leases being disposed of. The area of the auriferous part of the Blue Spur, extending from Munroe's to Gabriel's Gully, was originally about 50 acres: about 18 acres has been worked out, and about 10 acres of the remainder has been worked by tunnelling on the rock bottom. A large yield of gold may therefore confidently be expected for many years, and, although a large portion of the richest land has been mined, the additional skill gained in working will go far to make what remains equally profitable. There are 135 miners at present employed there; and seven batteries of stamps, aggregating 105 heads, are kept almost constantly at work.

*Wetherstones.*—The cement workings here have not progressed so well as was expected. The original claim of the Wetherstones Cement Mining Company has been steadily worked, and has yielded some good dividends, but payable auriferous cement has not been traced beyond the boundaries of this claim. The Premier Company expended about £2,500 in erecting a battery of ten heads of stamps and prospecting the claim, but could obtain no payable results, and the machinery has been removed. The



Tuapeka Company also erected a battery, but, although highly satisfactory prospects were at first obtained from the ground, it could not be made to pay when worked in quantity, and consequently work has been suspended at the mine for at least a time.

*Waitahuna*.—The Richmond Hill Company has a fine battery of ten heads erected on their cement claim, and give employment to from 20 to 30 miners. About £4,000 has been invested in getting this company's land in good working order, but at present the returns are not adequate to such a large outlay. The Great Extended Company, also working a battery of ten heads, is reported to be paying good dividends. Quilter and party, who erected a battery of five heads, found the ground to be operated on to be of too stiff a nature to be worked by their machine, and are now again sluicing with profitable results.

*Havelock Flat* is a favourite locality with Chinese miners, and a large number are doing well, paddocking rather deep ground.

*Gabriel's Gully*.—The company holding a large special claim in this gully has kept a number of men employed in preparing to work what is believed to be their valuable area. The appliances for working the land are so novel and interesting that I propose to describe them in a supplement to this report.

*Dredging*.—Two steamboats, the "Ino" and the "Jane," each of about 35 tons, and 10-horse power, are now in the Clutha River, a few miles above Tuapeka Mouth, and are being fitted up for dredging the river bottom. This enterprising undertaking is well thought of, as vessels working with steam-power will have great advantages over the usual current wheel dredges. They can be moved about and their positions changed with greater ease, work in eddies where current-wheels would be useless, and put through a very much larger quantity of drift. It is generally admitted that, even with the ordinary boats, dredging would yield highly profitable results but for one great impediment—that the smallest flood in the river now brings down by the force of the current immense quantities of tailings and other debris, which fills up the dredging buckets to the exclusion of the gravel from the older deposits, which contain gold in much greater quantity.

*Quartz Mining*.—Very little has been done in this branch of mining. Cox and party erected a small battery of five stamp-heads, and obtained one good crushing from their new reef at Waipori; the stone then ran thin, and the party is now prospecting a lower level. There are several reefs in the district known to be auriferous, and it is a matter of surprise that more attention is not given to quartz mining.

*Copper*.—The copper lode at Reedy Creek, a branch of the Waitahuna River, has been prospected with much spirit. Six or eight men have been employed for months in sinking and tunnelling. A shaft has been put down a depth of fifty feet on the underlie of the reef, exposing a lode from 10 to 30 inches and upwards in thickness. Tunnels have also been driven with satisfactory report. A parcel of ore from this mine was sent to New South Wales, and is reported to have yielded 11 per cent. of copper, which is considered a very high percentage for undressed ore. A company is now being formed to work the mine.

*Antimony*.—The company that was working the lode in the Waipori Ranges, after raising and exporting a quantity of ore, has suspended work. The position of the mine made carriage and rail fare for the ore to Port Chalmers very costly, and latterly a further difficulty was found in the having to contend against a heavy drainage of water into the works. The lode can be traced for a long distance, and I believe an attempt is to be made to work it in some more favourable position.

*Waikaia*.—This gold field, considering its very large extent, is very quiet, there being now only 374 miners employed there, two-thirds of the number being Chinese. The Switzers Freehold Gold-Mining Company is carrying on an enterprise of some magnitude in the Otama Gorge. The company owns a section of land, portions of which have been proved to be highly auriferous, but most difficult to work. The company has lately completed the construction of a tail-race by tunnelling several hundred feet through rock, a costly undertaking, and it is reported that rich ground is being now worked. Several of the claims on this gold field have been in work for many years; but, with the exception of a few solitary instances, there has been very little enterprise shown in the way of prospecting, although a large area of auriferous country is open to miners.

*Waikaka*.—There are about thirty miners engaged here, one-half of the number being Chinese. Some enterprising miners are trying the deep ground, and their shaft is now over 200 feet in depth. Since passing through a false-bottom, strata of favourable description has been met with, and the bottoming of the shaft is looked forward to with much hope.

*Population*.—The number of miners in the Tuapeka District is: Europeans, 463; Chinese, 450. In the Waikaia District: Europeans, 121; Chinese, 253. The Chinese manage to evade payment of the Miners'-right tax to a large extent, for I find the number of miners' rights issued to them during the year to be as follows: Tuapeka District, 230; Waikaia District, 47.

*Gold*.—The approximate produce for the year has been as follows: Tuapeka District, 28,476 oz.; Waikaia District, 2,472 oz.

*Land*.—The land transactions are represented as follows:—Tuapeka District: Agricultural leases—6 leases for 342 acres have been granted; 33 leaseholds, area 3,113 acres, have been purchased; 14 leases, area 1,703 acres, have been exchanged for licenses on deferred payments; 3 leases, area 522 acres, have been cancelled; 3 leases, area 184 acres, have expired. Exchange leases—51 leaseholds, held under leases exchanged from leases under the Gold Fields Acts for leases on deferred payments, covering an area of 2,015 acres, have been purchased. Deferred-payment licenses—Issued: 14 licenses, area 2,330 acres; 14 suburban licenses, area 62 acres; 5 pastoral licenses, area 7,734 acres. Waikaia District: The transactions are too small to be worth enumerating. The greater portion of the land in this district is locked up as an education reserve, which retards settlement. Thirteen sections of the reserve, averaging about 320 acres each, were offered at auction in August of last year, but, although the land was acknowledged to be of excellent quality, the lease of only one section was disposed of. Had there been any right of purchase the land would have been eagerly competed for. Should it be considered desirable to hasten on the settlement of this part of the country, some fresh legislation giving a right of purchase will be necessary.

*Revenue.*—The following has been collected during the year: Tuapeka District—Gold fields revenue, £904 3s. 6d.; rent on mining leases, £175 16s. 3d.; agricultural leases, £1,544 15s. 10d.; deferred payment leases and licenses, £3,430 8s.; depasturing allotments, £444 8s. 6d.; fees and fines in Warden's Court, £82 1s.; fees and fines in Resident Magistrate's Court, £195 15s.: total, £6,777 8s. 1d. Waikaia District, from all sources: £690 6s. 9d.

*Judicial.*—The number of cases disposed of during the year is as follows: Tuapeka District—Warden's Court: Cases, 75; mining applications, 153. Resident Magistrate's Court: Civil cases, 256; criminal cases, 157; other cases and applications, 88. Waikaia District: Warden's Court, 8 cases; Resident Magistrate's Court, 65 cases.

*Special Report.*—The Gabriel's Gully Company occupy a special claim of 24 acres, extending down the course of the gully from opposite the Blue Spur. This ground was worked in the early days of the gold field, but it is said in an imperfect manner, and it is now all covered to a considerable depth with tailings discharged from the Blue Spur claims. The object of the company is to work the tailings and the old ground left in the gully. The difficulties that prevent this being done by sluicing in the ordinary way are: want of sufficient fall, and the fact that mixed through the tailings are fragments of cement of various sizes, containing a large proportionate quantity of gold, which would not become sufficiently disintegrated by ordinary sluicing to liberate the gold contained therein. To meet these difficulties the company has adopted a mode of working which, although the principle is not entirely new, has not, I believe, been applied before to an undertaking of a like description. The works consist of a drainage race, pipes to lead head-water, an elevating pipe, and sluice-boxes. The drainage race is made of sheet-iron, forming a pipe 30 inches in diameter. At the lower end of the race this pipe is laid on the surface of the tailings, and it is extended up the gully through a channel opened in the tailings, with just sufficient inclination to allow water to drain down the gully. This pipe is continued for a distance of 1,500 feet up the claim, and is at that point a considerable depth from the surface of the tailings and two or three feet into the bed rock. By means of this race the object sought for—thorough drainage—is effectually secured, and the race can be now extended as the workings advance up the gully by simply cutting a channel in the rock, the distance and depth required, and covering it with suitable material. Near the present head of the drainage race operations at sluicing the ground have been commenced. A large open space was first made down to the rock bottom, and the elevating apparatus placed in position. This consists of a double pipe 15 inches in diameter, made of sheet-iron, joined with a half circular cast-iron elbow of larger diameter than the pipe, and perforated at the angle with an aperture of 12 or 14 inches diameter. The elbow is placed in a hollow, or shallow well-hole, in the rock, and the ends rise nearly perpendicular 12 or 15 feet above the surface of the tailings. One end of this pipe is joined to another pipe of the same diameter, which conveys water from a supply dam situate at an elevation of 294 feet, thus affording great pressure. The other end of the pipe is made to discharge into the head of a long line of sluice-boxes supported on tressels over the bed of the gully. When water is let in from the supply dam it passes down through the water-pipe, and then rushes up the elevating pipe, drawing, as it does so, through the aperture in the elbow all gravel, cement, earth, or water within reach. With a sufficient supply of water the process seems capable of lifting an enormous quantity of stuff, and it is projected up the pipe with immense velocity, estimated at a mile a minute, by which means all unbroken lumps of cement strike a thick plate of iron placed for that purpose at the top of the pipe, and, by force of the blow, become pulverized. Everything reaching the head of the pipe then flows through an aperture into the sluice-boxes, which, being raised as I have explained, can be so arranged as to discharge débris at any locality or distance, as occasion may require. Another appliance is a line of 15-inch piping, about 3,000 feet in length, which conveys water from a lagoon at the head of the gully to near the face of the workings. The pipe is there fitted with a patent nozzle, with which the water is played upon the face, sides, and bottom of the workings, and forces the earth and tailings in large quantities towards the aperture in the elbow of the elevating pipe, from whence all is drawn up the pipe and deposited in the sluice-boxes. When the claim is properly opened up, and the process complete, the gravel and earth will be first elevated on to a platform by means of buckets travelling on a band, worked by a turbine wheel, and be there discharged on to a grating for the purpose of separating all large stones; these will fall on to a travelling chain-belt, and be deposited in any convenient spot out of the way of the workings. The fine stuff will fall through the grating on to a hopper at the base of the elevating pipe, be drawn through the aperture, and lifted a further 20 to 40 feet as may be necessary, to afford sufficient space for deposit of débris from the sluice-boxes.

I have, &c.,

E. H. CAREW,

Warden.

The Under-Secretary for Gold Fields, Wellington.

## No. 16.

Mr. Warden MAITLAND to the UNDER-SECRETARY for GOLD FIELDS.

SIR,—

Warden's Office, Dunedin, 22nd April, 1881.

