1894.

NEW ZEALAND.

MINES STATEMENT.

BY THE HON. A. J. CADMAN, MINISTER OF MINES.

Mr. SPEAKER,—

In preparing a Statement on the mining industry of the colony I find myself limited to localities and matter trodden over and dealt with by other Ministers during the past ten years, thus affording one very little latitude for original remarks. The industry may be said to be confined to gold and coal, for, although there are a variety of other metalliferous and mineral ores in the colony, very little attention has as yet been directed towards their development, and, in all probability, so long as gold and coal continue to be worked remuneratively, we need not look for rapid strides in other branches of mining. The reason for this is obvious. Gold is found in the ore in a metallic state, and, although it occurs in many instances in combination with other metals—making its extraction of a somewhat complex nature—yet those persons at present engaged in mining pursuits in the colony are better acquainted with the methods of extracting gold and silver from ores than they are with the mode of dealing with any other metals. Hence the difficulty in getting people to devote either their labour or capital to the opening-up of other mines.

The improvements in machinery and appliances for the reduction and treatment of auriferous and argentiferous ores have done a great deal towards making lower-grade ores pay for working. The introduction of the Cassel process, by which the gold and silver in the pulverised ore is leached out, and a far larger percentage of the assay-value obtained than hitherto got by any other method, was last year the means of making some of the mining companies in the North Island remunerative ventures; whereas without this process the operations would have been carried on at a loss. The Cassel process is, however, far from perfect, as it will give only an average result of about 85 per cent. of the assay-value of the gold in the ore, and about 50 per cent. of the silver. The loss therefore of the precious metals is still very considerable. This loss varies in proportion to the character of the ore; when it contains argillaceous material forming a great deal of slimes, no method has yet been adopted whereby the cyanide of gold and silver can be completely washed out. The slimes absorb the cyanide, but after being for some time in the vats it seems to set closely together and form impervious bands, through which the solution cannot be filtered. For the reason stated, the process has not as yet proved a success in treating the tailings in the Middle Island, but it is expected that the difficulty will soon be overcome.

As showing the value of the Cassel process, I would mention that the Cassel Company purchased the tailings belonging to the Waihi Company, which had been stacked from the time that crushing operations were commenced up to November last, for £5,000; and, from the beginning of the present year up to the 23rd of August, bullion to the value of £11,369 has been recovered.

I may also be permitted to remark that the improvements in hydraulic and dredging appliances enable ground to be worked remuneratively that a few years ago could not be operated upon except at a loss. There is still plenty of scope for the extension of hydraulic sluicing; but, in order that a much larger number of men could be employed in this branch of mining, it would require a conservation of the water in numerous available streams and rivers, which can readily be brought to command localities where auriferous drifts are known to exist. The whole of the water-rights, however—the streams which are easily brought to command the ground—are held by private parties, who in many instances do not utilise

one-half of the water for which they hold rights. Some of the water-races are not of sufficient capacity to convey the number of sluice-heads for which the rights are granted, and in most cases the water is used only from eight to twelve hours a day, it being allowed to run to waste for the remainder of the time. In many instances this waste could not be prevented, as the topographical character of the country is not suitable for the construction of storage reservoirs; but there are many places where these could be constructed, and the spare water conserved.

The utilisation of water as a motive-power to work mining and other plants also deserves consideration. There are a number of rapid rivers which could not be diverted at a reasonable cost to command the auriferous drifts, but which, in many instances, especially on the west coast of the Middle Island and in Otago, could be easily utilised to generate electricity, which can now be transmitted for long distances with very little loss. In some places, even large pumping plants might be used with success to raise water for hydraulic-sluicing, where the motive-power would cost nothing beyond the necessary expenditure on machinery and appliances for lifting the water. There are large areas of country, which could be made remunerative for working by hydraulic sluicing were water available, which are not suitable either for agricultural or pastoral purposes, but nevertheless could be utilised so as to afford employment to a large number of men for many years.

Assistance to the gold-mining industry has always been subject to the whim of the Minister or Ministers of the day, the result being that help has been rendered spasmodically in accordance with the political pressure generally from goldfield members. What is required is the establishment of a definite fund whereby reasonable amounts will be periodically raised, and to which may be added any sum Parliament may consider advisable. In very few instances will any company venture to test deep-levels without assistance, with the certainty that such assistance will be given on some definite basis to be agreed on before the work proceeds; and that any balance of an unexpended vote at the end of any financial year will be again re-voted.

MINERAL PRODUCTION.

On reference to Table No. 1, annexed, it will be found that the quantity and value of gold and silver produced for the year ending the 31st December, 1893, was 289,887oz., of the value of £922,881; while 700,603 tons of other minerals (including 8,317 tons of kauri-gum), of the total value of £899,793, were also produced for the same period, as against 260,132oz. of gold and silver, of the value of £958,740, and 687,295 tons of other minerals—including kauri-gum—of a value of £907,566 produced for the previous year.

The details of the quantities and values of the different minerals exported for the year are as follows: Gold—226,811oz., value £913,138; silver—63,076oz., value £9,743; antimony-ore—331 tons, value, £3,467; Manganese-ore—319 tons, value £943; mixed minerals—37 tons, value £650; coal—69,136 tons, value £72,699; coke—51 tons, value £53; kauri-gum—8,317 value £510,775; while the coal produced and consumed in the colony amounted to 622,412 tons, valued at £311,206; making a total value of all minerals of £1,822,674.

The value of gold and silver produced up to the end of 1893 was £49,454,886, and the values of other minerals and metalliferous ores, including kauri-gum, are as follows: Copper, £17,866; chrome, £37,367; antimony, £49,507; manganese, £56,107; hæmatite, £226; mixed minerals, £70,322; kauri-gum, £6,860,196; coal exported, £659,882; coke exported, £23,643. The value of coal raised and consumed in the colony being £3,842,408; making a total value of £61,072,410.

I may here mention that the quantity of foreign coal imported for the year ending the 31st December, 1893, was 117,444 tons, of the value of £111,956: of this, 6,026 tons, of the value of £6,460, was, however, again sent out of the colony.

GOLD-MINING.

The gold-mining industry has done more than any other towards the settlement of the colony. When we look back at the small number of inhabitants in New Zealand before the discovery of gold, we must admit that the present population is due to the great influx of people in the early days of the goldfields. Although the number of persons now employed in gold-mining is small, compared with what it was when the Dunstan, Shotover, and West Coast diggings broke out, there are still about 60,000 people supported by this industry, which, even at the present time, forms an important factor in the prosperity of the colony. Thousands of acres of land have been put into cultivation which, but for the large

population the discovery of gold brought to our shores—giving the *bonâ fide* agriculturist a local market for his produce—would in all probability still be in its natural state; either covered with bush and fern, or devoted only to the pasturage of a few sheep and cattle.

Gold-mining, like all other industries, is rapidly being brought to a science. The happy-go-lucky method of working hitherto pursued, by sinking here, there, and everywhere without a defined plan, is fast dying away. Men are getting a better knowledge of mineral and metalliferous ores, and the formations in which to look for them. The improvements in machinery and appliances admit of ground being worked far more cheaply than formerly; but, notwithstanding this, gold-mining is becoming more difficult as year after year passes by.

The auriferous lodes, where rich patches of gold were found in the past, are getting worked out on the upper levels, and deep-sinking in many places, with a large influx of water to contend with, has to be undertaken in order to follow the lodes down. This, together with requiring men of skill and ability to carry on the operations to a successful issue, adds considerably to the cost of working.

In alluvial mining the greatest labour-saving appliance that can be used is a large supply of water at a high elevation above the ground proposed to be worked; but this requires a considerable outlay in the construction of water-races, tail-races, and hydraulic plant. The working miner of to-day is very differently situated from the miner of former years. He now requires not only to give a large amount of labour, but he must have a considerable sum of money at command, to enable him to go into the undertaking. The wages of the miner are much less than formerly, and now many of them having large families to support cannot afford to lay by sufficient money to enable them to undertake operations on a large scale. To bring a mining venture to a payable stage, capital and labour require to go hand in hand, and every encouragement and facility should be afforded the miner to get our mineral wealth developed. The field for gold-mining operations to be carried on should be extended to the utmost possible limit, as this industry will afford employment to the working-classes, and have a much greater tendency towards solving the question of the "unemployed" than any other. Even on the old-established goldfields men can always earn a livelihood, though they may not be able to make the ordinary rates of wages. It is intended to give better facilities by granting a good tenure to land on goldfields, so that the miners can build comfortable homes and have a sufficient area on which they can grow their own vegetables and keep a cow or two, thus enabling them to maintain their families and reduce the cost of living to a minimum.

The yield of gold for the year ending the 31st March last (Table No. 2) shows an increase over the previous year of 12,043oz., representing a value of £52,753. The total yield last year, according to the Customs returns of the quantity entered for exportation—not including the gold manufactured into jewellery, &c., in the colony—was 247,702oz., representing a value of £970,220; while the yield for the former year amounted to 228,659oz., having a value of £917,467. The increased yield last year came from the Auckland and Otago districts, being 11,374oz. and 4,781oz. respectively; while the Marlborough district showed a decrease in the yield over the former year of 793oz., Nelson 613oz., and the West Coast 2,706oz., making the total increase in the North Island and Otago 16,155oz., and the total decrease in the other districts, 4,112oz. Of the gold produced last year, the Auckland district contributed 52,426oz., or 21·78 per cent of the total yield; Marlborough and Nelson, 4,441oz., or 1·84 per cent.; the West Coast, 98,930oz., or 41·10 per cent.; and Otago, 84,905oz., or 35·28 per cent.

Earnings of the Gold-miners.

The only way this can be arrived at is by taking the returns furnished to the Department by the various Wardens of gold-mining districts, of the number of miners actually employed in claims on the goldfields, and the quantity of gold entered for exportation, according to the Customs returns. This does not, however, represent the whole of the gold, as there is a certain quantity manufactured in the colony each year, and parcels, are, no doubt, taken away by Chinese and others leaving the colony which do not go through the Customs. On the other hand, there are a number of men employed by the miners in getting blocks and sawn-timber for mining, who are not included in the return of miners employed in claims. These may, I think, be fairly taken into account, as against the extra amount of gold obtained over the quantity shown for exportation in the Customs returns.

The total number of miners employed last year was 11,553, as against 12,197 for the previous year, showing a decrease in the number last year of 544. This decrease is principally

in the Otago District. Taking the number last year, and the value of gold obtained—viz., £970,220, the average earnings of the miners are equal to about £83 19s. 7d. per annum, while their average earnings for the former year amounted to £75 4s. 5d. This shows an increase of £8 15s. 2d. over the average earnings for the former year. Taking the different districts, with the number of miners employed in each, and the value of the gold obtained, the average earnings in each locality would be as follows: Auckland, £161 13s. 7d.; Marlborough, £36 5s. 10d.; Nelson, £38 8s.; West Coast, £75 7s. 3d.; and Otago, £75 18s. 11d. a man per annum.

The average earnings in some districts are small, but many of the miners employ a portion of their time in other pursuits.

QUARTZ WORKINGS.