I have the honor to enclose herewith the annual returns of information relating to the state and condition of the Hindon Mining District, for the year ending 31st March, 1881.

These returns do not exhibit much change in the state of the district since the last annual report; but, upon the whole, it will be seen that mining operations have slightly increased. The number of miners is greater than during the previous year, the increase being in the alluvial workings.

*Alluvial Mining.*—In Styles's, Fraser's, Game Hen, and other Gullies, several parties have taken up extended claims, ordinary claims not being of sufficient extent to compensate miners for the amount of labour requisite in the cutting of tail-races to their respective holdings. Some of these parties have excellent prospects of remunerative employment for a long time to come. I may mention that one party, having spent nearly eight months in cutting their tail-race, recouped themselves for all their outlay from the washing-up of the first paddock. The gold in these gullies is unusually coarse, and of excellent quality; the wash-dirt, in patches, being very rich. In many places it is found that the

original bed of the gully or creek has been buried, or covered over by land-slips; and it is in following the old bed through these slips that the gold is now obtained. These patches were apparently missed in the early days of the gold field—a fact worthy of note in connection with the reservation of lands for mining purposes in creeks and gullies such as those at Hindon, as sometimes the run of gold may be left outside the boundary of the reserve.

*Quartz Mining.*—In regard to quartz mining, I regret that, just now, matters do not come up to the anticipations of last year. The stone that has been crushed (and of which there is no limit as to the quantity procurable) though containing gold to the extent of from 5 to 17 dwts. to the ton, is too poor to cover the outlay incurred in procuring and crushing. If, however, the facilities for mining and crushing were equal to those of districts more favourably circumstanced, the above yield would not be unremunerative. But it is confidently believed and expected that, with further prospecting, richer stone will be discovered. At the present time, want of capital is deterring most of the leaseholders from prosecuting their search. Another great drawback is the want of water for machine purposes; both for the motive power and the batteries. There is no suitable fuel in the district for steam power, and the expense of obtaining it elsewhere is very great. Last year the Hindon Quartz-Mining Company contemplated bringing a supply of water from the Fortification Creek; but, so far, no steps have been taken in the matter. There can be no doubt that an abundant supply of water would tend greatly to revive mining industry at Hindon, affording, both in quartz and alluvial mining, the means of working to advantage ground which, without it, cannot be profitably utilized. Employment, too, would be thereby provided for a large number of miners. There are now three excellent quartz-crushing batteries at Hindon, erected respectively by the New Caledonia Quartz-Mining Company (Limited), the Hindon Quartz-Mining Company (Limited), and the Just-in-Time Quartz-Mining Company (Limited). The two first-mentioned are worked by steam power; the latter by a turbine, water-wheel, but, unfortunately, with a supply of water insufficient to keep it constantly going. Each of these batteries is enclosed with a substantial iron building, erected at considerable expense.

*Settlement.*—Very satisfactory progress has been made during the year in the settlement of the district. Indeed, the expectations expressed in the last annual report, that this hitherto somewhat isolated locality would become, ere long, a settled and prosperous district, both in agricultural and mining pursuits, are now being partially realized. A considerable sum of money has been expended in rendering the road from Outram—previously only a saddle-track—available for wheeled traffic. This is an immense advantage to the district. Considerable portions of the blocks of land referred to in last year's report as about to be opened for settlement have been sold on deferred and immediate payments, and both fencing and cultivation are being actively proceeded with. The following particulars of the sale of this land may be mentioned:—On pastoral deferred-payments: Ten sections in the Silver Peak Survey District, with a total acreage of 20,055 acres 2 roods 33 perches, the payments for which are at the rate of £1,609 9s. 6d. per annum for fifteen years, or a total value of £24,142 2s. 6d. On ordinary deferred-payments: Fourteen sections in the Mount Hyde Survey District, with a total acreage of 3,710 acres 2 roods 36 perches, the payments being at the rate of £570 13s. 3d. per annum for ten years, or a total value of £5,706 12s. 6d. On immediate payments: Forty-two sections in the Mount Hyde Survey District, with a total acreage of 10,736 acres 3 roods 32 perches, sold at 20s. per acre, or a total value of £10,736 7s. 6d. The gross acreage sold as above is, therefore, 34,503 acres 1 rood 21 perches; and the value realized, £40,585 2s. 6d.

*Population.*—The total population of the district, including miners, is estimated at a little over 200, of whom 28 are Chinese.

*Mining Reserves.*—It has been deemed advisable by the Waste Lands Board, in the meantime, wholly to reserve from sale Blocks IV and V., Mount Hyde Survey District, on account of their auriferous character, and the impossibility, under present circumstances, of deciding definitely what should and what should not be permanently reserved for mining purposes. Strong representations have been made by miners and others that the whole of these blocks should be set apart as a mining reserve; complaints have also been made that certain land has been recently sold in the adjoining blocks containing payable workings, several parties having since the sale been compelled to desist working them. One of the difficulties in deciding upon auriferous reserves is the fact that small leads of gold are found to exist in the blind gullies running well up the sides of the hills, the same being feeders to the main gullies. Many of these have already been traced and worked, but doubtless others exist, and probably those that have been worked have only been partially so, or may pay to work again. To include the whole of these blind gullies in the mining reserve would be tantamount to reserving the whole of the land: on the other hand, to exclude them might be prejudicial to the mining industry. For the present it would, I think, be inadvisable to alienate from the Crown any land in the district that promises to be valuable, not only for its auriferous character but also for the minerals other than gold which it contains, or is supposed to contain. A further reason why the blocks before referred to should be temporarily reserved from sale is, that any land in the locality that might be available for agricultural purposes will undoubtedly, in the event of its being decided to carry on the Central Railway line, realize a much better price than if sold at the present time.

I have little doubt but that, in the course of a year or two, the Hindon Mining District will receive a more thorough testing in regard to its mineral resources than it has ever done.

I have, &c.,

J P MAITLAND,

Warden.

The Under-Secretary for Gold Fields, Wellington.

## No. 17

Mr. Warden McCULLOUGH to the UNDER-SECRETARY for GOLD FIELDS.

SIR,—

Invercargill, 16th April, 1881.

As instructed by your circular No. 90, of 29th January last, I have the honor to forward statistical information relating to the Orepuki and Longwood Mining District, with a short report for the year ending 31st March, 1881.

As to the workings and prospects in this district, I have to report that at Orepuki the population has not varied for several years. The miners are nearly all married, and attached to the locality having been settled there for the last twelve years. Since the land has been opened up under deferred payments, many of the miners are combining mining with agricultural pursuits, which they are well able to do owing to the temporary suspension of the water during the summer season.

Consequent on the discovery of fine seams of coal in the vicinity of Orepuki, five coal leases have been applied for. Three of these were granted some months ago, and have since, as I am informed, been amalgamated under one proprietary. The other two have not been objected to, and will no doubt be granted in due course. When the railway from Riverton to Orepuki, now in course of construction, is completed, the working of these coal fields will add greatly to the population, and become the chief resource of the district.

At the Round Hill, which is about nine miles from Riverton, there are at present about 40 Europeans and 270 Chinese; and, judging from the quantity of gold sold at the banks, I have no doubt that the latter are making very good wages on these workings, having heard on good authority that the Bank of New Zealand bought 1,400 oz. of gold in the month of January from Chinese working at the Round Hill. This field would support a very much larger population, were it not that the want of water and fall have always prevented its being in much favour with Europeans. These difficulties, however, are now likely to be obviated by the formation of a company to undertake the forming and working of a sludge-channel, from Wakatipu Beach to the Round Hill, at a cost of from £3,000 to £4,000, which will increase the area of auriferous ground available for working by some six square miles.

Of the Longwood diggings, which are on the eastern side of the range, I am sorry to say that the anticipations of last year have not as yet been fulfilled. The Longwood Reefing Company, and the Geelong, after a considerable expenditure in machinery and wages, have suspended operations; and, although the impression still prevails that payable reefs are to be found in these and the neighbouring claims, it is not likely—at any rate until the present depression has passed away—that the companies will make any further outlay in the attempt to develop them. Further to the east, in the neighbourhood of Specimen Gully, good samples of stone have been got from the Arethusa and Pioneer; the latter, from a sample of 19 cwt. of stone sent to the School of Mines at Ballarat, having obtained a return of 19 dwt. to the ton. On the completion of the bridge now making across the Purapurakino, parcels of stone will be forwarded from these claims for testing at the battery recently erected in Riverton.

I have, &c.,

HY McCULLOCH,

Warden.

The Under-Secretary for Gold Fields, Wellington.

## WATER-RACES.

### No. 18.

Mr. H. A. GORDON, Manager of the Nelson Creek Water-Race, to the UNDER-SECRETARY for GOLD FIELDS.

SIR,—

Public Works Office, Greymouth, 9th April, 1881.

I have the honor to submit annual report showing transactions connected with the working of the Nelson Creek Water-race, for the year ending the 31st March, 1881.

The amount received from sales of water during the year is £2,070 1s. 1d., and the expenditure on maintenance during the same period £1,496 6s. 3d., thus leaving a balance of £573 14s. 10d. of profit on the working of the race. The approximate amount of gold obtained by those who were using water from the race has been 3,959 oz., which represents the value of £15,044 4s.; and the average number of men employed during the year has been sixty-eight. Taking the amount received from sales of water from the value of the gold obtained, it leaves the average weekly earnings per man to be £3 13s. 4d.

A considerable amount of prospecting has been carried on during the year in ground commanded by the race, and free water has been given for that purpose and for opening up new mining claims, to the value of £352 6s. 3d., but no fresh ground has yet been discovered to prove remunerative for working. The only known auriferous ground of any extent that has proved to be payable is in the vicinity of Try Again Terrace, and German Gully. This ground will last for a few years; but if nothing further be discovered, the only way of ultimately utilizing the water will be to extend the race to the Callaghan's Creek side of the range. This would involve an expenditure of several thousands of pounds; but, as there has never been a survey made, I have not sufficient data to form a correct estimate of cost, nor the extent of auriferous ground that the water would command.

The works included in maintenance during the year have consisted in replacing about 1,200 sets of tunnel timber, repairing and strengthening some of the first bridges that were constructed, general repairs to race, and turning off and on water to the mining claims who are working with same.

I have, &c.,

HENRY A. GORDON,

Manager.

The Under-Secretary for Gold Fields, Wellington.

### No. 19.

Mr. J. Gow, Manager of the Waimea-Kumara Water-Race, to the UNDER-SECRETARY for GOLD FIELDS.

SIR,—

Manager's Office, Kumara, 18th April, 1881.

I have the honor to forward my annual report upon the working and maintenance of the Waimea-Kumara Races for the financial year ending 31st March, 1881.

*Kumara*.—Although many of the ordinary claims have been worked out and abandoned during the past twelve months, there are still seventy ordinary shaft claims taking water from the Government Race, and are scattered over a belt of ground one and a half miles long by half-a-mile wide. Within this area there are fourteen sluicing claims opened out and working; ten of which are taking water from the Government Race. It is generally admitted that all these sluicing claims are paying fair wages—some much more—and that they will average £5 per week per man clear of working expenses. Many of these claims will require several years to work them out.

*Kumara Sludge-channel*.—The first half-mile of this important work is now completed, as far as the contractor is concerned, and several claims are being prepared to sluice into it when permission is given and the necessary quantity of water available. The second half-mile is now under contract, and will probably be completed in six months from date. I think it is a good indication, and shows the faith the miners have in the utility of the Sludge-channel, and the payable character of the ground it passes through, when they take up nearly all the ground in extended claims along its line and adjacent thereto for the purpose of sluicing. Most of these applications for extended claims were made whenever it was known for a fact that the channel would be completed to the Larrikins.

*Kapitea Dam*.—A portion of this work was carried away by the extraordinary flood on the 12th March, and should be restored as early as possible, and also provision made to store a much larger body of water than the above dam would be capable of holding, as a considerable body of water will shortly be required for the Sludge-channel claims.

*Waimea*.—This portion of the district is as healthy as it was last year, and the sales of water greater. The supply is not equal to the demand, and it is not likely to be for some years yet. As the old claims are worked out fresh ground is opened out, with equally good results, but in some cases requiring much more labour and expenditure.

I have, &c.,

J Gow,

The Under-Secretary for Gold Fields, Wellington.

General Manager.

## No. 20

Mr. DENIS DOYLE, Manager of the Argyle Water-Race, to the UNDER-SECRETARY for GOLD FIELDS.

SIR,—

Charleston, 16th April, 1881.

I have the honor to report, in answer to your memorandum of 6th April, 1881, that the sale of water realized £715 2s. 10d. for the twelve months ending 31st March last, and that the expenditure for the same period amounted to £487 15s. 7d.

Not having been in charge of the Argyle Water-race for the first seven months of 1880, I cannot report upon the management during that period. The expenditure incurred was for repairing flumes and race, and repairs to syphon across Ballarat Creek. Since taking charge of Argyle Water-race, on 1st November, 1880, to the end of March, 1881, I have continually been working on the repairs to flumes and race. I found the whole of the flumes, with but little exception, in a rotten state, and the repairs that had been executed were principally building sound timber on the rotten foundations and sides; consequently when flumes broke down the good timber got smashed up with the bad, so that expenditure was keeping a rotten life hanging together.

There were four breaks in flumes in November, which caused slight delay to getting water on again; and two breaks in December, the first part of the month. After Christmas I commenced repairing and cleaning out the race, and had a heavy bank of tailings removed, which had broken down the timber. I continued up to 8th January repairing, and got the water on again, when another heavy break in flumes occurred, causing four days' delay to water being put on, owing chiefly to difficulty in getting timber.

On the 26th February occurred one of the heaviest downpours of rain known in Charleston, which caused a little damage, principally by land-slips coming down and carrying away boxes and a portion of the race, the repairs being nearly finished by 1st March. From that time to the 18th I had nothing but continual breaking away of flumes. On the 26th a large detached rock came down, smashing four boxes, and when I came to replace them I had to remove the old boxes, as they were all pulp and would not bear nailing.

In all cases where breaks occurred I put in new timber boxes, as the most approved way of making them last any time.

The management of Argyle Water-race is a laborious charge. I have to get up at 5 a.m., to travel about two miles over a rough country to turn on day water from the dam; and from that time till 5 p.m. I am continually travelling and patching up the race and flumes, and very often working till 8 p.m., when the water would be off.

If the Government carry out the proposed alterations, in putting the tunnel in and extending the race, I believe that there would be an increased revenue, and that by doing away with the dangerous portions of the flumes the expenditure in repairs would be reduced.

I have, &c.,

DENIS DOYLE,

Manager, Argyle Water-race.

The Under-Secretary for Gold Fields, Wellington.

## No. 21.

The CHAIRMAN, Mount Ida Water-Race Trust, to the Hon. the MINISTER for PUBLIC WORKS.

SIR,—

Mount Ida Water-Race Trust Office, Naseby, 31st May, 1881.

The Mount Ida Water-Race Trust have the honor, in accordance with section 25 of "The Mount Ida Water-Race Trust Act, 1878," to forward herewith statement of accounts for the year ending 30th April, 1881, and to report to the Hon. the Minister for Public Works as follows:—

It will be seen by the statement of accounts that the revenue actually received during the period for sale of water and channel fees has been £1,906 10s. 2d., and for sale of gold, £7 8s., making a total of £1,913 18s. 2d., while the expenditure for maintenance and current expenses has been £1,773 15s. 11d. There has thus been a balance of £140 2s. 3d. in favour of the Trust on the year's business, but an outlay of rather more than that sum on extension of works has reduced the cash balance to the small amount shown—viz., £11 6s. 7d. Of the amount shown as due to the Trust on 30th April, 1881, for water and channel fees, £1,429 7s. 9d., about £1,200 may be taken as good debts. The amount of the estimated good debts on 30th April, 1880, was £1,007 17s. 9d; there is thus an increase in the amount of good book debts of about £200. By these accounts it appears that the business of the year has been very satisfactory, showing, as it does, a profit of about £350 on the whole transactions of the Trust for the year. No Government assistance has been required during the year.

The Trust has continued to use every endeavour to reduce the cost of maintenance, and it may now be considered that the expense has been brought down to nearly its lowest limits. There would be no real economy in reducing the number of men employed below the strength necessary to keep the race and channel in working order. At present the number of men stationed along the head-race is only five, which gives about fifteen miles to each man to look after; and a man and boy, with horse and cart, suffice to keep the channel. Extra hands are only put on in case of slips, or for clearing out the race after the winter frosts. Considering that the head-race is a canal, between sixty and seventy miles in length, and the channel a deep watercourse over nine miles long, and that there are also several miles of supply-races, besides reservoirs, to be looked after, the cost of keeping all in an efficient state must always be considerable.

During the year a memorial was presented to the Trust from certain miners, asking for an alteration in the gauge of water, and a reduction of price. After careful consideration the Trust decided that it could not recommend any change in the regulations as to measurement and price of water. There have also been proposals to lease the works, but these proposals were declined.

Under the additional regulations the Trust has granted a lease to the Manitoto Flour Mill Company (Limited), of a supply of water to work the mill, on certain conditions, for an annual rent of £10. The conditions provide *inter alia* for the return of the water to the race, undiminished in quantity and unpolluted. A small race for which the Trust had no further use has also been let to a private individual for £5 per annum, he taking water from the Trust at the usual rates. In October last, the Trust authorized the manager to grant a supply of water free to certain prospecting parties subsidized by the County Council, but no important results were obtained.

It is hoped that with moderate good fortune the Trust may be enabled to carry on for the ensuing year, as in that now past, without applying to the Government for assistance, but, as it is impossible to foresee what emergencies may arise, it is suggested that the Government should take a vote of, say, £1,000, to be used only in case of necessity.

H. W. ROBINSON,  
Chairman.

MOUNT IDA WATER-RACE TRUST.—RECEIPTS AND DISBURSEMENTS from 30th April, 1880,  
to 30th April, 1881.

1880.	Receipts.	£	s.	d.		Disbursements.	£	s.	d.
May 1.	To Cash Balance at Bank ... ..	37	6	9	By	Extension works ... ..	148	2	5
	Cash received for water and chan- nel fees, from 30th April, 1880, to 30th April, 1881...	1,906	10	2		Maintaining channel ... ..	231	12	3
	Gold from race ... ..	7	8	0		Maintaining head-race ... ..	881	0	10
	Cash received in advance for water (Ah Chow), claim worked out, amount refunded ... ..	16	5	4		General management, Manager and Water- man's salary, and Manager's office ..	528	5	0
						Horse, dray, and Implement Account	14	16	0
						Forage Account ... ..	23	11	11
						Advertising, stationery, stamps &c.	10	18	11
						Law charges ... ..	8	11	0
						Secretary and Treasurer ... ..	75	0	0
						Refund on deposit .. ..	10	0	0
						Refund, Ah Chow, paid in advance (see other side) .. ..	16	5	4
						Property, hut .. ..	8	0	0
						Balance at Bank ... ..	11	6	7
		<u>£1,967</u>	<u>10</u>	<u>3</u>			<u>£1,967</u>	<u>10</u>	<u>3</u>
1881.	Assets.	£	s.	d.		Liabilities.			
April 30.	To Cash at Bank .. ..	11	6	7		Nil.			
	Amount due for water and channel fees ... ..	1,429	7	9					
		<u>£1,440</u>	<u>14</u>	<u>4</u>					

H. W. ROBINSON,  
Chairman.  
E. T. GEORGE,  
Secretary and Treasurer.

Audited and found correct.

ARTHUR D. HARVEY.

Auditor, 2nd June, 1881.

## No. 1.

STATEMENT showing the REVENUE of the GOLD FIELDS collected in the several DISTRICTS, and the GOLD DUTY of the COLONY of NEW ZEALAND, for the period from 1st January to 31st December, 1880.