The returns furnished by the proprietors of crushing mills which, will be found in detail in pages 33 to 85 of the Inspecting Engineer's Report on the Goldfields, will show honourable members that this branch of gold-mining is steadily progressing and the yield increasing. As the quartz workings may be termed "the permanent gold-producing mines" of the colony, it is gratifying to find the yield of gold increasing from this source. The returns referred to show that in the Auckland district 89,916 tons of quartz were crushed, and 18,900 tons of tailings treated, which gave 54,385oz. of gold and 61,389oz. of bullion, representing an estimated value of £219,651. This would be equivalent to about 85,202oz. gold, as the average value of the gold found in the North Island is about £2 11s. 6d. per ounce; whereas the value of the gold found in the Middle Island is about £3 19s. per ounce. In the Nelson district 4,561 tons of quartz yielded 914oz. of gold, having an estimated value of £3,610. On the West Coast 45,090 tons of quartz yielded 28,553½oz. of gold, having approximately a value of £114,214; and in Otago 9,723 tons of quartz yielded 5,573½oz. of gold, representing an estimated value of £22,015: making a total of 168,190 tons of quartz and tailings crushed, which yielded 120,253oz., of an approximate value of £359,490 as against £320,282 for the previous year. This shows that about 37½ per cent. of the value of the gold obtained last year came from auriferous lodes.

In connection with quartz workings, I may observe that the improvements in the appliances for recovering the gold from the crushed pulp have had a great deal to do with the increased yield from the North Island last year. In some cases nearly as much gold has been recovered from the tailings as from the crushed ore, after passing through the ordinary process of gold-saving. This is entirely due to the introduction of the cyanide process. Wherever this process has been adopted in the North Island it has proved a success. At the same time it is only on ore having a certain value that it can be used, as the expense of treatment, together with the royalty to the Cassel Company, would in very few cases be less than 12s. per ton, exclusive of the cost of fine crushing. The cost of treatment, however, varies with the class of the ore to be dealt with. This necessarily requires men having a metallurgical knowledge to treat the different ores successfully.

I shall now briefly refer to the different localities where quartz-mining is carried on.

Coromandel.

The yield of gold from Coromandel, including Kuaotunu, last year was 10,019oz. This was obtained from 10,242 tons of quartz and 2,388 tons of tailings; while for the former year 12,403 tons of quartz and 2,760 tons of tailings gave a yield of 12,954oz., showing a decrease in the yield of gold of 2,935oz. for the last year.

The English company referred to in last year's Statement has not met with much success, but recently it has got gold-bearing stone in the deep levels of the Kapanga Mine; and rich stone has also been discovered in the ground forming portion of the Coromandel Company's property. This will, no doubt, give an impetus to further prospecting in the locality.

At Kuaotunu about the same number of claims have been worked as during the former year, but some of them have been giving very poor returns. The introduction of the cyanide process, however, added considerably to the yield of gold from that field last year. Both the Try Fluke and Great Mercury Companies have erected Cassel plants in connection with their crushing batteries, and last year 3,420oz. of gold was obtained by this process. The total yield of gold from the Kuaotunu field last year was 8,044oz. This came from 9,660 tons of quartz and 2,240 tons of tailings, but the tailings may be said to form portion of the quartz crushed.

THAMES.

Notwithstanding the cry of depression in this district, there were 1,068oz. more gold obtained—according to the quantity entered for exportation for the year ending the 31st March last—last year than for the previous year, vide Table No. 2. The mines are, however, getting deeper as every year passes by, and a feeling is entertained that unless something is done to test the deep levels in a few years many of the properties will be valueless, as the holders have not sufficient means to undertake prospecting operations below the level that can be drained by the Big Pump; and, although there are a number of companies affected by the drainage system, the areas of their separate holdings are, however, comparatively small. A combination of the whole of the companies interested in the deep levels is required before any extensive prospecting operations in this direction can be proceeded with. The holdings below the 500ft. level are at present utterly useless, but nevertheless the value placed on the ground in many instances is such that it will be a difficult matter to find outside capital to come to the assistance of the companies. Before any practical results will ensue, the present holders of mining property in this locality will have to modify their views in regard to the value of their claims, or else offer sufficient inducements for capitalists to assist them, otherwise mining in the district is bound to dwindle down, and in time many of the properties will be forced into liquidation. Every year the payable stone in the upper levels is gradually getting less, and the time will come when, unless money is forthcoming to test the lodes at deeper levels, the mines will have to be abandoned. It is a difficult matter to find persons philanthropic enough, even with Government assistance, to embark their capital for the benefit of others, unless they receive a corresponding advantage.

During the last year there were 34,637 tons of quartz and 14,970 tons of mullock crushed, also 13,220 tons of tailings treated, on this field, yielding 34,637oz. of gold, representing an estimated value of £92,650; while 650 men were employed in the mines.

The principal gold-producing mines have been the Moanataiari, 4586oz.; New Alburnia, 5,992oz.; Hazel Bank, 2,669oz.; Waiotahi, 2,719oz.; May Queen, 4,369oz.; and the Cambria, 1,470oz.

OHINEMURI.

This is a district which is likely to become a very large gold-producing one, as it contains a large area in which auriferous lodes have been already discovered and are known to exist. In many places no prospecting has been done, and portions of the field are yet unexplored. The yield from the Waihi Company's mine last year proves that, by using improved machinery for saving the bullion, the property is a valuable one. Nevertheless, the same property from which this company is obtaining such large returns was worked for over eight years by the Martha Company, the yield being only sufficient to pay working-expenses. The lode was previously worked by the Martha Company, which took out only what was considered the best portion of the stone, and from this only about 4dwt. of gold per ton was obtained by the process adopted by that company. Last year 19,343 tons of quartz were crushed from this mine, yielding bullion to the extent of 34,661oz., having a value of £54,000. As the company has erected a Cassel plant to treat the ore by the cyanide process, they expect this year to have much larger returns. By this means they get about 90 per cent. of the assay-value of the gold, and not more than 50 per cent. of the silver in the ore. Previous to this only 66 per cent. of the gold and 40 per cent. of the silver was obtained.

At Waitekauri good returns have been obtained from the Komata Mine, and from Lowrie's New Find. Another discovery has been made by Birnie and party who have recently erected a crushing battery, but the results of the crushing have not been so far satisfactory. At Karangahake the Crown Company has been working successfully, and getting good returns. No doubt there are other lodes in this locality which by judicious working, with proper appliances for saving the bullion, would give payable results. All through the Ohinemuri district the gold is found in combination with a large percentage of silver, and the system of treatment requires to be quite different from that for ore containing free gold only.

The battery returns from Waitekauri last year were: Komata Mine, 14,606oz. bullion from 1,708 tons of stone and 1,705 tons of tailings; Lowrie's New Find, 1,632oz., from 600 tons of quartz.; and the Crown Company, at Karangahake, crushed 4,544 tons of ore, yielding 11,131oz. bullion.

The Crown Company was the first to introduce the cyanide process into the colony; and, as they have made considerable improvements in the method of treatment, a much larger

percentage of the bullion is now recovered. The total yield from the Ohinemuri district last year was 68,603oz. of bullion, representing a value of about £107,000; while 454 men were employed in the mines.

Waiorongomai.

There are very few men now working at Waiorongomai. There appears to be a considerable amount of bullion in the ore, but so far it has not been treated successfully. A fair percentage of the value cannot be recovered by the ordinary battery process, and the ore contains too large a percentage of copper to treat it economically with cyanide of potassium. There are a large number of lodes in the district known to contain gold, but most of the miners originally in this locality have left the field, and very little prospecting is done. The total yield from this field last year was 2,515oz. bullion, representing a value of about £2,500, while only twenty-nine men were employed in connection with the mine.

Lyell.

This was never a large quartz-reefing district, the principal gold-producing claim being the Alpine. In this claim the lode has been stoped out from the surface to a depth of 800ft., and it still gives payable returns. Adjoining this claim the Larnach Company have constructed an adit-level for a distance of about 3,300ft., and have succeeded in cutting the north block of the Alpine lode, which is said to show gold freely. This company has been about twelve years constructing this adit-level, and it is to be hoped it will yet be rewarded for its labour and perseverance. During the past year there were 9,876 tons of quartz crushed in this locality, yielding 9,186oz. of gold, valued at £36,744; while seventy-four men were employed in the mines.

Inangahua.

This is by far the largest quartz-reefing district in the Middle Island. It extends for a distance of forty miles, but the claims are greatly scattered, Reefton being in the centre; but there are only a few claims working within a radius of three miles of the town. The workings are gradually extending from Devil's Creek to the Big River. At the latter place some very good auriferous stone was obtained last year in the Big River Company's claim. At Merrijigs, the Cumberland Company has been doing fairly well, but the adjacent companies—namely, the Golden Lead and Sir Francis Drake—were not successful in their operations last year. The Progress and Globe Companies at Devil's Creek both have a large number of men employed, and the former company has been successful in paying dividends, but the other company has only been paying expenses.

The Keep It Dark and Wealth of Nations mines at Crushington have been worked steadily during the year. The latter company has been fairly successful, but the former has had to make calls to carry on prospecting operations. The Keep It Dark is the deepest mine below sea-level in the district, being about 150ft. below that datum.

At the Sir Charles Russell Mine, at Painkiller, some good stone has been struck, and a crushing-battery is now being erected near the mine. Prospecting operations at the deep levels are being carried on at Boatman's by the Welcome Company, but no payable stone has yet been struck.

During the past year 35,214 tons of stone were crushed and tailings treated in the Inangahua district, yielding 19,367½oz. gold, representing a value of about £77,470. The total quantity of quartz crushed in this district since it was opened amounts to 594,461 tons. which yielded 449,486oz. gold, having a value of £1,696,997, out of which dividends have been paid to the extent of £529,429; while the whole of the calls made by the mining companies amount to £305,379. This shows that there has been £224,050 returned to the shareholders more than has been paid in calls. The value of the dividends paid last year was £18,832, while 312 men were employed in the mines.

Otago.

The principal quartz-mining districts in Otago are Skippers, Macetown, Old Man Range, Nenthorn, and Barewood; but the two principal claims where operations were carried on last year were the Phœnix and the Premier, both of which are now held by English companies. It is to be hoped that both these companies have been floated on the London market in such a manner that those investing their capital will receive a fair percentage for their money. We require capital in our mining ventures to assist in the development of our lodes, and I wish to see all persons who invest their money in undertakings of this nature receive adequate returns.

The Phœnix Mine has recently been purchased by the Achilles Company, but no extensive operations have yet been commenced. The Premier Mine yielded a fair quantity of gold last year, owing to its operations having been extended.

The Tipperary Mine, at Macetown, is now the property of an English company; but, so far, no payable returns have been obtained. The Cromwell Mine, at New Bendigo, is also the property of an English company, who have expended a considerable amount of money in prospecting the lode to a greater depth, and in sinking a new shaft, but, so far, without finding any stone of a payable character. Some very rich stone was obtained from this mine in the early days, and it is expected that another rich gold-bearing ledge will be found at a deeper level.

At the Old Man Range, and also at Barewood, some of the mines have been worked at a considerable profit, but at neither of these places are extensive operations carried on. A few parties are still working some of the Nenthorn lodes, and getting a fair quantity of gold.

The total quantity of gold obtained last year from quartz-mining in Otago was 5,573½oz., representing a value of about £22,015.