DISTRICT.	Miners' Rights.			Business Licenses.			Water-races, Sluices, &c.			Gold-Mining Leases, Rents, and Royalties.			Registration.			Fees and Fines, Wardens' Courts.			Miscellaneous			Totals.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
AUCKLAND.																								
Grahamstown ..	854	0	0	17	0	0	...			1,479	10	0	37	3	0	14	13	0	233	15	8	2,636	1	8
Coromandel ..	180	0	0	...			...			483	16	3	3	10	0	16	8	0	56	19	0	740	13	3
Ohinemuri ...	33	0	0	...			...			302	1	0	...			...			...			335	1	0
Te Aroha ..	650	0	0	367	0	0	..			9	0	0	44	14	6	9	7	0	0	2	6	1,080	4	0
	1,717	0	0	384	0	0	...			2,274	7	3	85	7	6	40	8	0	290	17	2	4,791	19	11
HAWKE'S BAY.																								
Napier ...	..			...			...			...			..			...			16	0	0	16	0	0
WELLINGTON.																								
Wellington ...	...			..			...			...			...			...			1	0	0	1	0	0
NELSON.																								
Collingwood ...	119	0	0	5	0	0	5	1	6	40	14	0	8	12	6	2	0	0	0	3	0	180	11	0
Westport and Charleston	492	0	0	34	0	0	40	5	0	350	10	0	113	8	0	38	2	0	0	14	0	1,068	19	0
Ahaura ...	339	0	0	102	0	0	8	17	6	205	11	6	31	13	0	5	12	0	1	8	0	694	2	0
Reefton ..	277	2	0	38	0	0	20	17	6	662	10	0	26	11	0	20	5	0	20	10	0	1,065	15	6
Wangapeka ...	30	0	0	..			0	12	6	...			0	14	0	...			...			31	6	6
West Wanganui...	8	0	0	..			..			21	9	0	0	7	0	...			...			29	16	0
Lyell ..	247	0	0	37	0	0	14	1	6	174	10	0	14	9	0	8	10	0	0	12	6	496	3	0
No Town ...	150	0	0	10	0	0	7	2	6	38	0	0	12	19	0	10	9	0	0	10	0	229	0	6
	1,662	2	0	226	0	0	96	18	0	1,493	4	6	208	13	6	84	18	0	23	17	6	3,795	13	6
MARLBOROUGH.																								
Havelock ...	178	0	0	19	0	0	5	12	6	112	16	8	5	15	6	1	0	0	0	1	0	322	5	8
WESTLAND.																								
Hokitika ...	68	0	0	...			1	0	0	...			1	6	0	3	8	0	0	8	0	74	2	0
Kanieri ...	180	0	0	15	0	0	9	5	0	...			11	4	0	0	3	0	3	11	0	219	3	0
Greymouth ..	607	0	0	113	5	0	25	7	6	37	7	6	38	2	0	53	14	0	2	6	0	877	2	0
Ross ...	241	0	0	34	0	0	11	12	6	142	5	0	9	10	0	10	2	0	4	19	0	453	8	6
Stafford ...	180	0	0	3	0	0	13	3	0	22	10	0	12	2	0	13	6	0	5	4	0	249	5	0
Okarito ...	104	0	0	34	0	0	4	5	0	2	10	0	6	2	0	6	3	0	0	14	6	157	14	6
Greenstone ...	175	0	0	18	0	0	2	12	6	...			8	11	0	3	0	0	...			207	3	6
Maori Gully ..	142	0	0	3	0	0	12	0	0	...			11	18	0	2	6	0	0	5	0	171	9	
Clifton ...	228	0	0	...			13	7	6	8	10	0	12	11	0	4	6	0	1	0	0	267	14	
Kumara ...	557	0	0	144	0	0	0	12	6	...			9	12	0	15	16	0	3	0	0	730	0	
Jackson's Bay ...	13	0	0	..			0	12	6	..			0	3	0	..			0	5	0	14	0	6
Goldsborough ...	260	0	0	..			27	15	0	..			22	14	0	16	16	0	11	2	0	338	7	0
	2,755	0	0	364	5	0	121	13	0	213	2	6	143	15	0	129	0	0	32	14	6	3,759	10	0
OTAGO.																								
Dunedin ...	73	0	0	15	0	0	6	0	0	146	0	0	3	6	0	...			1	0	0	244	6	0
Naseby ..	878	0	0	77	0	0	49	2	6	238	10	0	24	19	0	23	16	0	20	7	0	1,311	14	6
Blacks and St. Bathans	137	0	0	20	0	0	7	5	0	33	5	0	2	2	6	8	9	0	...			208	1	6
Manuherikia	126	0	0	8	0	0	4	12	6	...			3	14	0	0	19	0	...			143	5	6
Clyde ...	115	0	0	10	0	0	12	9	6	12	0	0	0	8	6	9	18	0	..			159	16	0
Mount Benger	266	0	0	...			8	7	6	0	5	0	8	19	0	20	5	6	..			303	17	0
Cromwell ...	661	0	0	131	0	0	21	0	0	71	10	0	20	2	0	18	5	0	0	10	0	923	7	0
Queenstown	153	0	0	11	0	0	12	17	6	118	6	8	9	14	0	6	13	0	0	1	0	311	12	2
Arrowtown ...	217	0	0	18	0	0	17	0	0	194	13	9	6	15	0	15	18	0	7	13	0	476	19	9
Lawrence ...	593	0	0	86	0	0	17	7	6	197	3	4	6	9	0	49	5	0	1	2	0	950	6	10
Switzers ...	151	18	6	32	0	0	8	18	0	6	0	0	2	7	0	7	18	0	...			209	1	6
Orepuki ..	499	0	0	...			16	2	6	249	0	6	9	11	0	17	19	0	...			791	13	0
	3,869	18	6	408	0	0	181	2	6	1,266	14	3	98	7	0	179	5	6	30	13	0	6,034	0	9

Gold Duty received during the year in the undermentioned provincial districts:—

Auckland ...	£4,593	7	5
Nelson ...	5,557	15	3
Marlborough ...	154	19	9
Westland ...	£8,712	12	3
Otago ...	11,338	15	7

JAMES C. GAVIN, Receiver-General.

## No. 2.

STATEMENT showing the REVENUE of the GOLD FIELDS collected in the several DISTRICTS, and the GOLD DUTY of the COLONY of NEW ZEALAND, for the period from 1st January to 31st March, 1881.

DISTRICT.	Miners' Rights.			Business Licenses.			Water-races, Sluices, &c.			Gold-Mining Leases, Rents, and Royalties.			Registration.			Fees and Fines, Wardens' Courts.			Miscellaneous			Totals.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
AUCKLAND.																								
Grahamstown ...	131	0	0	...			...			208	15	0	25	17	6	16	10	0	25	5	6	407	8	0
Coromandel ..	53	0	0	...			...			52	0	0	...			...			...			105	0	0
Ohinemuri ...	36	0	0	..			...			87	1	2	...			...			18	15	0	141	16	2
Te Aroha ...	112	0	0	71	0	0	..			129	0	0	18	1	6	8	17	0	29	16	6	368	15	0
Auckland ..	...			...			..			...			..			...			1	0	0	1	0	0
	332	0	0	71	0	0	...			476	16	2	43	19	0	25	7	0	74	17	0	1,023	19	2

## No. 2—continued.

STATEMENT showing the REVENUE of the GOLD FIELDS collected in the several Districts, and the GOLD DUTY of the COLONY of NEW ZEALAND, for the Period from 1st January to 31st March, 1881.

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.
HAWKE'S BAY.																								
Napier ...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	..	...	...	1	0	0	1	0	0
WELLINGTON.																								
Wellington ...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	11	0	0	11	0	0
NELSON.																								
Collingwood ...	58	19	6	...	...	...	1	5	0	24	10	0	2	13	6	1	12	0	0	1	0	89	1	0
Westport and Charleston ...	133	0	0	15	0	0	11	15	9	135	4	2	23	4	0	12	9	0	...	...	...	330	12	2
Ahaura ...	108	0	0	25	0	0	2	5	0	75	5	0	5	10	0	1	3	0	0	10	0	217	13	0
Reefton ...	145	1	0	27	15	0	3	15	0	351	0	0	8	6	0	4	12	0	...	...	...	540	9	0
Wangapeka ...	15	0	0	..	...	...	0	2	6	...	...	...	0	7	6	...	...	...	...	...	...	15	10	0
West Wanganui ...	2	0	0	..	...	...	..	...	...	15	18	0	...	...	...	...	...	...	...	...	...	17	18	0
Lyell ...	79	0	0	15	0	0	4	5	0	88	10	0	5	6	6	8	8	0	1	0	0	201	9	6
No Town ...	56	0	0	...	...	...	1	5	0	2	19	0	0	6	0	..	...	...	...	...	...	60	10	0
	597	0	6	82	15	0	24	12	6	693	6	2	45	13	6	28	4	0	1	11	0	1,473	2	8
MARLBOROUGH.																								
Havelock ...	24	0	0	15	0	0	0	17	6	37	10	0	2	14	0	...	...	...	...	...	...	80	1	6
Blenheim ...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	2	0	0	2	0	0
	24	0	0	15	0	0	0	17	6	37	10	0	2	14	0	...	...	...	2	0	0	82	1	6
WESTLAND.																								
Hokitika ...	19	0	0	5	0	0	0	2	6	..	...	...	0	7	0	...	...	...	0	1	0	24	10	6
Kanieri ...	50	0	0	15	0	0	2	5	0	...	...	...	3	15	0	...	...	...	1	2	0	72	2	0
Greymouth ...	225	0	0	19	0	0	5	5	0	35	0	0	7	15	0	2	18	0	1	0	0	295	18	0
Ross ...	67	0	0	8	0	0	2	7	6	62	10	0	1	12	0	1	19	0	1	4	0	144	12	6
Stafford ...	34	0	0	...	...	...	4	7	6	14	0	0	3	8	0	6	15	0	1	15	0	64	5	6
Okarito ...	15	0	0	8	0	0	0	17	6	2	10	0	0	12	0	...	...	...	0	10	6	27	10	0
Greenstone ...	69	0	0	6	0	0	1	2	6	...	...	...	2	13	0	3	18	0	...	...	...	82	13	6
Maori Gully ...	25	0	0	3	0	0	2	7	6	...	...	...	3	9	0	...	...	...	...	...	...	33	16	6
Clifton ...	46	0	0	...	...	...	3	5	0	1	0	0	2	12	0	0	8	0	...	...	...	53	5	0
Kumara ...	126	0	0	43	0	0	0	10	0	...	...	...	5	2	0	11	0	0	0	1	0	185	13	0
Jackson's Bay ...	1	0	0	...	...	...	0	7	6	...	...	...	...	...	...	...	...	...	0	3	0	1	10	6
Goldsborough ...	64	0	0	...	...	...	7	12	6	...	...	...	6	3	0	2	9	0	3	1	0	83	5	6
	741	0	0	107	0	0	30	10	0	115	0	0	37	8	0	29	7	0	8	17	6	1,069	2	6
OTAGO.																								
Dunedin ...	13	0	0	5	0	0	1	7	6	19	10	0	0	9	0	...	...	...	...	...	...	39	6	6
Naseby ...	195	0	0	15	0	0	12	0	0	87	10	0	6	10	0	7	1	6	1	5	0	324	6	6
Blacks and St. Bathans ...	29	0	0	10	0	0	0	17	6	3	0	0	1	1	0	0	10	0	8	0	0	52	8	6
Manuhirikia ...	22	0	0	..	...	...	0	15	0	...	...	...	0	15	0	1	10	0	...	...	...	25	0	0
Clyde ...	21	0	0	..	...	...	1	15	0	8	15	0	0	2	6	0	12	0	...	...	...	32	4	0
Mount Benger ...	52	0	0	...	...	...	3	2	6	0	5	0	2	5	0	2	3	0	...	...	...	59	15	6
Cromwell ...	107	0	0	23	0	0	3	5	0	25	10	0	5	12	0	6	3	0	0	15	0	171	5	0
Queenstown ...	55	0	0	3	0	0	4	7	6	88	10	0	3	0	0	3	18	0	...	...	...	157	15	6
Arrowtown ...	81	0	0	13	0	0	3	5	0	11	6	8	2	18	0	7	13	0	2	3	0	121	5	8
Lawrence ...	80	0	0	28	0	0	2	10	0	50	15	0	1	1	0	1	9	0	12	16	0	176	11	0
Switzers ...	46	2	0	5	19	0	2	2	0	...	...	...	0	13	0	4	15	0	...	...	...	59	11	0
Orepuki ...	109	0	0	6	0	0	3	5	0	34	10	0	2	1	0	4	15	0	...	...	...	159	11	0
	810	2	0	108	19	0	38	12	0	329	11	8	26	7	0	40	9	6	24	19	0	1,379	0	2

Gold duty received during the quarter in the undermentioned provincial districts:—

Auckland ...	£679	3	4
Nelson ...	1,115	6	2
Westland ...	£1,773	19	10
Otago ...	2,041	14	11

JAMES C. GAVIN, Receiver-General.

## No. 3.

COMPARATIVE RETURN of REVENUE derived from the GOLD FIELDS in the several DISTRICTS of NEW ZEALAND during the Years 1879 and 1880, 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.	Total.
AUCKLAND,—	£	£	£	£	£	£	£	£	£
Year 1879 ..	611	3	...	2,391	68	13	131	3,952	7,169
Year 1880 ...	1,717	384	...	2,274	85	41	291	4,593	9,385
Increase* ...	1,106	381	...	...	17	28	160	641	2,216
Decrease ...	...	...	...	117	...	...	...	...	...
HAWKE'S BAY,—									
Year 1880 ...	...	...	...	...	...	...	16	..	16
WELLINGTON,—									
Year 1880 ...	...	...	...	...	...	...	1	..	1
NELSON,—									
Year 1879 ..	1,509	301	51	1,409	240	24	3	4,227	7,764
Year 1880 ...	1,662	226	97	1,493	208	85	24	5,558	9,353
Increase* ...	153	...	46	84	...	61	21	1,331	1,589
Decrease ...	...	75	...	...	32	...	...	...	...

\* Net.



## No. 3—continued.

COMPARATIVE RETURN of REVENUE derived from the GOLD FIELDS in the several DISTRICTS of NEW ZEALAND during the Years 1879 and 1880, showing INCREASE or DECREASE under each head of revenue.

DISTRICT.	Miners' Rights.	Business Licenses.	Water-races, Sluices, &c.	Gold-Minnig Leases, Rents, and Royalties.	Registration.	Fees and Fines, Wardens' Courts.	Miscellaneous.	Gold Duty.	Total.
MARLBOROUGH,—	£	£	£	£	£	£	£	£	£
Year 1879 ...	74	5	4	93	9	2	...	88	275
Year 1880 ...	178	19	5	113	6	1	...	155	477
Increase ...	104	14	1	20	...	...	...	67	*202
Decrease ...	...	...	...	...	3	1	...	...	...
WESTLAND,—									
Year 1879 ...	2,529	350	94	353	186	41	35	10,404	13,992
Year 1880 ...	2,755	364	122	213	143	129	33	8,712	12,471
Increase ...	226	14	28	...	...	88	...	...	...
Decrease ...	...	...	...	140	43	...	2	1,692	*1,521
OTAGO,—									
Year 1879 ..	3,179	458	158	890	184	79	12	10,289	15,249
Year 1880 ..	3,870	408	181	1,267	98	179	31	11,339	17,373
Increase ...	691	...	23	377	...	100	19	1,050	2,124
Decrease ...	...	50	...	...	86	...	...	...	...

\* Net.

JAMES C. GAVIN, Receiver-General.

## No. 4.

COMPARATIVE RETURN of the TOTAL AMOUNTS of GOLD FIELDS REVENUE (exclusive of Gold Duty) collected in the several Districts during the Years 1879 and 1880, and the Quarters ending 31st March, 1880 and 1881, showing the INCREASE or DECREASE in respect of each District.

DISTRICT.	Years 1879 and 1880.				Quarter from 1st January to 31st March.			
	1879.	1880.	Increase.	Decrease.	1880.	1881.	Increase.	Decrease.
AUCKLAND.	£	£	£	£	£	£	£	£
Auckland ...	...	...	...	...	...	1	1	...
Grahamstown ...	2,224	2,636	412	377	...	407	30	...
Coromandel ...	647	741	94	...	154	105	...	49
Te Aroha ...	...	1,080	1,080	...	...	368	368	...
Ohinemuri ...	347	335	...	12	42	142	100	...
NELSON.								
Collingwood ..	156	181	25	...	69	89	20	...
Westport and Charleston ...	831	1,069	238	...	286	331	45	...
Ahaura ...	678	694	16	...	128	218	90	...
Reefton ...	1,198	1,066	...	132	265	540	275	...
Wangapeka ...	44	31	...	13	4	15	11	...
West Wanganui ...	32	30	...	2	24	18	...	6
Lyell ...	366	496	130	...	121	201	80	...
No Town ...	232	229	...	3	67	61	...	6
MARLBOROUGH.								
Havelock ...	187	322	135	...	90	80	...	10
Blenheim ...	...	...	...	...	...	2	2	...
WESTLAND.								
Hokitika ...	43	74	31	...	20	25	5	...
Kanieri ...	313	219	...	94	56	72	16	...
Greymouth ...	674	877	203	...	247	296	49	...
Ross ...	379	454	75	...	171	145	...	26
Stafford ...	277	249	...	28	55	64	9	...
Okarito ...	97	158	61	...	23	27	4	...
Greenstone ...	325	207	...	118	50	83	33	...
Maori Gully ...	156	171	15	...	37	34	...	3
Clifton ...	199	268	69	...	65	53	...	12
Kumara ...	817	730	...	87	197	186	...	11
Jackson's Bay ...	20	14	...	6	...	2	2	...
Goldsborough ...	288	338	50	...	92	83	...	9
OTAGO.								
Dunedin ...	122	244	122	...	55	39	...	16
Naseby ...	1,036	1,312	276	...	351	325	...	26
Blacks and St. Bathans ...	217	208	...	9	64	52	...	12
Manuherikia ...	135	143	8	...	26	25	...	1
Clyde ...	191	160	...	31	25	32	7	...
Mount Benger ...	215	304	89	...	66	60	...	6
Cromwell ...	719	923	204	...	206	171	...	35
Queenstown ...	301	312	11	...	129	153	29	...
Arrowtown ...	431	477	46	...	170	121	...	49
Lawrence ...	859	950	91	...	198	177	...	21
Switzer's ...	243	209	...	34	53	60	7	...
Orepuke ...	491	792	301	...	229	159	...	70
WELLINGTON								
Wellington ...	...	1	1	...	...	11	11	...
HAWKE'S BAY.								
Napier ...	...	16	16	...	...	1	1	...
Total ...	15,490	18,720	3,799	569	4,212	5,039	1,195	368
Deduct Decrease ...	...	...	569	...	...	...	368	...
Net Increase ...	...	...	3,230	...	...	...	827	...

JAMES C. GAVIN, Receiver-General.

## No. 5.

RETURN of the QUANTITY and VALUE of GOLD ENTERED for DUTY for EXPORTATION from NEW ZEALAND during the Year ended 31st December, 1880.

Entered for Duty at				Produce of Gold Field in the District of				Totals.	
								Quantity.	Value.
								Oz.	£
Auckland	...	...	...	Auckland	..	...	...	42,720	176,416
Pieton		...	...	Marlborough	..	...	...	1,550	5,650
Nelson	..	...	...	Nelson	...	...	...	3,222	12,223
Nelson	...	...	...	West Coast	..	...	...	1,700	6,616
Wellington	...	...	...					89	354
Westport	...	...	...					16,815	67,259
Greymouth	..	...	..					71,256	284,124
Hokitika	...	...	..					54,230	216,905
								144,090	575,258
Lyttelton	...	...	...	Otago	...	...	..	24	90
Dunedin	...	..	...					103,983	418,979
Invercargill	...	...	..					9,659	38,636
								113,666	457,705
Totals	...	...	..	...				305,248	1,227,252

Customs Department, Wellington, 10th June, 1881.

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, 1881.

Entered for Duty at	Produce of the Gold Fields in		During the Quarter ended 31st March, 1881.		Entered for Exportation to the 31st December, 1880.		Total entered for Exportation from New Zealand to the 31st March, 1881.	
			Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Auckland	Auckland		Oz. 6,151	£ 23,779	Oz. 1,291,824	£ 4,744,331	Oz. 1,297,975	£ 4,768,110
Wellington	Wellington		..	..	30	120	30	120
Pieton	Marlborough		..	..	48,390	187,380	48,390	187,380
Nelson	Nelson		250	1,000	1,625,809	6,454,932	1,626,059	6,455,932
Wellington	West Coast		1	6	2,567,256	10,174,922	2,591,078	10,270,208
Nelson			231	924				
Westport			4,083	16,331				
Greymouth			13,630	54,519				
Hokitika			5,877	23,506				
			23,822	95,286				
Dunedin	Otago		16,468	66,367	4,018,885	15,818,948	4,039,303	15,901,115
Invercargill			3,950	15,800				
			20,418	82,167				
Totals			50,641	202,232	9,552,194	37,380,633	9,602,835	37,582,865

Customs Department,  
Wellington, 13th April, 1881.

WILLIAM SEED,  
Secretary and Inspector of Customs.

## No. 7

COMPARATIVE RETURN of the QUANTITY and VALUE of GOLD ENTERED for DUTY for EXPORTATION from NEW ZEALAND, for the Quarters ended 31st March, 1881, and 31st March, 1880.

District of				Quarter ended 31st March, 1881.		Quarter ended 31st March, 1880.	
				Quantity.	Value.	Quantity.	Value.
Auckland				Oz. 6,151	£ 23,779	Oz. 11,787	£ 47,403
Marlborough				..	..	215	850
Nelson				250	1,000	1,096	4,129
West Coast				23,822	95,286	33,615	134,426
Otago				20,418	82,167	32,589	131,400
Totals				50,641	202,232	79,302	318,208

Customs Department,  
Wellington, 13th April, 1881.

WILLIAM SEED,  
Secretary and Inspector of Customs.

**No. 8.—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, 1881.

Mining District.	Price of Gold per ounce.	Price charged per Ton for crushing Quartz or Cement	Price charged for Water per Sluice-head per Week.	Remarks.
	£ s. d.			
AUCKLAND—North Hauraki ...	{ 2 10 0 to } 3 1 6	8s. to 14s.	...	...
South Hauraki ...	{ 2 5 0 to } 3 3 0	6s. to 10s.	£3	40 in. by 1 in.
Te Aroha ...	2 16 0	10s. to 12s.	...	...
MARLBORO'—Pelorus and Wairau ...	3 13 0	...	£1	20 in. by 2 in.
NELSON—Wangapeka ...	{ 3 14 0 to } 3 15 6	...	...	...
Charleston ...	3 17 0	...	£2 5s.	40 in.
Inangahua { alluvial	3 16 0	10s. to 15s.	..	40 in.
{ melted	3 17 0			
Collingwood ...	3 12 0	...	...	...
Westport { alluvial	3 16 0	}	£2	40 in.
{ melted	3 17 0			
Lyell ...	3 15 0	£1	£2	40 in.
WESTLAND—Hokitika and Kanieri ...	3 16 0	..	£2	40 in.
Waimea ...	3 16 0	..	£1 to £2	40 in.
Totara ...	3 16 0	..	£4	40 in.
Greymouth ...	3 16 0	...	£3	...
Greenstone ...	...	...	£1	40 in.
Kumara ...	3 16 0	...	£3	...
Okarito ...	3 16 0	...	...	...
OTAGO—Hindon ...	3 15 0	£1	...	...
Tuapeka ...	3 15 0	..	10s. to 20s.	...
Dunstan ...	3 15 0	12s. 6d.	£3 10s.	40 in. by 2 in.
Longwood ...	3 16 0	...	17s. 6d.	6 in. by 1 in.
Orepuki ...	3 16 0	...	£1	40 in. by 1 in.
Waikaia ...	3 15 6	...	...	...
Arrow, Wakatipu Gold Field	3 15 0	...	...	...
Mount Ida ...	3 15 0	£1	£1 10s.	16 in. by 1 in.