Very little more is known this year respecting the Wilson River reefs than there was last year. The Golden Site Company, the owners of the prospectors' claim, have opened out on both sides of Wilson's River, and a portion of the lode on the north side is said to be very rich. A crushing-battery has recently been erected, and the results of crushing the first 130 tons of lode stuff was 20½oz. retorted gold. It is stated, however, that during the eight days occupied in crushing, six days was spent in puttiug mullock through the battery.

Concluding Remarks on Quartz-Mining.

In concluding my remarks on quartz-mining, I may be allowed to point out that the system hitherto adopted in working the mines is neither advantageous to the shareholder nor to the colony. Every mining company should have a fund to draw on to carry on prospecting operations when the day of adversity comes. Instead of paying away every shilling of the profits in dividends, a certain percentage should be placed to a reserve fund, which should be allowed to accumulate until required to open up fresh workings. This is exemplified in the case of the Welcome and Keep It Dark Companies, at Reefton; and also in some of the companies at the Thames, who have paid away large sums in dividends without retaining any reserve fund; and applications are now being made to the Government to come to the assistance of these companies to help in the development of their properties. Had a reserve fund been created, and left to accumulate, many of the shareholders would not have been so eager to dispose of their shares, so as to get clear of calls. The effect of having a reserve fund would be that the shares would be better held, and money would be available for prospecting and opening out the mines afresh without having to make calls.

ALLUVIAL MINING.

I now come to alluvial mining, which is confined to the Middle Island and Stewart Island, but at the latter place there is scarcely any one working. About 62½ per cent. of the gold produced last year came from the auriferous gravel drifts of the West Coast and Otago. Very little alluvial mining is carried on, however, in the strict sense of the term, the principal workings being hydraulic sluicing and dredging. The ground, as it becomes poorer, requires to be worked on different methods to that adopted in former years, when only a pick, shovel, and tin dish were required to enable the miner to earn his livelihood. Water must now be made to do the work instead of manual labour. By having a good supply of water, and plenty of dump for tailings, a grain and a half of gold to the cubic yard of material can now be made remunerative, and when the material can all be sent away without having to handle any boulders even less than that can be made to pay.

Seeing, therefore, that water is so necessary an adjunct to working the auriferous gravel drifts, more attention should be given to its conservation. Every site for a dam or reservoir should be set aside for this purpose. At the present time the whole of the streams that can be diverted are utilised by miners for a certain portion of the day; but sufficient provision is not made for storing up the night-water, and also the flood-water. If this were attended to, both the West Coast and Otago fields would afford profitable employment to a far larger mining population than at present.

The number of miners employed in alluvial mining is almost entirely limited to the quantity of water available. Very little of the ground contains sufficient gold to pay for driving the best portions of it out, and water is the only factor that can be used to make such ground remunerative.

There are also many places where the rivers could be utilised as a motive power to generate electricity, and where this could be done at a reasonable cost pumping appliances might, in some instances, be used to lift the water into reservoirs at sites where it would be scarcely possible to get a stream of water by gravitation. I shall now refer to the principal fields where alluvial mining is carried on.

Mahakipawa.

The early workings in the upper portion of the field are now nearly exhausted, but there is still a considerable extent of ground left in the lower part of the creek-bed which would afford employment to a limited number of men were it not for the frequency of floods, which in every case fill the underground workings with water. The gold has been traced for a short distance into Mr. Cullen's freehold, and very good washdrift is being obtained in the King Solomon Mine. Several shafts have been sunk lower down the flat, but none of them have got on to the same run of gold. It is expected, however, that this gold will yet be traced under the township, and near the terrace on the north-east side of the flat. About 125 men were employed in this locality last year.

West Coast.

This embraces a large field, which may be said to extend from Collingwood to Jackson's Bay, a distance of about 350 miles. At Collingwood, extensive preparations are being made by the Parapara Sluicing Company to work the alluvial flats in the vicinity of Appo's Creek and the Parapara Flat, but it will be a considerable time yet before operations can be commenced.

During my recent visit to the West Coast, I was greatly surprised to find such extensive areas containing auriferous drifts, which can be made remunerative by hydraulic sluicing operations. The whole of the West Coast abounds with rivers and streams which can be utilised for mining, a great portion of the country in this locality being suitable for no other purpose. The quantity of gold produced on the West Coast last year was about 98,930oz., having a value of £395,728, and there were about 3,860 men employed in working alluvial claims, of whom 990 were Chinese.

Matakitaki.

There is an extensive field for sluicing operations in the upper portions of the Matakitaki Valley and Glen Roy Terraces, where a large supply of water can be brought to command the ground at a comparatively small outlay; and, from the information afforded me in the district, there is a large area of ground likely to pay for working, with a good supply of water. A company has recently taken up a special claim in this locality, and is now engaged in bringing in water from the Matakitaki River to work it. From the prospects shown me—said to have been taken from shafts sunk in this ground, giving an average of 3gr. to the cubic yard of material—it should make a valuable mining property.

Westport, Addison's, and Charleston.

In the Westport district a considerable number of men are engaged in working the auriferous black-sand leads at Addison's, Croninville, Charleston, and between Westport and Ngakawau. Many persons also find profitable employment in washing the auriferous black sand found on the ocean-beach along the West Coast, from Karamea to Jackson's Bay. A prospecting association has been formed in Westport, with a view of cutting a tunnel tail-race through the Pakihis, from the ocean-beach to Fairdown, so as to cut the black-sand leads which are supposed to run through this flat. At Addison's Flat a large number of men are employed, some of them have been working there since it was first opened, and are said to be making fair wages. At Charleston rich patches of gold-bearing sand have been worked, and a number of men are still finding profitable employment in this locality.

Grey Valley.

In the Grey Valley, at Granville, Orwell Creek, Callaghan's, Nelson Creek, Red Jack's Creek, No Town, Moonlight, and Blackball there are a considerable number of miners making a fair livelihood. There are large areas of auriferous ground in these localities, which will yet be worked by hydraulic sluicing. Provision will have to be made for proclaiming several of the streams in this valley watercourses, into which tailings and mining *débris* may be discharged.

Greenstone, Kumara, and Waimea.

At Maori Gully, Maori Creek, Greenstone, Westbrook, Kumara, and Waimea there are a considerable number of miners employed, especially at Kumara, which is the principal field for sluicing on the West Coast. When one sees the extensive hydraulic-sluicing operations which are carried on in a part of the country valuable only for mining and the timber it contains, every facility and encouragement should be given to men who are ready and willing to expend their capital and labour in extending the field of operations; when it is considered that the Kumara field has yielded gold to the value of about £1,250,000 from an area of not more than 600 acres, and then only on a false bottom, it fills one with wonder and admiration at the resources and wealth which have lain hidden for such a period from the eyes of man.

At Callaghan's, between Kumara and Waimea, a party of miners have constructed a tunnel tail-race for drainage purposes of about 3,000ft. in length, and are now getting sufficient gold to pay them fair wages. There is also a considerable area of ground in the Upper Waimea Valley which has scarcely yet been prospected, and is likely to afford employment for a large number of miners when the branch of the Waimea Water-race is completed.

Humphrey's Gully.

At Humphrey's Gully, near Arahura, large sluicing operations are being carried on, but the quantity of water yet brought on to the ground is not sufficient to work the claim—which is over 200 acres in extent—on such an extended scale as the holders of the property deem advantageous. From what I could learn, steps are being taken to get more capital to extend the head-water race to the Arahura River, when a never-failing supply of water will be obtained.

Kanieri and Woodstock.

Coming to Kanieri, Woodstock, and Rimu, we find a considerable mining population, some working the ground by shafts and tunnels, and some by hydraulic sluicing, where water and fall for tailings can be got. The Rimu field is, however, at so high an elevation that the expense of getting a large supply of water would be so great that few individuals with sufficient capital could be found to undertake the construction of a water-race sufficiently large to work the ground on the hydraulic principle. Recently a new discovery of gold has been made between the branches of the Kanieri River, which seems to be a continuation of the Gentle Annie Diggings. This discovery was made by the Rimu Prospecting Association, who have been doing very useful work in this locality. A few shafts were bottomed at the time of my visit, and a little gold was being found in each of them—about 2½dwt. to the load; but further work will have to be done before much is known respecting it.

Ross.

At Ross there is now only a small mining population compared with what there was in the days when mining operations were carried on in the deep ground. Most of the Ross Flat is now held by the Ross United Company, who are working the upper levels by the aid of a tail-race on the ocean-beach. The water used in sluicing the ground is discharged into this tail-race, and the tailings are lifted by a bucket-elevator for a certain distance, and afterwards in trucks up an incline tramway. The large quantity of stones and tailings which cover the flat mark the extensive workings which were carried on in the early days of the field.

There are said to be eight different layers of gold-bearing wash-drift, one above the other, in this flat. The lowest one, worked in the early days, proved to be far the richest. This is about 240ft. under the sea-level, and yet no main bottom has been reached. The pumping-plant formerly used by the company was insufficient to contend with the water, and as all the available capital was expended the lower workings had to be abandoned. Several efforts have been made to get extra capital to place a larger plant on the ground, but so far without success.

A little to the south of Ross is the Mont d'Or Sluicing Claim, with a face about 200ft. high. A large quantity of gold has been obtained from this, and steady dividends paid to the shareholders. From the appearance of the country, and the information afforded me when visiting the West Coast fields, I believe this is a part of the colony where profitable employment will be found for willing and energetic men for a long period.

Otago.

The discovery of gold in Otago was the means of the first rapid influx of population to our shores; and from this district 5,054,592oz. of gold, representing a value of £19,975,412, have been obtained. This goldfield is a portion of the colony where there is comparatively no dense bush, and consequently the difficulties met with in prospecting are not very great; at the same time, some of the land is at such an elevation that mining operations can only be carried on for about six months of the year. I have not been able to visit this important mining district yet, but hope to do so during the recess.

There is a large area of land in Otago having a very old quartz schist formation, and where this exists the overlying drifts are in most cases auriferous. The elevation in many places, however, prevents an adequate supply of water being obtained. This is the case, for instance, at Mount Criffel, Mount Buster, and the Old Man Range, where the supply of water is dependent on the melting of the snow. Last year 4,132 miners were employed in the alluvial workings in the Otago District: of these, 1,233 were Chinese.

Maerewhenua.

There is a considerable area of ground covered with auriferous drifts in this locality, but the expense in bringing in a large water-supply to the field is too great for individual miners. The number of miners on the field has varied very little for several years. Last year there were seventy-seven men employed in mining, and the gold obtained was 2,397oz., representing a value of £9,849, which is equal to about £128 11s. per man. This shows that even with a small supply of water on the field the miners here are doing better than on many of the other goldfields.

Mount Ida.

The Mount Ida field includes Taieri, Nenthorn, Hindon, Hamilton, Hyde, Kyeburn, Mount Buster, St. Bathan's, and the Upper Manuherikia Valley. In these localities 530 miners were employed in alluvial mining last year, of whom 180 were Chinese, and the quantity of gold obtained was about 13,880oz., representing a value of £55,583. In some parts of the field the miners are making only small wages, but in other parts rich yields are obtained.

In Naseby, where the largest population is situated, the ground is very poor, and it is only by having a good supply of water that the miners can earn even small wages.

Mount Buster.