**No. 9.—NUMBER of MINERS EMPLOYED** during the Year ending 31st March, 1881.

Mining District.	Alluvial-miners.		Quartz-miners.		Totals.		Grand Totals.
	European.	Chinese.	European.	Chinese.	European.	Chinese.	
AUCKLAND—							
North Hauraki ...	...	...	250	...	250	...	250
South Hauraki ...	...	...	900	...	900	...	900
Te Aroha ...	...	...	150	...	150	...	150
MARLBOROUGH—							
Pelorus ...	112	...	...	...	112	...	112
Wairau ...	107	...	...	...	107	...	107
Queen Charlotte Sound ...	...	...	28	...	28	...	28
NELSON—							
Wangapeka ...	40	..	...	...	40	...	40
Collingwood and Takaka ...	146	...	12	...	158	...	158
Inangahua ...	218	281	420	...	638	281	919
Ahaura ...	402	103	...	...	402	103	505
Charleston ...	242	..	...	...	242	...	242
Westport ...	260	..	...	...	260	...	260
Lyell ...	380	50	50	...	430	50	480
WESTLAND—							
Waimea ...	600	200	..	...	600	200	800
Totara ...	307	106	...	...	307	106	413
Hokitika and Kanieri ...	423	45	...	...	423	45	468
Kumara ...	1,971	10	...	...	1,971	10	1,981
Greymouth ...	1,013	232	9	...	1,022	232	1,254
Arnold ...	505	145	...	...	505	145	650
Okarito ...	140	..	..	...	140	...	140
OTAGO—							
Hindon ...	94	28	12	...	106	28	134
Tuapeka ...	461	450	2	..	463	450	913
Clyde ...	35	30	..	...	35	30	65
Cromwell ...	450	190	70	15	520	205	725
Alexandra ...	120	100	..	...	120	100	220
Roxburgh ...	150	170	4	...	154	170	324
Waikaia, Upper Waikaia, Nokomai, Waikaka, and Waikawa ...	121	253	...	...	121	253	374
Orepuki and Longwood ...	191	270	60	..	251	270	521
Wakatipu Gold Field Arrow, Macetown, Cardrona, Kawarau, Bracken's, and Motatapu ...	275	343	158	..	433	343	776
Naseby ...	155	95	...	...	155	95	250
Kyeburn and Clarke's ...	45	100	...	...	45	100	145
Hamilton's, Sowburn, &c. ...	55	8	...	...	55	8	63
Hyde and Fullarton's ..	40	7	...	...	40	7	47
Macrae's, Strath Taieri, and Shag Valley ...	55	85	..	...	55	85	140
Serpentine ...	25	10	15	...	40	10	50
Maerewhenua ...	40	4	..	...	40	4	44
St. Bathans and Ida Valley ...	135	20	10	..	145	20	165
Black's and Tinker's ...	150	60	...	...	150	60	210
Other localities ...	20	20	...	...	20	20	40
SUMMARY.							
AUCKLAND	...	...	1,300	...	1,300	..	1,300
MARLBOROUGH ...	219	...	28	...	247	...	247
NELSON ...	1,688	434	482	...	2,170	434	2,604
WESTLAND ...	4,959	738	9	...	4,968	738	5,706
OTAGO ...	2,617	2,243	331	15	2,948	2,258	5,206
TOTALS	9,483	3,415	2,150	15	11,633	3,430	15,063

No. 10.  
RETURN showing the AVERAGE PRICES of PROVISIONS and LIVE STOCK for the Year ending 31st March, 1881.

MIXED DISTRICT.	Beer.	Brandy.	Bread— Wheaten.	Butter— Fresh.	Butter— Salt.	Cheese.	Coffee.	Flour.	Grain— Wheat.	LIVE STOCK.						MEAT.			Rice.	Salt.	Sugar.	Tea.	Tobacco.	Wine.
										Cattle— Horned.	Goats.	Horses.	Sheep.	Swine.	Beef.	Mutton.	Pork.							
Per hhd.	Per Gallon.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per 100 lb.	Per Imp. Bushel.	Per Head.	Per Head.	Per Head.	Per Head.	Per Head.	Per lb.	Per lb.	Per lb.	Per Qtr.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per Gallon.
AUCKLAND—	f	2 5/	d.	1/6	1/3	10	1/9	14/	...	f	10/-20/	5-50	10/-20/	25/-105/	d.	6	d.	6	d.	4	d.	2/6-3/6	6/6	24/
North Hauraki	4 10/ to 5	1 5/	2	1/3	1/	8-1/	1/6	14/	5/	5-40	5/	5-40	10/-12/	12/-30/	5	5	7	6	4	4	2/-3/6	6/	16/-40/	
South Hauraki	5	1 2/	2 1/2	1/6	1/3	8	2/	14/	4/	7-10	20/	10-20	8/9	40/-60/	6	6	6	6	2	2	2/-3/	5/	14/	
Te Aroha	...	...	4	1/3	1/2	1/2	2/	20/	...	8-10	10/	...	...	...	6	6	6	...	6	6	3/6	7/	...	
MARLBOROUGH—	...	...	4	1/3	1/2	1/	2/	20/	...	8-10	10/	...	...	...	6	6	6	6	4	4	3/6	8/	...	
Queen Charlotte Sd.	...	...	3	1/3	1/2	1/	2/	17/	...	7-10	...	...	12/	...	3 1/2	3 1/2	6	6	2	2	5-7	3/3	...	
Pelorus	...	...	3	1/3	1/2	1/	2/	17/	...	7-10	...	...	12/	...	3 1/2	3 1/2	6	6	4	4	5-7	3/3	...	
Wairau	...	...	3	1/3	1/2	1/	2/	17/	...	7-10	...	...	12/	...	3 1/2	3 1/2	6	6	4	4	5-7	3/3	...	
NELSON—	...	...	3	1/3	1/2	1/	2/	17/	...	7-10	...	...	12/	...	3 1/2	3 1/2	6	6	4	4	5-7	3/3	...	
Wangapeka	10	2	3	1/	1/	1/	1/9	14-18	5/6	25/ cwt.	...	6-35	5/-15/	10/-80/	4	4	6	3	5	5	2/6	6/	30/	
Collingwood	8	1 5/	2 1/2	1/3	1/	1/3	2/	20/	6/6	7	15/	10-25	10/	10/60	5	5	5	1/	6	2	3/6	7/6	22/	
Inangahua	7 10/	1 6/	3	1/3	1/	9	2/	23/	11/	11	60/	40	23/	100/	8	8	1/	1/	5	3	3/6	7/	20/	
Lyell	9	1 6/	4	2/	2/	1/6	2/	30/	15/	8	25/	15	12/6	60/	7	7	1/	1/	8	6	3/6	8/	22/	
Westport	6 3/	1 4/6	2 1/2	1/3	1/	9	1/9	15/6	4/	7-20	10/	5-40	17/	10/-100/	8	8	8	6	4	2	3/6	6/	15/	
Charleston	6 10/	1 6/	2	1/6	1/3	1/10	2/	18/	5/6	9	25/	15	16/	30/	7	5	8	6	4	2	3/6	7/	16/	
Ahaura	7 to 8	27/6-30	4	1/9	1/6	1/	2/	25/	10/	7-19	20/-30/	10-60	15/-20	60/-100/	5-8	4-7	7	6-8	4-6	3	3/6-5/	6/-8/	20/-40/	
WESTLAND—	...	...	3	2/	1/6	1/	2/	18/	7/	12	20/	25	17/	60/	7	6	7	4	4	4	3/	7/	18/	
Waimea	6	1 4/	3	1/6	1/	1/10	2/	18/	6/	10	20/	20	14/	60/	6 1/2	4 1/2	8	5	4	2 1/2	6/	16/		
Totara	6 15/	1 5/	3	1/6	1/	1/	2/	18/	5/6	12	15/	25	13/	60/	6	5	8	6	4	2 1/2	6/	16/		
Hokitika & Kanieri	5 10/	1 5/	3	1/6	1/	1/	2/	15/-20/	5/6	12	15/	25	13/	60/	6	5	8	6	4	2 1/2	6/	18/		
Okarito	6	1 7/	3	2/	1/6	1/3	1/9	25/	8/	7	...	14	20/	30/	6	6	9	6	4	3	3/	7/	18/	
Kumara	6	1 3/6	3	2/	1/9	1/3	1/9	20/	6/	10-14	30/	20-60	15/-20/	80/-120/	8	6	10	6	4	3	3/6	6/	22/	
Greymouth	5 to 7	1 6/	1 1/2	1/6	1/	1/	2/	17/	5/	10-15	20/-40/	15-60	20/	40/-100/	7	7	8	6	4	2	3/6	6/6	20/-50/	
Arnold	7	1 5/	3	1/9	1/6	1/	2/	22/	10/	10-15	20/-40/	15-30	25/	20/-120/	6	6	1/	1/	5	3	3/6	6/	21/	
ONAGO—	...	...	2 1/2	1/6	1/6	1/	2/	15/	...	...	...	8-40	10/	...	7	4	10	...	3	3	3/	6/6	...	
Hindon	4 10/	1 5/	2 1/2	1/6	1/6	1/8	1/6-2	11/	3/8	5-8	...	10-40	7/15	20/-60/	4-7	3	7	4	2	2	2/6-3/	5/6-6/6	17 1/2-28	
Tuapeka	6	1 6/	1 1/2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Cromwell	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Clyde	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Alexandra	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Black's	6	1 8/	2 1/2	1/9	1/6	9	2/	15/	5/	6	...	10-33	6/11/	25/-40/	6-8	4-7	7-10	6	6	4	3/6	6/-8/	19/	
Teviot	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Nevis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Orepuki, Longwood	7	1 6/	2 1/2	1/6	1/6	1/	1/6	18/	5/6	3/10-4/10	...	10-20	12/	60/-100/	5	4	6	4	6	3	3/6	6/6	18/	
Waikanae	7 10/	1 6/6	2 1/2	1/-1/6	1/-1/3	8-1/2	2/	13/	4/	3-8	10/-20/	8-20	6/-12/	20/-60/	5-6	3	7	6	6	3	3/	6/	17/6	
Arrow (Wakatipu	6	1 8/	2	1/6	1/2	8	1/9	11/	3/7	5 10/	10/	22 10/	3/-7/	50/-	6	4 1/2	8 1/2	6	4	2	2/4	6/	23/	
Gold Field)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Mount Ida	4 to 6	1 7	2	1/2	1/11	8	1/9	14/	4/3	3-9	15/	10-40	6/-10/	20/-80/	6	3 1/2	8 1/2	4	5	2	3/6	6/	16/	

**No. 11.**  
TABLE showing the AVERAGE RATE of WAGES per WEEK for the Year ending 31st March, 1881.

Mining District.	General Managers.	Legal Managers.	Mining Managers.	Engineers.	Engine-drivers.	Stokers.	Blacksmiths.	Carpenters.	Miners.	Labourers.	Boys.	Chinese.	Agricultural Labourers.	Domestic Servants.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
AUCKLAND—														
Te Aroha	3 0 0	1 0 0	3 0 0	...	...	...	...	...	7/6 per day	6/ per day	...	...	2 2 0	... 10/ to 18/
North Hauraki	£5 to £10	£1 to £2	£4 to £8	£3 to £5	£2 10s to £3	£2 to £2 10s	3 0 0	3 0 0	£2 2s to £3	2 0 0	15/ to 20/	...	1 16 0	8/ to 12/
South Hauraki	...	£1 to £2	£5 to £8	£3 to £4	2 10 0	...	£2 14s to £3	£2 14s to £3	39/ to 48/	1 16 0	10/ to 20/	...	...	...
MARLBOROUGH—														
Wairau	...	...	...	...	...	...	...	...	3 0 0	2 8 0	...	...	...	...
Pelorus	...	...	...	...	...	...	...	...	3 0 0	2 8 0	10/ to 20/	...	...	...
Queen Charlotte Sound	...	...	4 0 0	4 0 0	...	...	...	...	3 0 0	2 8 0	...	...	...	...
NELSON—														
Wangapeka	...	...	...	...	...	...	...	...	3 0 0	2 2 0	15/	...	30/ to 36/	...
Collingwood	...	...	...	...	...	...	...	...	3 0 0	2 16 0	1 4 0	...	2 16 0	10/
Inangahua	7 0 0	£1 5s to £3	£5 to £6	5 0 0	3 10 0	3 10 0	5 0 0	4 10 0	3 0 0	3 0 0	£2 to £2 10s	...	1 10 0	1 10 0
Charleston	...	...	5 0 0	...	...	...	3 10 0	3 10 0	3 0 0	£2 to £3	30/ to 40/	...	20/ and found	10/ to 15/
Westport	...	...	...	5 0 0	4 0 0	3 0 0	4 0 0	4 0 0	3 0 0	3 0 0	10/ to 30/	...	15/ to 20/	10/ to 15/
Lyell	...	...	6 0 0	6 0 0	...	...	5 0 0	5 0 0	3 10 0	3 6 0	2 0 0	...	30/	10/
Abura	...	...	...	...	...	...	4 0 0	4 10 0	£3 to £3 10s	2 10 0	15/ & board	...	20/ to 30/	15/ to 20/
WESTLAND—														
Waiema	...	...	...	...	...	...	4 10 0	4 10 0	3 0 0	3 0 0	1 0 0	2 0 0	3 0 0	and board
Totara	5 0 0	1 10 0	4 0 0	...	...	...	4 0 0	4 0 0	3 0 0	3 0 0	1 10 0	1 10 0	3 0 0	1 0 0
Hokitika and Kaniere	3 10 0	1 0 0	4 0 0	5 0 0	4 0 0	3 0 0	3 10 0	4 0 0	3 0 0	3 0 0	1 10 0	1 10 0	£1 & board	1 0 0
Kumara	5 0 0	...	...	...	5 0 0	...	4 0 0	5 0 0	3 0 0	3 0 0	1 10 0	...	30/ and found	1 0 0
Greymouth	...	1 0 0	5 0 0	£25 p. mth.	4 10 0	3 0 0	4 10 0	4 10 0	3 0 0	3 0 0	15/ & board	30/ & board	2 0 0	14/ to 20/
Okarito	...	...	...	...	...	...	4 10 0	4 10 0	3 0 0	2 5 0	10/	...	1 0 0	15/ to 25/
Maori Gully (Arnold)	...	...	...	...	...	...	4 10 0	4 10 0	3 0 0	3 0 0	20/ & board	...	...	1 0 0
OTAGO—														
Hindon	5 0 0	3 10 0	5 0 0	3 10 0	3 10 0	2 10 0	3 0 0	3 0 0	42/ to 55/	2 8 0	1 15 0	4/6	£45 to £50	£30 to £35
Tuapeka	£3 to £4	£20 to £50	3 0 0	3 0 0	48/ to 54/	...	54/ to 60/	66/ to 72/	48/ to 57	42/ to 48/	15/ to 20/	24/ to 36/	per annum	per annum
Cromwell	...	per annum	...	...	...	...	...	...	...	...	...	...	20/ to 25/	10/ to 15/
Clyde	5 10 0	1 0 0	4 0 0	3 12 0	3 0 0	2 8 0	3 12 0	4 4 0	3 0 0	2 8 0	1 10 0	2 8 0	1 0 0	10/ to 15/
Alexandra	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Black's	...	...	3 0 0	...	...	...	3 0 0	3 12 0	2 8 0	2 8 0	15/	1 0 0	1 5 0	£30 p. annum
Teviot	...	...	...	...	...	...	...	...	3 0 0	...	...	...	...	12/
Nevis	...	...	...	...	...	...	...	...	3 0 0	...	...	...	...	12/6
Wakatia	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Orepuki and Longwood	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Arrow (Wakatipu Gold Field)	5 0 0	1 0 0	4 0 0	5 0 0	3 0 0	2 10 0	4 0 0	3 10 0	3 0 0	2 8 0	1 5 0	2 0 0	1 2 6	12/6
Mount Ida	...	...	£3 to £4	...	...	...	£3 to £4	£3 to £4	3 0 0	£2 2s to £2 8s	1 0 0	42/ to 48/	2 8 0	12/ to 15/

No. 12.

NUMBER of MACHINES employed in ALLUVIAL- and QUARTZ-MINING for the Year ending 31st March, 1881.

MINING DISTRICTS.	Machinery Employed in Alluvial Mining.											Machinery Employed in Quartz-Mining.									
	Pudding Machines.	Whims.	Whips or Pulleys.	Sluices, Tons, and Stucco-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.	Buddles.	Approximate Value of all Mining Plant included in this Return.
													No.	Aggregate h. p.							
AUCKLAND—																					
North Hauraki	...	...	...	...	...	...	...	...	...	...	...	...	8	214	7	85	4	1	...	†15	40,000
South Hauraki	...	...	...	...	...	...	...	...	...	...	...	...	29	939	35	524	25	1	...	210	180,000
Te Aroha	...	...	...	...	...	...	...	...	...	...	...	...	1	20	1	10	...	...	...	4	...
MARLBOROUGH																					
Ravenscliffe and Queen Charlotte Sound	...	...	...	...	...	...	...	...	...	...	...	...	2	41	1	10	...	...	...	...	3,250
Pelorus and Wairau	...	...	...	130	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	445
NELSON—																					
Wangapeka	...	...	...	36	2	3	3	...	...	...	...	...	...	...	3	22	2	...	...	...	...
Collingwood	...	...	...	25	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	100
West Wanganui	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	5	...	...	...	...	...
Inangahua	...	...	...	100	...	60	...	...	...	...	...	...	7	118	12	196	8	2	2	26	78,070
Charleston	...	...	...	80	6	100	...	...	50	...	20	...	...	...	...	...	...	...	...	...	4,000
Lyell	...	...	...	200	...	30	...	1	...	...	...	...	...	...	3	30	3	...	...	...	8,000
Westport	...	4	...	43	...	48	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,000
Abaura	...	...	...	1,700	2	140	...	...	20	...	...	...	...	...	...	...	...	...	...	...	2,550
WESTLAND—																					
Waimea	...	...	1	140	1	151	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4,000
Totara	...	...	2	48	6	40	4	...	...	...	...	...	...	...	...	...	...	...	...	...	3,000
Hokitika and Kaniere	...	...	1	140	...	70	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,000
Greymouth	...	...	...	2,320	1	117	9	...	30	...	2	...	...	...	...	...	...	...	...	...	5,489
Arnold	...	...	...	450	...	110	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,350
Kumara	...	1	14	105	...	14	...	...	12	14	...	...	1	18	...	...	...	...	...	...	4,000
OTAGO—																					
Hindon	...	...	...	14	...	2	...	...	...	...	...	...	2	32	4	32	2	...	...	...	5,500
Tuapeka	...	1	...	500	20	10	30	...	...	160	...	...	...	...	4	29	4	1	...	...	14,000
Clyde, Cromwell, Alexandra, Black's Teviot, Nevis	...	2	...	798	14	1,600	9	4	42	2	...	...	2	22	8	2	...	...	...	...	35,560
Orepuki and Longwood	...	...	...	258	...	...	...	...	8	...	...	...	2	14	2	10	...	...	...	1	3,740
Waikaia (Switzers)	...	...	...	500	5	4	4	...	...	...	...	...	...	...	...	...	...	...	...	...	2,500
Arrow (Wakatipu Gold Field)	...	...	...	96	2	88	2	1	2	...	...	...	...	...	8	39	5	...	...	2	21,710
Naseby	...	...	...	150	...	70	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,500
Kyeburn and Clarke's	...	...	...	70	...	20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	500
Hamilton's, Sowburn	...	...	...	40	...	25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	400
Hyde and Fullerton's	...	...	...	15	...	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	200
Macrae's, Strath Taieri, and Shag Valley	...	...	...	50	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	150
Serpentine and Maerewhenua	...	...	...	40	...	20	...	...	...	...	...	...	...	...	1	5	1	...	...	...	750
St. Bathans, Ida Valley, and other localities	...	...	...	70	...	140	...	...	...	...	...	...	1	16	1	10	...	...	...	...	2,550
Black's and Tinker's	...	1	...	70	3	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	3,000
SUMMARY																					
AUCKLAND	...	...	...	...	...	...	...	...	...	...	...	...	38	1,173	43	619	29	2	...	229	220,000
MARLBOROUGH	...	...	...	130	1	1	1	...	...	...	...	...	2	41	1	10	...	...	...	...	3,695
NELSON	...	4	...	1,984	10	553	3	...	100	...	21	...	7	118	19	253	13	2	2	26	93,720
WESTLAND	...	1	18	3,203	8	501	14	...	42	14	...	...	2	1	18	...	...	...	...	...	19,839
OTAGO	...	4	...	2,671	44	1,989	49	5	52	2	160	...	7	84	28	127	12	1	...	3	92,060
TOTAL	...	9	18	7,988	63	3,044	67	5	194	16	181	2	55	1,434	91	1,009	54	5	2	258	429,314

\* Includes turbines and water-engines.

† Berdams and pans.

## No. 13.

TABLE showing approximately the NUMBER, DESCRIPTION, and VALUE of the WATER-RACES, TAIL-RACES, DAMS, RESERVOIRS, and GROUND SLICES in operation during the Year ending 31st March, 1881.