This was known as Clark's Diggings in the early days, where very rich drifts were found in the beds of the small gullies; but as these shallow workings became exhausted the gold was traced into a large deposit of quartz drift, which has been worked every season since the discovery, yielding handsome returns. It is, however, only for about six months of the year that mining operations can be carried on, owing to the severe frost and the large quantity of snow which falls at this elevation—about 4,000ft. above the sea-level. The discovery was not only an important one to the lucky finder, but it has led to similar deposits being worked in other localities in Otago, with equally good results. From the explorations made by the Mining Geologist, there appear to be many places yet untouched which contain similar formations, and which are likely to prove remunerative for working by systematic methods on the hydraulic principle. Passing on from Mount Buster, at the foot of the range is the Kyeburn diggings, where a limited number of persons are said to be earning small wages. The line of quartz drift can be traced along the foot of the mountains through the Naseby field and into the Upper Manuherikia Valley, and similar drifts occur in almost every goldfield in Otago.

St. Bathan's.

The whole of the alluvial workings at St. Bathan's are in the same class of quartz drift as found at Mount Buster, and some of the claims in this locality are yielding handsome returns. One of them, belonging to Mr. John Ewing, has been giving a large yield for a number of years. Last season he washed up 800oz. of gold, and he has only eight men employed. The depth of the quartz drift at St. Bathan's has never yet been tested. Mr. Ewing is now down nearly 200ft., and no bottom has yet been reached. The gold occurs in bands and layers, and, from the manner in which this deposit lies, it must be one of the oldest auriferous drifts in Otago—being found in some places under 500ft. of "Maori bottom," belonging to the Miocene formation.

As the workings are being extended in this locality, the quartz-drift formation is likely to be found remunerative wherever a good supply of water can be obtained to command the ground at a sufficient elevation to admit of hydraulic elevators being used.

A short distance from St. Bathan's are Scandinavian Hill and Muddy Creek, where rich finds of gold have been obtained in the past, and payable results are likely to continue for the future.

Vinegar Hill and Welshman's.

Again at Vinegar Hill rich auriferous gravel drifts were found near the surface, and the gold was traced from these into deep ground, which seems from its formation to have been an ancient fresh-water lake. This is indicated by the large number of the vertebræ of small fish found in the beds of green silt sand-mud, which is now hardened to such an extent that it is difficult to disintegrate even with water under a high pressure. Mr. Ewing, who has been working a claim in this locality for many years, has recently got out of the green-sand formation and come on a deposit of quartz drift, which, judging from the prospects obtained, is likely to prove a valuable discovery. At Vinegar Hill and Welshman's there are several claims giving good returns.

Tinkers'.

This has been for many years the richest alluvial diggings in the colony. There is a comparatively small population, but the average yield of gold for the number of men employed for the last ten years has been considerably more than on any other goldfield in New Zealand. Last year, however, notwithstanding that there was a plentiful supply of water during the whole of the season, the quantity of gold obtained was not so great as formerly. The estimated yield last year was about 2,200oz., representing a value of £8,800, and about forty men were employed on the field.

Tuapeka.

This is the oldest field in Otago. It was discovered in 1861. The news of the discovery of gold in this locality reaching Australia was the means of inducing thousands of people to flock to our shores to try their luck at mining, while others came to follow commercial and other pursuits. The only indications remaining to mark the places where the crowded population was then residing, in Gabriel's, Weatherstone's, Munro's, and Waitahuna Gullies, are large deposits of tailings and old workings. Very few persons are now working in these gullies, but strange to say that after the ground in Gabriel's Gully has been turned over time after time there is still a company getting very good returns from washing the old tailings on the hydraulic elevating principle.

At the head of Gabriel's the famous "Blue Spur," from which a very large quantity of gold has been obtained, is now being worked in a face by an English company, who are blasting the brecciated material, breaking it up with picks and hammers, then lifting it with hydraulic elevators and sluicing it away. The results of this company's operations last year have been very satisfactory.

The auriferous brecciated material follows a fault-line across the country, and is found at Weatherstone's and Waitahuna. Probably other portions of it may pay for working on a similar principle to that adopted at the Blue Spur.

Included in the Tuapeka district is a portion of the Clutha Valley, and also the Waipori and Waitahuna goldfields. The results of the alluvial workings in this district last year were 26,070oz. gold, representing a value of £105,233; while 763 men were employed in the mines.

Clutha Valley.

There is a large area of auriferous drift-gravel in this valley, and also in the bed of the Clutha River. Several mining companies are carrying on hydraulic sluicing and elevating operations in this locality, amongst which may be mentioned the Island Block and Island Block Extended Companies. The results of the workings last year have given very satisfactory returns. The former Island Block Company, which is formed almost entirely of English capital, has entered into an agreement with Mr. Joseph Clark to work his freehold on his receiving a certain royalty. This company obtained last year about 2,000oz. of gold as a result of its operations. There are also three large hydraulic sluicing companies near Roxburgh—namely, the Hercules, the Hercules Extended, and the Roxburgh Amalgamated. The last-named company was fairly successful last year, and paid one dividend to the shareholders.

Every tributary of the Clutha, from the Lindis to the Pomahaka, has in the past carried

large quantities of gold into it, and may be said to be still doing so. There is scarcely an acre of ground in the valley of this river that is not auriferous; and, as the bed of the Clutha has been shifted from time to time, wherever any of the ancient beds are found large deposits of gold are obtained. The auriferous drifts in this valley will therefore take a long time to work out.

Old Man Range.

A considerable quantity of gold has been obtained from Campbell's, Potter's, Butchers', and Conroy's Gullies, also from the shallow gullies leading into Bald Hill Flat. The whole of the face of the Old Man Range above the latter place is highly auriferous, and in recent years a rich quartz lode has been discovered and worked by Messrs. Crossan and Gray. There are also two hydraulic elevating plants now working the ground on Bald Hill Flat with payable results.

Cromwell.

There are a number of sluicing claims on the banks and terraces alongside the Clutha and Kawarau Rivers, and also at Bannockburn. In the early days there was very rich ground at the latter place and a large number of miners were employed for a long time. The shallow workings are now all exhausted, and, although there is still a rich layer of auriferous gravel near the bottom, there is a great depth of material to sluice away containing little or no gold, which makes the general average value of the material low. There are still a good number of miners in the locality, but the greater portion of them are making only small wages.

Cardrona and Criffel.

The number of miners about Cardrona varies very little from year to year. As one portion of the field is worked, another is opened up. Last year some new ground was opened in the face of the range, on a line of quartz drift, which is likely to prove a valuable discovery. The same run of ground extends along Criffel face to the foot of Mount Barker. The ground is, however, at a high elevation, and the supply of water that can be got to command it is consequently limited. The drift does not contain sufficient gold to pay for working by any other method than hydraulic sluicing. Several of the miners combined together and brought in a water-race from the Roaring Meg, and constructed dams on the top of the range: these store the water for about sixteen hours. By this means several parties have each a small supply of water for about eight hours a day.

Last year there were about 1,200oz. gold obtained from Cardrona and 700oz. from Criffel. At the latter place only a few claims are being worked. The whole of the water brought on to the field is in the hands of one party, and sluicing operations can only be carried on for about six months of the year.

Arrow and Shotover.

The rich auriferous drifts obtained at the heads of the Arrow and Shotover Rivers have afforded profitable employment to a large number of miners for many years, and at the present time there are a number of claims which still continue to give good returns. The beds of these rivers have been cut down for some hundreds of feet below where the water originally flowed, causing numerous slides and slips from the sides of the ranges. The atmosphere and the action of the water have disintegrated the material from these slips and allowed the lighter particles to be carried away with the streams, leaving those of greatest density in the beds. No doubt, the action of the stones, and the large quantities of shingle travelling down the streams, ground the gold to such an extent that large quantities of it have been carried away in suspension in the water to the ocean; but, notwithstanding this, heavy deposits of gold have been found both in the wash-drift in the beds of the rivers and in the crevices of the bed-rock, which in places formed gigantic ripples for collecting the precious metal. The large undertaking of Miller Brothers at the Arrow Falls and at Londonderry Terrace on the Shotover, as well as the operations of Davis Brothers on Stony Creek Terrace, are all works where a considerable capital had to be expended in opening up the ground. Unless they were men with sufficient means at their command, they could never enter into mining ventures of this description. There are several other claims—such as Aspinal's at Skipper's Point, Smith's, Monk's, and Gemmel's at the Sandhills, and R. Johnston's on Pleasant Creek Terrace—which give excellent returns, year after year, when there is a good season for water. Some of these claims have been worked for thirty years, and it is said that from one of them over 30,000oz. have been obtained. When we have such large areas

and great depths of auriferous drifts as there are in some of the terraces on the Arrow and Shotover and other rivers, with streams carrying large volumes of water that could be lifted and conveyed along the side of the ranges, it must be admitted that the colony has valuable assets in these drifts. The time will come when more attention will be given to the conservation of water, and this will afford greater employment for the labouring classes. There are plenty of men who would rather work on a mere pittance on the goldfields, and be their own masters, with the chance of finding payable claims, than work for others. There is no class of men in the colony with more independent spirit and more intelligence than the gold-miner.

Wilson's River.

The number of men employed about Wilson's River is considerably less than last year, but gold is being discovered in other places in this locality, which keeps a fair mining population in the district. Last year there was a new discovery at Crayfish Island, and some rich deposits of gold-bearing drifts were found. This is a new district, very little explored, and one where there is a probability of good yields being yet obtained. On the mainland, very few persons have travelled through the country between Wilson's and the Waiau Rivers, where there is likely-looking country for gold to be found, but at present this locality may be termed *terra incognita*, as there is no road or track, and there are large and deep rivers to cross, which greatly militate against the district being prospected.

COAL-MINING.

I will now call the attention of honourable members to the progress of the coal-mining industry. Comparatively few years ago there were only three mines where bituminous coal was raised—viz., the Brunner, Coal-pit Heath, and the Coalbrookdale; but more recently a mine has been opened up at Blackball, and two mines at Mokihinui—the Cardiff and Mokihinui Mines; while large works are also now in progress to open mines at Granity Creek, near Ngakawau, in the Westport district, and at Coal Creek, in the Grey district. A mine has been in existence at Collingwood for a number of years, but the limited extent of the field, and the difficulty of getting the coal to a market, will always make the output from this mine very small.

The total number of coal-mines on the list last year was 153, but a large number of these are merely pits, or open cuttings, where lignite is worked in a face to supply local demands. Both lignite and brown coal are suitable only for local consumption, or within such a radius of the place where it is raised as will admit of its being sold at a cheap rate. So far as is yet known, the whole of the bituminous coal in the colony is confined to the west coast of the Middle Island, and, as this is the only class of coal we have suitable for ocean-going steamers, it is from the mines in this locality that we may in future look for a largely-increased output.

So far the coal-mining industry has progressed only in proportion to the growth of commerce and the number of new industries which have been established; and the output from the mines newly opened up and in progress will depend entirely on the trade that can be established with other countries. Foreign markets will have to be found before the coal-mining industry assumes large proportions. A great deal also depends on the further improvement of the harbours of the West Coast.

These works will have to be more advanced before we are able to send away large cargoes of coal to compete with coal from other countries in foreign markets, and even when the harbour-works are completed it will take a considerable time before a large trade can be established with other countries. As regards the price per ton, we cannot compete with the coal proprietors in China and Japan. It is only from the superiority of our coal that we can hope to succeed. Hence it is gratifying to find that at the tests made with different coal at the Woolwich Dockyard, the evaporative power of the Westport coal was placed higher even than that of the coal from the Welsh mines.