MINING DISTRICTS.	WATER-RACES.				TAIL-RACES.		DAMS.		RESERVOIRS.		GROUND SLICES.	
	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	14	10	45	3,500	...	...	...	...	...	...	...	...
Hauraki South	25	20	100	85,000	2	102	2	100	1	600	...	...
Te Aroha	1	100 yards	1	30	...	...	...	...	...	...	...	...
MARLBOROUGH—												
Pelorus	30	40	75	4,000	8	550	15	400	...	...	...	...
Wairau	15	10	23	900	2	150	2	50	...	...	...	...
NELSON—												
Wangapeka	6	..	...	£25 per mile	...	...	...	...	...	...	...	...
Collingwood	132	93	138	1,050	128	550	134	650	...	...	...	...
Inangahua	130	116	443	20,360	60	3,695	73	2,599	...	...	...	...
Charleston	170	168	540	12,067	118	6,564	345	6,903	3	650	50	1,500
Westport	152	135	368	5,956	38	3,577	83	2,334	...	...	...	...
Lyell	69	42	271	9,492	13	821	19	982	...	...	200	10,000
Ahaura	183	183	265	15,010	77	13,907	88	4,360	...	...	...	...
WESTLAND—												
Waimea	820	380	970	20,000	835	8,000	1,045	8,000	386	5,000	375	4,200
Totara	80	65	220	18,000	130	1,000	40	500	20	1,800	50	500
Hokitika and Kanieri	50	150	50	7,500	40	500	36	400	...	...	50	500
Kumara	103	69½	199	14,336	87	6,910	21	2,560	8	275	77	500
Greymouth	265	198	459	27,466	143	7,400	206	10,088	...	...	100	2,795
Maori Gully (Arnold)	248	196	346	14,700	110	2,836	233	5,420	...	...	190	1,250
Okarito	21	13	49	1,800	9	220	10	200	...	...	...	...
OTAGO—												
Hindon	13	20	30	1,000	25	500	18	750	...	...	12	80
Tuapeka	297	1,025	944	20,500	604	8,150	232	7,200	...	...	...	...
Clyde	15	75	51	6,500	18	540	30	740	...	...	...	...
Cromwell	170	600	700	63,000	...	...	100	2,000	10	4,000	2,000	4,000
Alexandra	17	64	64	6,940	21	874	26	540	...	...	...	...
Roxburgh	41	140	140	19,230	80	16,140	29	1,730	...	...	...	...
Waikaia	56	159	225	15,000	...	...	...	...	...	...	...	...
Orepuki and Longwood	122	240	130	8,000	220	5,500	80	900	...	...	...	...
Arrow (Wakatipu Gold Field)	221	362	520	3,820	441	4,170	46	1,980	22	580	24	720
Naseby	44	150	132	25,000	120	10,000	58	6,700	...	...	...	...
Kyeburn and Clarke's	65	205	220	10,000	45	2,500	15	1,400	...	...	...	...
Hamilton's, Sowburn	30	103	78	5,000	25	3,000	15	1,000	...	...	...	...
Hyde and Fullarton's	15	84	55	10,000	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	5	200	...	...	...	...
Macrewhenua	46	133	135	12,000	28	1,000	18	2,000	...	...	...	...
St. Bathans and Ida Valley	70	286	302	30,000	45	12,000	4	1,000	...	...	...	...
Black's and Tinker's	35	160	170	20,000	20	20,000	20	1,000	...	...	...	...
Other localities	5	21	19	2,000	5	400	5	2,000	...	...	...	...

## No. 14.—(Referred to as 20 in Report.)

RETURN showing the REVENUE and EXPENDITURE on account of CONSTRUCTED WATER-RACES maintained by Government, from the 1st April to the 30th September, 1880, and from the 1st October to the 31st March, 1881.

Name of Race.	1st April to 30th September, 1880.						1st October, 1880, to 31st March, 1881.						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.	£	s.	d.
Nelson Creek ... ..	1,071	4	0	1,071	4	0	727	8	6	998	17	1	998	17	1	739	11	0
Waimea-Kumara ... ..	2,465	3	7	2,400	8	3	1,769	7	2	1,988	12	9	2,017	8	11	1,439	11	11
Argyle ... ..	390	11	3	390	11	3	215	7	3	324	11	7	324	11	7	272	8	4

\* £277 16s. 1d. was due on 31st March, 1880.



No. 15.

TABLE showing the NUMBER of GOLD-MINING COMPANIES REGISTERED under "The Mining Companies Limited Liability Act, 1865," and Amending Acts, the Joint-Stock Companies Act, and "The Mining Companies Act, 1872," upon 31st March, 1881.

Mining District.	Under "Mining Companies Limited Liability Act, 1865," and Amending Acts.			Under Joint-Stock Act.			Under "Mining Companies Act, 1872."		
	No.	Nominal Capital.	Paid-up Capital.	No.	Nominal Capital.	Paid-up Capital.	No.	Nominal Capital.	Paid-up Capital.
AUCKLAND—		£	£ s. d.		£	£ s. d.		£	£ s. d.
North Hauraki*	...	...	...	...	...	...	...	...	...
South Hauraki†	160	2,891,950	2,258,756 0 0	30	445,500	46,957 17 6	130	1,479,210	111,670 7 6
NELSON—									
Inangahua ..	4	114,500	71,479 6 8	..	...	...	22	409,500	218,265 14 2
Lyell ..	...	...	...	...	...	...	3	56,000	40,700 0 0
WESTLAND—									
Greymouth ...	2	12,000	9,500 0 0	1	4,480	4,480 0 0	...	...	...
Totara ..	...	...	...	1	8,000	8,000 0 0	2	42,000	12,250 0 0
Arnold ..	1	10,000	5,000 0 0	...	...	...	...	...	...
OTAGO—									
Hindon ..	...	...	...	...	...	...	6	30,900	21,185 0 0
Tuapeka ..	11	40,975	18,602 0 0	...	...	...	9	85,200	43,721 15 0
Cromwell ..	1	6,000	3,000 0 0	...	...	...	...	...	...
Black's ..	2	17,400	17,400 0 0	...	...	...	...	...	...
Orepuki and Longwood	...	...	...	...	...	...	12	282,000	55,775 0 0
Arrow (Wakatipu Gold Field)	...	...	...	...	...	...	24	279,590	125,010 0 0
Naseby ..	7	44,220	44,220 0 0	...	..	...	6	25,000	17,880 0 0
Hyde and Fullarton's }									
Total...	188	3,137,045	2,427,957 6 8	32	457,980	59,437 17 6	214	2,689,400	646,457 16 8

\* No record kept since the Act of 1872. † Incomplete, all the returns not being in.

No. 16.

RETURN of the NUMBER of MINING LEASES and AGRICULTURAL LEASES in force on the 31st March, 1881, 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 ..	1	12 1 25	24 16 3	Hauraki, Ohinemuri	75	3,750 2 39	185 4 0
MARLBOROUGH—				NELSON—			
Ravencliff, Queen Charlotte Sound	8	91 0 33	94 0 0	Nelson ..	2	...	12 15 0
Pelorus ..	1	10 0 0	10 0 0	Collingwood	18	1,080 3 15	113 6 6
NELSON—				Inangahua ..	49	3,492 0 5	417 16 6
Collingwood ..	19	155 3 29	157 10 0	Charleston ..	35	542 0 0	63 18 6
Inangahua ..	51	719 3 14	745 0 0	Westport ..	36	2,445 0 0	265 0 0
Charleston ..	35	152 3 6	185 0 0	Lyell ..	41	2,063 3 18	237 7 6
Ahaura ..	28	225 2 10	229 10 0	Ahaura ..	83	4,580 0 38	524 5 0
Westport ..	15	194 2 31	186 0 0	WESTLAND—			
Lyell ..	11	198 0 38	195 10 0	Greymouth	17	981 0 13	115 16 6
WESTLAND—				Arnold ..	22	900 2 29	104 10 0
Waimea ..	3	43 0 8	44 0 0	OTAGO—			
Totara ..	5	41 2 0	42 0 0	Hindon ..	...	...	...
Greymouth and Clifton	15	220 2 30	227 0 0	Tuapeka ..	119	13,554 2 1	1,701 17 6
Okarito ..	1	5 0 0	5 0 0	Cromwell ..	89	11,397 0 0	1,424 12 6
Arnold ..	6	33 0 0	35 0 0	Clyde ..	18	3,956 2 25	484 15 0
OTAGO—				Roxburgh ..	23	3,260 0 8	395 12 6
Waikaia ..	1	6 0 0	6 0 0	Waikaia ..	12	1,781 3 23	222 17 6
Orepuki and Longwood	32	337 0 0	355 0 0	Arrow (Wakatipu Gold Field)	129	6,130 0 14	777 5 0
Hindon ..	18	230 3 10	239 0 0	Mount Ida District and Black's	115	20,141 0 0	2,517 15 0
Tuapeka ..	69	342 3 38	382 0 0	Total	883	80,057 2 28	9,564 14 6
Cromwell ..	5	84 0 0	84 0 0				
Clyde ..	5	38 1 12	41 0 0				
Arrow (Wakatipu Gold Field)	70	418 0 28	434 0 0				
Naseby and Black's	49	370 0 0	370 0 0				
Total	448	3,931 0 32	4,091 6 3				

## No. 17

RETURN of the NUMBER of LICENSES under "The Gold-Mining Districts Act, 1873," for the Year ending 31st March, 1881.

Mining District.						Number.	Gross Acreage.			Rental per Annum.		
							A.	R.	P.	£	s.	d.
AUCKLAND—												
North Hauraki	...	...	...	...	...	29	158	0	29	473	0	0
Grahamstown	...	...	...	...	...	92	433	0	34	1,520	0	0
Te Aroha	...	...	...	...	...	11	37	2	27	116	0	0
Total	..	...	...	...	...	132	629	0	10	2,109	0	0

## No. 18.

RETURN of CASES in the WARDENS' COURTS, and COSTS AWARDED, for the Year ending 31st March, 1881.

Mining District.						Aggregate Amount of Value.		Amount of Costs Awarded.	Cases wherein Judgment has been given in favour of the Crown.
						Claimed.	Recovered.		
						£ s. d.	£ s. d.	£ s. d.	
AUCKLAND—									
North Hauraki	...	...	...	...	...	24	...	12 12 0	...
South Hauraki	...	...	...	...	...	32	...	54 15 0	...
Te Aroha	...	...	...	...	...	41	10 10 0	19 4 0	...
NELSON—									
Collingwood	...	...	...	...	...	9	...	33 4 0	2
Inangahua	...	...	...	...	...	23	268 14 0	30 7 0	...
Lyell	...	...	...	...	...	28	256 16 5	10 5 0	...
Westport	...	...	...	...	...	14	242 8 11	53 14 0	1
Charleston	...	...	...	...	...	28	432 4 6	45 4 0	...
Ahaura	...	...	...	...	...	8	82 5 0	7 4 6	...
WESTLAND—									
Waiimea	...	...	...	...	...	49	582 0 0	56 13 0	...
Totara	...	...	...	...	...	7	15 10 0	7 7 0	...
Kumara	...	...	...	...	...	43	6 10 0	44 8 0	9
Greymouth	...	...	...	...	...	46	1,143 9 7	212 5 0	7
Arnold (Maori Gully)	...	...	...	...	...	24	312 16 4	93 12 6	7
Okarito	...	...	...	...	...	9	165 18 9	6 5 0	...
OTAGO—									
Tuapeka	...	...	...	...	...	75	2,993 1 9	180 19 0	...
Cromwell	...	...	...	...	...	27	75 0 0	40 19 0	...
Alexandra	...	...	...	...	...	21	...	0 11 0	...
Roxburgh	...	...	...	...	...	50	...	14 9 0	...
Black's	...	...	...	...	...	11	...	4 4 0	...
Clyde	...	...	...	...	...	10	5 0 0	2 12 0	...
Switzers	...	...	...	...	...	8	20 16 0	3 14 0	...
Orepuki and Longwood	...	...	...	...	...	27	...	15 12 6	...
Arrow (Wakatipu Gold Field)	...	...	...	...	...	39	124 17 6	10 4 0	7
Naseby	...	...	...	...	...	13	323 8 9	15 8 0	...
Total	...	...	...	...	...	666	7,061 7 6	975 12 6	33

NOTE.—The returns numbered 8 to 13, and 15 to 18 inclusive are compiled from statistics supplied by Wardens.

OLIVER WAKEFIELD,  
Under-Secretary for Gold Fields.

Mines Department, Wellington, 30th June, 1881.

By Authority: GEORGE DIDSBURY, Government Printer, Wellington.—1881.