During the last year the output from all the mines in the colony was 691,548 tons, as against 673,315 for the year previous, showing an increased output for the year of 18,233 tons. The total quantity imported was—from Victoria, 1,383 tons; from New South Wales, 113,122 tons; and from Queensland, 2,939 tons; making a total of 117,444 tons This makes the total quantity raised and imported 808,992 tons; but of this, 24,288 tons were exported to other countries, and 50,838 tons were used in coaling direct steamers for Europe. However, this may be taken as consumption within the colony, as it is owing to the

extension of our commerce that these steamers are required. The total consumption of coal in the colony, therefore, last year was 784,704 tons, as against 770,599 tons for the previous year. This shows the increased consumption for last year to be 14,105 tons.

There has not been a great fluctuation in the import of coal for the last twelve years. During that period the import has ranged from 128,063 tons to 101,341 tons. Last year about 8,000 tons less than the previous year were imported. The import of coal is principally from New South Wales; and, as that colony is an outlet for a considerable quantity of New Zealand produce, kauri timber, &c., coal is carried as return cargo instead of ballast. Thus, if only the cost of loading and unloading be obtained, it pays better to carry coal than to come back in ballast, which has to be bought in the first instance, besides which there must be reckoned the cost of loading and discharging.

Notwithstanding that bituminous coal is the class we have to look to for an increased output, the last year shows a decrease in the quantity raised of 25,927 tons, while there was an increased output of 41,526 tons of pitch-coal and 6,694 tons of brown coal. The decrease in the output of bituminous coal last year was in a great measure due to the faults which have been met with in the Brunner Mine, and the flooding out of the Coal-pit Heath Mine. The latter mine has now been abandoned, but operations in the Brunner Mine are now being extended by opening up new workings. Operations have also been suspended in the Mokihinui Mine for most of the year. Two new mines have, however, been opened up, viz., the Blackball and the Cardiff, both of which now send coal into the market. The Westport Company also are constructing an incline to open up the Granity Creek Mine, and four sections of the railway from Cobden to Coal Creek are in course of construction; and when completed these works will enable coal to be put into the market from the Coal Creek and Hamilton and Smith leases. The output from the Brunner Mine was 40,065 tons less than the year previous.

The Blackball Company have constructed an aëriel tramway for three miles to connect their mine with the railway, over which about 400 tons a day can be sent. The same tubs used for bringing the coal out of the mine are hooked on and carried across on a wire rope to the bins, which are erected alongside the Greymouth–Reefton Railway at Ngahere. It is a pleasure to see this tramway working; and when people become better acquainted with the working of tramways of this description they will be more extensively used in transporting the coal from the mines to where it can be taken away. The cost of construction of tramways of this description is, in the first instance, not one-half that of a railway; and they can be taken across rough country, where grades for an ordinary railway could not be got.

A new coal-lease has been granted to a company at Hikurangi, and the work of opening up the mine is being rapidly proceeded with. There are two other coal-mines in this locality, and another lease has been applied for. The railway between Kamo and Hikurangi has recently been completed, so that coal from this field can now be brought to a port of shipment.

At Kawakawa the Bay of Islands Coal Company have abandoned the mine, but a lease of the area lately held by the Bay of Islands Company, of 640 acres, will shortly be issued to a new company. It is to be regretted that the Kamo Company, at Whangarei, had to abandon their mine in the beginning of the present year. This company carried on operations for several years at a loss, and finally had to succumb to circumstances. The land is freehold, and there is little hope of the mine being opened again. Last year the output from the Kamo Mine was considerably larger than it had been for some years previously.

At Ngunguru a small mine has been opened, having the best class of coal in the North Island, but, at the same time, it is inferior to the bituminous coal on the West Coast. However, the output will never be large, as vessels of more than about 8ft. draught cannot come into the port.

Earnings of the Coal-miners.

It is very difficult to get at the exact earnings of the coal-miners. In previous years it has been arrived at on the basis that it cost the mine-proprietors 6s. per ton to put the coal in the trucks or wagons ready to send it away to market or a port of shipment. If the same basis be taken this year, the earnings of the miners would be £202,464 8s. The average number of men employed in the coal-mines last year being 1,888, this would give an average wage of £107 4s. 8d. a man per annum. The number of men employed in the coal-mines for the previous year being 1,693, the average wage was equal to £119 7s. 1d. a man per annum. The average output per man last year was 366 tons, as against 400 tons

for the year previous. The lower output last year is accounted for by the large amount of dead-work in opening up the Cardiff, Granity Creek, the new mine at Brunner, and the Hikurangi mines.

METALLIFEROUS MINING.

Very little has yet been done in metalliferous mining, other than gold and silver, in the colony, owing, in a great measure, to the difficulties there are to contend with, not only in getting machinery and appliances on the ground, but also in getting men with sufficient capital to open out and work the mines. The attention of those persons who put their money into mining is generally directed to gold only.

No doubt several companies have been formed to work metalliferous ores in the colony, but their failures in many instances have been due to want of sufficient capital to prosecute the work. When once the limited capital first available was expended, the small number of men who would invest their money in undertakings of this character rendered it almost impossible for any company that in the first instance proved unsuccessful to get fresh capital to assist them in continuing their operations. The extremely rough and broken nature of the country where ores are found, makes the difficulty of access very considerable, which greatly increases the cost of working metalliferous mines. The only ores of this character that are at present worked are antimony and manganese.

Manganese.

There are large quatities of manganese in the colony, but its low value will not admit of costly transit to a port of shipment; and it is only when the ore can be got near the ocean-beach, where vessels can come to load, that it can be made remunerative for working.

Hitherto mining for this ore has been confined principally to the Auckland District—at Whangarei, Bay of Islands, and Waiheke Island. There is some very rich ore in the Otago District, near the mouth of the Taieri River, but it has not been found in sufficient quantity to work remuneratively. During the last year 319 tons were exported, representing a value of £943.

Antimony.

The principal workings of antimony-ore are at Endeavour Inlet, Queen Charlotte Sound, the present company being the third one to embark in the undertaking. The two former companies failed to make the venture payable, and after spending a large capital in opening up the mine, and in placing machinery and appliances on the ground, the mine was disposed of to the present company. Considerable sums of money have been expended in the erection of furnaces to produce crude antimony, and failure after failure ensued, until recently, when Mr. Seagar, ironfounder, of Wellington, invented a process whereby, it is hoped, crude antimony will be produced at a comparatively small cost. It is stated that by this process one cord of firewood is sufficient to produce one ton of crude antimony. This process has now been working for three months continuously, and, so far, has given every satisfaction. The slimes of the antimony-ore, which were until recently considered a waste product, are now converted into a marketable commodity. If the process is successful, it has overcome one of the greatest difficulties in the way of the production of antimony from its ore that has been experienced in all the countries of the world where this metal is obtained. It is stated that the cost of production is so small that, even at the present low price of star antimony, it can be delivered in the Home markets at such a rate as to leave a fair margin of profit. This process, when it becomes generally known, may have the effect of reopening other antimony mines, at Waipori and elsewhere. Last year there were 331 tons of antimony and antimony-ores exported, having a value of £3,467.

Cinnabar.

Prospecting operations were carried on last year with a view of finding a lode of cinnabar at Puhipuhi, but, so far, no lode has yet been discovered. The cinnabar is found amongst the gravel washdrift in the bed of a small creek in small rounded pellets. About 75lb. of cinnabar has been collected by washing the drift, and in all probability this mineral will yet be traced into the solid country, where it will be found *in situ*. A sample of this ore was sent to the Colonial Laboratory for analysis. This proved to contain about 84 per cent. of quicksilver. A syndicate has also been prospecting a lode containing cinnabar at Ohaeawai, but the ore is of a very poor quality. Quicksilver is found in the black mud at the hot pools at Ohaeawai, which have been liberated from a lode containing cinnabar alongside these pools; the heat of the ground, together with the alkali it contains, being sufficient to distil the quicksilver from the ore.

Scheelite.

In some parts of the Middle Island there are quantities of scheelite, which, at the present price offered, viz., 10s. per unit, delivered on shipboard at either London or Liverpool, ought to pay for its production. Scheelite is found at Bucklerburn, Waipori, Hendon, and other places in Otago, and at Wakamarina in Marlborough. Inquiries have been made by Messrs. Blackwood and Company, of Liverpool and London, regarding this mineral, and they offer to take about 200 tons per annum at the price stated.

Kauri-gum.

Notwithstanding the many years that have elapsed since kauri-gum digging became an industry capable of supporting a large population, the amount raised every year shows that there is still a considerable quantity to be obtained. Last year 8,317 tons were exported, having a market value of £510,775, whereas in the former year there were exported 8,705 tons, valued at £517,678. In addition to this there is a certain quantity of gum used in the colony for making varnish, and also in gas-works. The price of the gum, as shown by the Customs returns, gives, however, but a poor idea of what the gum-digger actually obtains from the storekeeper. The price varies in accordance with the quality of the gum. The local price for low quality of gum, washed nuts, is from £10 to £15 per ton. For unpacked ordinary well-scraped gum, of which there are two qualities—namely, ordinary dark gum, £25 to £30 per ton, and for good, hard black gum from £35 to £45 per ton. The best gum (rescraped) brings £80 per ton, and in some cases it is said that special samples have realised as much as £140 per ton. What is known as tree-gum—that is, gum lodged in the forks of trees, and exudations—is worth about £20 per ton in its native state, but when rescraped it brings from £45 to £50 per ton. Before shipping to the Home market all the gum is re-sorted and classified; and, although the prices paid for some samples are very small, when the gum comes to be classified, the average value of the product for last year was £61 8s. 3d. per ton, which includes the price of boxes, freight, and commission.

It is difficult to arrive at the number of men engaged in this industry so as to estimate their average earnings, but, from what can be learned in the gum-digging districts, the earnings do not exceed those of the gold-miners. The gum-digger has, however, one great advantage over the gold-miner in that he requires no expensive outfit to enable him to carry on his operations, a spade, spear, haversack, and jack-knife being all that he requires.

This industry affords a means of livelihood to a large number, both of the European and Native population. From what is known respecting the earnings of the gum-digger there must be at least 7,000 people employed in this industry, as it is maintained that their average wage would not amount to £1 10s. per week. Wherever there is land in the North suitable for settlement the settlers can always earn a little money by gum-digging when not engaged in cultivating the soil, thus affording them a means of getting ready money to purchase any necessaries they require beyond what they produce. The gum industry, therefore, forms a very important element in the prosperity of the northern portion of the colony.

ROADS AND TRACKS.

I now come to the question of roads and tracks, which are essential for opening up the lands of the colony, and nowhere more so than in the gold-mining districts. The rugged, broken, and precipitous nature of the country where quartz-mining operations are carried on renders roads and tracks necessary in every direction, for without them it is impossible to get machinery or supplies on to the ground. Already large sums have been expended in the construction of works of this character, but the extension of mining operations demands a further expenditure on roads and tracks to give ordinary facilities for prospecting the country, and supplying the wants of those engaged in the development of our mineral resources; also to enable machinery to be placed on the ground where auriferous deposits of a payable character have been found. In many instances these roads tend not only to open up new mines, but they also give great facilities to people taking up small plots of land to make homes for themselves and to dispose of their produce amongst the mining community. Although the land may not be of very good quality, any small flats are eagerly sought after by the miners, who, in addition to their ordinary avocations, are quite prepared to take them up and do a little cultivation in their spare time, and thus become permanent settlers.

The cost of roads and tracks authorised last year was £23,958, and the actual expenditure £18,275. Of this amount, £15,506 was expended by direct grants, £2,719 by subsidies to local bodies. The liabilities on works of this character on the 31st March last were

£18,590. During the last twelve years that the Minister of Mines has had control of this vote the expenditure has amounted to £215,516. Of this amount, £140,502 was in direct grants, and £75,014 by subsidies, the local bodies during the same period having contributed £49,620.

From the nature of the country in which mining is generally carried on, the cost of constructing roads and tracks to enable machinery to be brought on to the ground, and give facility for the mines being opened up, is far beyond the amount that could be raised by local bodies in mining districts by the present system of rating, which has now reached the highest limit allowed by law. Since the Crown and Native Lands Rating Act has been dispensed with, even the present high rates are inadequate to maintain the present roads and tracks. It has, therefore, become absolutely necessary for the Mines Department to come to the assistance of the local bodies.

The following are the rates levied in the pound in the different goldfields counties: Coromandel, 1½d.; Thames, 1½d.; Ohinemuri, 1½d.; Piako, ½d.; Marlborough, no rate levied by the county, but there are six Road Boards in this county which levied different rates; Collingwood, ¾d.; Road Boards in Collingwood County, ¾d.; Buller, 1½d. general rate and ½d. special rate; Inangahua, 1½d.; Grey, 1½d.; Westland, 1½d.; Tuapeka, ¾d.; Vincent, ¾d.; Lake, 1d.; Maniototo, ¾d.; Southland, ¾d. general rate and ⅛d. special rate. It will thus be seen from the foregoing that the goldfields counties in the North Island and on the west coast of the Middle Island are rated up to the fullest extent the law permits.

WATER-RACES.

The most essential adjunct to mining, especially in systematically working auriferous drifts, is a good supply of water; and it behoves us in granting water-rights to take care that the whole of the water comprised in these rights is properly utilised, inasmuch as the number of men who can be profitably employed on our goldfields depends in a great measure on the quantity of water that can be brought to command the ground. When one comes to see the extensive areas of auriferous drifts on the West Coast, and also on the goldfields of Otago, the impression is that were there a larger supply of water there would be a considerably increased population earning a competent livelihood.

The returns furnished by the Wardens show the value of water-races on the goldfields, exclusive of those constructed by the Government, to be £821,020, while the value of tail-races, dams, and reservoirs amounts to £379,634. In addition to this the value of water-races constructed by the Government in the Middle Island is £346,687. Two of these —namely, the Waimea-Kumara and the Mount Ida Water-races—are controlled by the department. The total expenditure on these two water-races has been £241,290, and the net profit, including the duty on the gold obtained from claims worked with water from water-races controlled by the department before the gold duty was abolished, has been £79,357 9s. 6d. The Waimea-Kumara Water-race cost £171,655, and the total value of the sales of water, since its construction about sixteen years ago, has been £132,820; while the total expenditure during this period has been £80,545. This leaves a net profit, exclusive of the duty on gold before its abolition, of £52,275. The net profit last year was £3,574. The demand for water from the Waimea portion of the race is gradually getting less, but a new branch is being constructed, and when this is completed it will enable the miners to work an extensive area of land on which auriferous drifts are known to exist, but which could not be profitably worked without a large supply of water. The expenditure on this branch up to the 31st March last was £1,908, and another £2,400 will have to be spent before it can be brought to a profitable issue.

The Kumara portion of the water-race has in the past given a large percentage on the cost of construction, but it will require extension to open up fresh ground so that the whole supply of water can be fully utilised. Although the net profits on the working have been large, the other expenditure in connection with subsidising the construction of tail-races to allow the ground to be worked has absorbed a considerable portion of the profits, and this expenditure will have to be continued in the future as the working of the claims is extended. One tail-race is now in course of construction, which has been subsidised to the extent of £1,500, and another will have to be made to allow the ground to be worked lower down the flat, which will require to be subsidised to a similar amount. The sales of water last year amounted to £5,582, while the expenditure on maintenance was £1,917, leaving a net profit on the working of £3,665.

The Mount Ida Water-race, which was formerly managed by a Trust, showed up to the beginning of last year a net loss on the working of £3,595. The Trust was abolished at the end of 1892; and since then sales of water have amounted to £1,422, while the expenditure on maintenance has been £1,013, showing a net profit on the working of £409. When the Government took over the race it was in very bad repair, and an expenditure of £2,837 had to be incurred before sufficient revenue to maintain it could be expected. This water-race is a valuable asset to the colony, for if the water could not be sold for mining purposes it could be used for irrigating the Maniototo Plains, and thus convert a large area into good agricultural land.

The water-race which was purchased from the Official Assignee in the estate of R. Johnston at the same time as the Government took over the Mount Ida Race cost £1,000. The net profit on working these two water-races last year was £104. A small expenditure will have to be made on these races next spring for clearing them out, so that a larger supply of water can be sent down to miners working in the vicinity of Blackstone Hill.

The Nelson Creek Water-race was previously leased, but the lease expired in August last, and fresh tenders were called for leasing it for another term. However, after the lease had been accepted, one of the principal bridges came down, and as all the bridges are greatly decayed the lease was given up. It would cost about £25,000 to renew the bridges, and the Government do not consider it advisable to expend any money in this direction. They will, however, be quite prepared to entertain proposals from responsible persons either to renew the bridges and flumes, or to reconstruct a portion of the race so as to do away with them, and to supply water to the miners in the district at a rate to be agreed upon.

PROSPECTING.

There are large areas both in the North and Middle Islands where scarcely any prospecting has as yet been done. In order to get systematic prospecting operations established it will be necessary for the Government to grant assistance, not only towards opening up new fields, but also to test the ground at greater depths than have hitherto been worked. The latter remark applies, of course, to quartz lodes only. It is well known in the colony, and also in other gold-bearing countries, that auriferous quartz found in lodes is in shoots and ledges. These generally occur in certain belts of country having barren places between them. At the same time, when rich auriferous quartz has been worked profitably on the upper levels, and the same formation continues to go down, gold-bearing stone is likely to be again found at a lower level. None of the lodes in the colony have yet been worked to any great depth. The deepest shaft—that of the Queen of Beauty at the Thames—is only about 748ft., and gold-bearing stone was got in the lowest level from this shaft. The Kapanga Mine, at Coromandel, has been worked for the last sixteen years by an English company, which has been reformed. This company has expended a large capital in opening up and developing the mine without being rewarded for their outlay. In order to test the deep levels in the mine the main shaft has been continued, and it is now down to a depth of 720ft., a small lode containing auriferous stone having been cut. The workings in the Keep It Dark Mine have also been carried down to a depth of over 700ft., and gold has been found in the lode, although not of a payable character for working. A payable lode has, however, recently been cut in the Larnach Tunnel at the Lyell, which has been carried into a range at a low level for a distance of about 3,200ft. This indicates that there is a fair probability of gold being struck at much lower levels than have yet been reached. In support of testing auriferous lodes at deep levels, I would call the attention of honourable members to the experience gained on the goldfields of Victoria, where, in some instances, when the lodes gave out at a depth of 750ft., new lodes were discovered at a depth of 1,500ft., having a blank between those depths at which no lode was found. This occurred in Mr. Landsell's No. 180 Mine at Bendigo, and where payable returns were got at a depth of nearly 2,000ft. If it is found that the lodes in this colony can be proved to be payable for working to great depths, it will give a new lease of life to quartz-mines. The large number of men employed in this class of mining, and those depending on them, deserve every encouragement, and some assistance should be granted to test the deep levels. If the test proves successful, a new era will be opened up in the history of mining in the colony, and profitable employment will be afforded for a much larger population.

With the view of obtaining all information regarding the likelihood of finding gold-bearing quartz at greater depths than have hitherto been worked, an arrangement was made with the Government of Victoria to send a mining geologist to visit this colony to make an

examination of our auriferous lodes in the different mining districts. A report by Mr. R. A. F. Murray, F.G.S., of the Mines Department of Victoria, on this subject has been laid on the table.

Encouragement should also be given to mining associations and local bodies to enable them to prospect the back-country. It is not to be assumed that every party will meet with success, but a great deal of useful work has been done in the past in this direction by prospecting associations. In particular, I may mention the Rimu Prospecting Association on the West Coast, which has carried on operations in a systematic and economical manner for several years, and has recently opened up a new field between the branches of the Kanieri River. The extent of this is not yet known, but sufficient gold has been got to warrant mining operations being carried on.

It may also be noted that it was with Government assistance that the lode now being worked by the Waihi Gold-mining Company, at Waihi, from which excellent returns are being obtained, was first discovered. There is yet plenty of country comparatively unexplored, or where, at least, no prospecting has been done, which is likely to contain a vast amount of mineral wealth, and the large number of people employed in mining are entitled to some recognition of the benefits the colony has derived from their labours in the past, by granting them some assistance towards developing the industry in the future.

The total amount expended in subsidies for prospecting during the past twelve years has been £15,713, the amount expended last year being £1,592.

GEOLOGICAL EXPLORATION.

During the past year, Mr. A. McKay, the Mining Geologist, was engaged in exploring and tracing the auriferous quartz drifts in Otago, and the result of his explorations is likely to be the opening-up of new ground in this locality. Wherever these old quartz drifts occur they are found to be gold-bearing, and to contain layers or bands which are extremely rich. This has been the case at Mount Buster, St. Bathan's, Tinkers', and elsewhere.

It is intended to get the whole of the goldfields of the colony carefully examined, and a geological map prepared showing the different formations, their sequence and major faults or displacements, as far as can be gathered from an examination of the country, so that in time we may have a reliable map which will be a great guide to those who carry on prospecting operations in search of gold or other minerals. A map of the Otago goldfield east of Lake Wakatipu, explored last year, has been published with departmental reports.

I would also call the attention of honourable members to a geological report and map prepared by Mr. James Park, who has been employed as Instructor and Lecturer at the Thames School of Mines for the last five years. The information was obtained in the prosecution of his duties, and while exploring the field with his students. The lodes with their displacements and breaks are shown on the map, and can be seen by any one at a glance.

MINING MACHINERY.

In order to give all the latest information with regard to mining machinery and appliances for the reduction and treatment of metalliferous ores, I have directed that full publicity be given in the departmental reports of any system brought under the notice of the department which would be likely to prove of interest to persons connected with mining. It is only by new appliances and improvements in mining machinery that we can hope to arrive at a more perfect and economical method for the recovery of metals so as to make our numerous low-grade ores pay for working. In the Inspecting Engineer's report on Goldfields, pages 125 to 150, will be found several descriptions and plans of mining machinery and processes for the treatment of auriferous ores.

SCHOOLS OF MINES.

The progress made by the students attending the Schools of Mines has induced the Government to grant a scholarship for a term of three years at the Otago University to one student from each of the schools at the Thames, Reefton, and Dunedin, on their getting the number of marks prescribed by the regulations. The subjects for examination are: Mining, Pumping and Winding, Ventilation of Mines, the Composition and Use of Explosives, Mining and Land-surveying, Geology, and Drawing. To be able to pass in some of these subjects, students will require to have a good knowledge of mathematics, and therefore this subject was not made compulsory. These scholarships are offered as an incentive to young men to continue their studies at these schools.

It is gratifying to know that most of the students who have attended the Thames School, and passed through a three-years course, have readily obtained employment—some as assayers to mining companies, others being employed by the Cassel Company in carrying on leaching operations with cyanide of potassium. A number of middle-aged men have also attended the evening classes, which enabled them to pass their examinations and obtain certificates as mine-managers.

The average number of students attending the Thames School during the last year was ninety-one; of this number, forty were regular students, and fifty-one attended Saturday lectures only. Thirteen parcels of ore were treated with the experimental plant, amounting in the aggregate to 21,610lb. All appliances necessary to treat pulverised ore by the cyanide process have been added to the experimental plant, so that any one can now have small parcels of ore tested by the most modern methods at a reasonable cost.

The progress made at the Reefton School during the past year has not been so good as formerly: this is due to the conductor having to give more of his time to outlying schools on the West Coast. It is found that unless continuous teaching is adhered to a good attendance cannot be secured, neither can satisfactory progress be made.

There was a good attendance at the School of Mines at Dunedin last year. The course of lectures at this school occupies a term of six months in the year, during the vacation many of the students going to work in the mines; so that, as far as technical teaching is concerned, the students at the Thames School pursue their studies for a longer space of time in a three-years course than the Dunedin students do in four years.

The total expenditure on Schools of Mines since their inauguration, exclusive of the amounts contributed towards the School of Mines connected with the Otago University, has been £12,896; of this amount £1,604 has been expended on buildings, £943 on chemicals and school requisites, and £10,349 on salaries of instructors. Last year the expenditure amounted to £1,056. The total contribution given towards the School of Mines at the Otago University, including £500 paid last year, amounts to £4,250.

SUMMARY OF EXPENDITURE ON WORKS.

The total value of works authorised since votes were placed under the control of the Minister of Mines has been £439,325. Of this amount, £323,561 was paid by Government, and £94,246 by local bodies, prospecting associations, and mining companies. These works consist of subsidised roads and tracks, £130,220; roads constructed by direct grants, £153,530; water-races, £56,847; drainage-channels, £21,401; prospecting-works, £53,153; wharves, £436; diamond and other drills, assistance given towards the treatment of ores, and artesian-well boring, £6,590; Schools of Mines, inclusive of the amount paid towards the school in connection with Otago University, £17,145; making a total of £439,325. Of this amount the Government has paid £323,561, and the liabilities on the works in progress on the 31st March last amounted to £21,518. A detailed statement of the cost and expenditure on these works will be found in the tables annexed to the report of the Inspecting Engineer, pages 238 to 246.

MINING LEGISLATION.

I have deemed it desirable to have a consolidation of the Mining Companies Act, and a Bill has been prepared accordingly. The only alteration proposed is in regard to the transfer of shares, it being intended to make more stringent provisions to enforce registration. It is also proposed to enforce the winding-up of mining companies which cease to hold three consecutive meetings of shareholders, and to make the Official Assignee liquidator of such companies. This is found necessary, as there are companies in existence which do not hold any mining property, but are, nevertheless, required to make yearly returns, and some of these companies have held no meetings for years, the directors taking no interest in the matter. The date of publishing returns from the month of January to the month of March will also be altered, so as to give time to get the necessary information from companies whose head offices are not in the colony.

It is also proposed to ask Parliament to vote a considerable sum of money this session in order to meet the growing demands which necessarily arise in the mining districts,—

1. For aid to further develop the lower levels in quartz-reefing districts;
2. For the construction of water-races and storage reservoirs;
3. For compensation arising from the proclamation of rivers, streams, and creeks as watercourses into which tailings and other *débris* can be deposited;

4. For the payment of compensation for the resumption of land held under occupation licenses and residence sites.

As a very large amount will be required for some years to come, it is to be hoped that Parliament will see its way to give the necessary assistance by annual appropriations, in order to allay the feeling which seems to be gaining ground in our mining centres that the encouragement Parliament always seems willing to afford the farming, dairying, and other industries of the colony is gradually being withheld from the mining industry.

Provision will also be made for battery superintendents to have full control of and be responsible for all the machinery and appliances for the reduction and treatment of ore, where cyanide of potassium and other chemicals are used. Further provision will also be made for carrying on dredging operations on foreshores.

CLAIMS FOR REWARDS.

As a large number of petitions are presented to the House every year claiming rewards for the early discoveries of many of the goldfields, I think it would be desirable for the House to express some general opinion on this question. Rewards for the discoveries of future goldfields are provided for in the existing regulations.

CONCLUSION.

In concluding my remarks, I would point out that the mining industry has formed a large factor in the advancement of the colony. From 1861 to 1866 emigration poured in from all parts of the world, and a large number of people found profitable employment on our goldfields. Many of these made considerable sums of money in following up a digger's life, which they invested in the purchase and cultivation of land. Many people from the Australian Colonies were also attracted here by the discovery of gold, bringing considerable sums of money with them, and making homes for themselves in the colony, which possesses an invigorating climate, a great extent of rich arable and pastoral land, large areas containing auriferous drifts, metalliferous and mineral lodes, and a quality of coal which cannot be surpassed, together with almost an unlimited water-supply, which can be utilised as a motive-power to drive machinery. New Zealand is pre-eminently a country suitable for mining, for the establishment of industries, and the investment of capital. The mining industry opens up a field for the employment of the working-classes whereby they can earn an independent livelihood; but, in order to give greater facilities for the extension of this industry, a further expenditure is required in opening up the country by roads and tracks, and in granting assistance towards the development of our mineral wealth. By so doing we will open up new fields where our surplus labour can be profitably utilised; and, if men cannot make large wages, they will at least earn a fair livelihood. The proposed legislation to give a good tenure to small plots of land on the goldfields will give the miners an incentive to remain on the land, and to employ their spare labour in the cultivation of the soil.

I trust my lengthened remarks on mining have not wearied the honourable members. The importance of the question demands considerable attention; and, as we have a large extent of hilly country which is only suitable for pastoral and mining pursuits, it is our duty to utilise this to the best advantage, and furnish a means of enabling the working-classes to find profitable employment.

No. 1.

TABLE showing the COMPARISON in QUANTITY and VALUE of GOLD ENTERED for EXPORTATION, and also the QUANTITY and VALUE of other MINERALS produced, for the Years ending the 31st December, 1892 and 1893; as well as the TOTAL VALUE since January, 1853.

Name of Metal or Mineral.	For Year ending the 31st December, 1893.		For Year ending the 31st December, 1892.		Total from the 1st January, 1853, to the 31st December, 1893.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Precious metals—	Oz.	£	Oz.	£	Oz.	£
Gold	226,811	913,138	238,079	954,744	12,535,107	49,300,999
Silver	63,076	9,743	22,053	3,996	667,762	153,887
Total gold and silver	289,887	922,881	260,132	958,740	13,202,869	49,454,886
Mineral produce, including kauri-gum—	Tons.	£	Tons.	£	Tons.	£
Copper-ore	..	..	..	..	1,394¼	17,866
Chrome-ore	..	..	..	..	5,666	37,367
Antimony-ore	331	3,467	364	4,900	3,481	49,507
Manganese-ore	319	943	521	1,239	17,296½	56,107
Hæmatite-ore	..	..	..	..	52½	226
Mixed minerals	37	650	84	631	14,189	70,322
Coal exported	69,136	72,699	78,911	80,225	658,411	659,882
Coke exported	51	53	4,306	5,691	15,843	23,643
Coal, output of mines in colony	622,412	311,206	594,404	297,202	7,684,997	3,842,408
Kauri-gum	8,317	510,775	8,705	517,678	160,040½	6,860,196
Total quantity and value of minerals	700,603	899,793	687,295	907,566	8,561,370¾	11,617,524
Value of gold and silver, as above ..	..	922,881	..	958,740	..	49,454,886
Total value of minerals produced, including gold and silver	..	1,822,674	..	1,866,306	..	61,072,410

No. 2.

TABLE showing the QUANTITY and VALUE of GOLD ENTERED for EXPORTATION from NEW ZEALAND for the Years ending the 31st March, 1893 and 1894, and the TOTAL QUANTITY and VALUE from 1857 to the 31st March, 1894.

District and County or Borough.	Year ending 31st March, 1894.		Year ending 31st March, 1893.		Increase or Decrease for Year ending 31st March, 1894.		Total Quantity and Value from January, 1857, to 31st March, 1894.	
	Quantity.	Value.	Quantity.	Value.	Increase.	Decrease.		
AUCKLAND—	Oz.	£	Oz.	£	Oz.	Oz.	Oz.	£
County of Coromandel ..	6,049	24,548	6,647	26,549	..	598	..	..
County of Thames ..	14,082	57,213	13,974	55,800	108	..	..	..
County of Ohinemuri ..	24,950	103,614	14,017	57,953	10,933	..	..	..
County of Piako	479	1,957	503	2,014	..	24	..	..
County of Whangarei ..	..	..	5	15	..	5	..	..
Borough of Thames ..	6,866	27,680	5,906	23,518	960	..	..	..
Te Aroha Town District ..	..	..	..	..	..	..	..	..
	52,426	215,012	41,052	165,849	11,374	..	1,789,951	6,731,545
WELLINGTON	..	..	..	..	..	..	188	706
MARLBOROUGH—								
County of Marlborough ..	2,262	9,037	3,055	12,083	..	793	..	..
Blenheim Borough ..	..	..	..	..	..	..	..	..
Picton Borough	..	..	..	..	..	..	..	..
	2,262	9,037	3,055	12,083	..	793	79,118	307,655
NELSON—								
County of Waimea ..	181	674	60	230	121	..	..	..
County of Collingwood ..	1,998	7,467	2,732	10,379	..	734	..	..
	2,179	8,141	2,792	10,609	..	613	244,982	969,543
WEST COAST—								
County of Buller	15,642	62,561	15,832	63,420	..	190	..	..
County of Inangahua ..	28,015	112,074	24,662	98,613	3,353	..	..	..
County of Grey	21,663	86,650	24,545	98,141	..	2,882	..	..
County of Westland ..	28,560	114,244	30,813	123,312	..	2,253	..	..
Brunnerton Borough ..	..	..	..	..	..	..	..	..
Kumara Borough	715	2,861	1,078	4,211	..	363	..	..
Hokitika Borough ..	418	1,670	916	3,665	..	498	..	..
Ross Borough	3,917	15,668	3,790	15,161	127	..	..	..
Reefton Borough	..	..	..	..	..	..	..	..
	98,930	395,728	101,636	406,523	..	2,706	5,432,065	21,581,825
CANTERBURY	..	..	..	..	..	..	48	192
OTAGO—								
County of Taieri	952	3,644	1,217	4,689	..	265	..	..
County of Tuapeka ..	26,070	105,233	21,681	87,848	4,389	..	..	..
County of Vincent ..	18,298	73,858	16,125	64,934	2,173	..	..	..
County of Maniototo ..	10,656	43,056	10,779	43,528	..	123	..	..
County of Waihemo ..	1,778	6,917	2,607	10,146	..	829	..	..
County of Waikouaiti ..	496	1,936	665	2,452	..	169	..	..
County of Waitaki ..	2,397	9,849	1,796	7,355	601	..	..	..
County of Bruce	131	525	..	..	131	..	..	..
County of Lake	15,175	61,198	14,977	59,943	198	..	..	..
County of Wallace ..	4,855	19,629	5,611	22,746	..	756	..	..
County of Fiord	340	1,363	632	2,570	..	292	..	..
County of Southland ..	3,664	14,722	3,999	16,052	..	335	..	..
County of Stewart Island ..	85	340	15	60	70	..	..	..
County of Clutha	8	32	..	..	8	..	..	..
Unknown	..	..	20	80	..	20	..	..
Borough of Alexandra ..	..	..	..	..	..	..	..	..
Dunedin	..	..	..	..	..	..	..	..
	84,905	342,302	80,124	322,403	4,781	..	5,054,592	19,975,412
Totals	240,702	970,220	228,659	917,467	12,043	..	12,600,944	49,566,878

No. 3.

TOTAL QUANTITY and VALUE of GOLD ENTERED for DUTY for EXPORTATION from the 1st January, 1857, to the 31st December, 1893. (This return shows the produce of the various goldfields. Gold entered at Nelson from Hokitika, Greymouth, and Westport is put under the head of "West Coast," and from Invercargill and Riverton under the head of "Otago.")

Year.	Auckland.		Nelson.		Marlborough.		West Coast.		Otago.		Wellington.		Canterbury.		Total.	
	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.
		£		£		£		£		£		£		£		£
1857 ..	..	..	10,437	40,422	..	..	..	..	..	..	..	..	..	..	10,437	40,422
1858 ..	308	1,192	13,226	51,272	..	..	..	..	..	..	..	..	..	..	13,534	52,464
1859 ..	..	..	7,336	28,427	..	..	..	..	..	..	..	..	..	..	7,336	28,427
1860 ..	..	..	4,538	17,585	..	..	..	..	..	..	..	..	..	..	4,538	17,585
1861 ..	..	..	6,335	24,552	..	..	..	..	187,696	727,321	..	..	..	..	194,031	751,873
1862 ..	1,239	4,098	10,422	40,386	..	..	..	..	399,201	1,546,905	..	..	..	..	410,862	1,591,389
1863 ..	4,483	13,853	9,580	37,120	..	..	..	..	614,387	2,380,750	..	..	..	..	628,450	2,431,723
1864 ..	3,448	10,552	14,410	55,841	24,838	95,231	1,463	5,560	436,012	1,689,653	..	..	..	..	480,171	1,856,837
1865 ..	5,449	17,096	12,137	47,030	7,952	30,814	289,897	1,127,370	259,139	1,004,163	..	..	..	..	574,574	2,226,474
1866 ..	5,814	17,463	7,650	29,643	469	1,818	552,572	2,140,946	168,871	654,647	..	..	..	..	735,376	2,844,517
1867 ..	6,637	18,277	9,123	35,918	501	1,978	511,974	2,018,874	158,670	623,815	..	..	..	..	686,905	2,698,862
1868 ..	53,660	168,874	5,999	38,396	404	1,616	405,762	1,608,844	171,649	686,596	..	..	..	..	637,474	2,504,326
1869 ..	132,451	434,687	10,631	42,524	666	2,664	317,169	1,269,664	153,364	613,456	..	..	..	..	614,281	2,362,995
1870 ..	85,534	319,146	12,244	48,692	1,852	7,408	280,068	1,121,525	165,152	660,694	30	120	..	..	544,880	2,157,585
1871 ..	330,326	1,188,708	10,014	40,056	1,867	7,468	232,882	931,528	154,940	619,760	..	..	..	..	730,029	2,787,520
1872 ..	104,890	369,341	8,175	32,700	2,057	8,228	172,574	690,296	157,674	630,696	..	..	..	..	445,370	1,731,261
1873 ..	119,449	437,123	13,697	54,786	1,274	5,050	188,501	756,442	182,416	734,024	..	..	..	..	505,337	1,987,425
1874 ..	76,910	305,068	5,642	22,158	1,198	4,748	157,531	631,203	135,107	542,154	..	..	..	..	376,388	1,505,331
1875 ..	69,485	262,156	4,577	17,866	1,159	4,636	158,678	635,480	121,423	487,632	..	..	..	..	355,322	1,407,770
1876 ..	56,057	221,905	14,018	55,862	450	1,796	133,014	531,274	118,477	473,491	..	..	..	..	322,016	1,284,328
1877 ..	99,081	403,627	5,367	21,092	870	3,197	153,198	612,823	113,169	455,341	..	..	..	..	371,685	1,496,080
1878 ..	55,982	220,454	4,463	17,223	404	1,617	144,634	578,508	105,003	422,277	..	..	..	..	310,486	1,240,079
1879 ..	37,901	154,295	2,993	11,424	879	3,460	142,822	571,061	102,869	407,868	..	..	..	..	287,464	1,148,108
1880 ..	42,720	176,416	3,222	12,223	1,550	5,650	144,090	575,258	113,666	457,705	..	..	..	..	305,248	1,227,252
1881 ..	35,516	141,326	3,453	13,039	1,378	4,531	127,544	509,971	102,670	411,923	..	..	..	..	270,561	1,080,790
1882 ..	33,059	131,007	3,289	12,494	1,352	5,400	130,048	519,978	83,446	333,804	10	37	..	..	251,204	1,002,720
1883 ..	41,291	163,618	2,064	7,724	636	2,524	116,905	467,152	87,478	352,334	..	..	..	..	248,374	993,352
1884 ..	36,087	143,564	2,159	8,002	1,079	4,306	111,686	446,517	78,810	318,932	101	380	24	96	229,946	921,797
1885 ..	42,989	170,416	2,798	10,337	540	2,160	117,861	471,325	73,183	294,378	..	..	..	..	237,371	948,615
1886 ..	32,271	128,140	2,582	9,979	404	1,451	112,671	446,287	79,104	317,543	47	169	..	..	227,079	903,569
1887 ..	30,697	121,564	2,914	10,829	1,041	3,759	98,774	395,430	70,443	279,518	..	..	..	..	203,869	811,100
1888 ..	35,223	139,556	3,027	11,320	699	2,547	100,139	400,405	62,107	247,142	..	..	24	96	201,219	801,066
1889 ..	28,655	113,191	3,252	12,310	5,189	20,167	101,696	406,451	64,419	256,430	..	..	..	..	203,211	808,549
1890 ..	31,745	125,760	2,856	11,049	6,073	24,285	89,096	356,368	63,410	255,926	..	..	..	..	193,193	773,438
1891 ..	45,392	181,185	4,445	16,896	5,649	22,576	109,268	437,126	87,209	349,573	33	132	..	..	251,996	1,007,488
1892 ..	45,555	183,655	2,535	9,604	3,898	15,429	103,106	412,383	82,933	333,467	52	206	..	..	238,079	954,744
1893 ..	45,714	186,553	2,145	8,187	2,165	8,644	99,127	396,516	77,660	313,238	..	..	..	..	226,811	913,138
Totals ..	1,776,018	6,673,866	243,755	964,968	78,493	305,158	5,404,750	21,472,565	5,031,770	19,883,206	273	1,044	48	192	12,535,107	49,300,999

No. 4.

TABLE showing the TOTAL QUANTITY and VALUE of MINERAL ORES (the Product of Mines other than Gold), COAL, COKE, and KAURI-GUM, EXPORTED from the Colony up to 31st December, 1893.

Year.	Silver.		Copper-ore.		Chrome-ore.		Antimony-ore.		Manganese-ore.		Hæmatite-ore.		Mixed Mineral Ore.		Coal.		Coke.		Kauri-gum.		Totals.		
	Oz.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Ounces.	Tons.	Value.
		£		£		£		£		£		£		£		£		£		£			£
1853	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	830	15,972	..	830	15,972
1854	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,661	28,864	..	1,661	28,864
1855	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	355	4,514	..	355	4,514
1856	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,440	18,591	..	1,440	18,591
1857	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,522	35,251	..	2,522	35,251
1858	..	..	351	5,000	3	25	..	..	..	..	..	..	..	..	2	4	..	..	1,811	20,037	..	2,167	25,066
1859	..	..	245	2,605	8	120	..	..	..	..	..	..	..	..	..	..	..	..	2,010	20,776	..	2,263	23,501
1860	..	..	137	1,590	116	1,440	..	..	..	..	..	..	..	..	1	2	..	..	1,046	9,851	..	1,300	12,883
1861	..	..	110	1,300	52	520	..	..	..	..	..	..	..	..	..	..	..	..	856	9,888	..	1,018	11,708
1862	..	..	51	1,024	3,843	24,719	..	..	..	..	..	..	..	..	..	..	..	..	1,103	11,107	..	4,997	36,850
1863	..	..	..	..	595	4,318	..	..	..	..	..	..	..	..	..	..	..	..	1,400	27,026	..	1,995	31,344
1864	..	..	..	..	768	4,910	..	..	..	..	..	..	..	..	..	..	..	..	2,228	60,590	..	2,996	65,500
1865	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,867	46,060	..	1,867	46,060
1866	..	..	..	..	281	1,315	..	..	..	..	..	..	..	..	261	400	..	..	2,535	70,572	..	3,077	72,287
1867	..	..	246	2,700	..	..	..	..	..	..	..	..	..	..	973	1,228	..	..	2,685	77,491	..	3,904	81,419
1868	..	..	84	977	..	..	..	..	..	..	..	..	..	..	1,027	1,210	..	..	2,690	72,493	..	3,801	74,680
1869	11,063	2,993	..	..	..	..	..	..	..	..	..	..	..	..	750	800	..	..	3,850	111,307	11,063	3,600	115,100
1870	37,123	11,380	7	120	..	..	..	..	..	..	..	..	..	..	1,672	1,508	..	..	4,391	175,074	37,123	6,070	188,082
1871	80,272	23,145	..	..	..	..	..	..	..	..	..	..	..	..	1,696	1,612	..	..	5,054	167,958	80,272	6,750	192,715
1872	37,064	9,910	..	..	..	..	..	..	..	..	..	..	..	..	990	855	21	50	4,811	154,167	37,064	5,822	164,982
1873	36,187	9,850	..	..	..	..	..	..	..	..	..	..	..	..	724	655	..	..	2,834	85,816	36,187	3,558	96,321
1874	40,566	10,380	..	..	..	..	..	..	..	..	..	..	..	..	1,463	1,363	87	228	2,569	79,986	40,566	4,119	91,957
1875	29,085	7,569	..	..	..	..	..	..	..	..	..	..	..	..	3,385	3,129	15	51	2,231	138,523	29,085	5,631	149,272
1876	12,683	3,171	..	..	..	..	..	..	..	..	..	..	3,180	14,824	1,854	1,954	53	189	2,888	109,234	12,683	7,975	129,372
1877	33,893	7,556	..	..	..	..	..	..	..	..	..	..	2,366	9,664	2,658	2,071	25½	72	3,633	118,348	33,893	8,682½	137,711
1878	23,019	5,755	6	115	..	..	4	102	2,516	10,416	..	..	2	8	6,362	5,139	85	177	3,445	132,975	23,019	12,420	154,687
1879	20,645	4,512	55	1,105	..	..	..	..	2,140	8,338	..	..	..	..	7,144	6,187	154	324	3,229	147,535	20,645	12,722	168,001
1880	20,005	4,500	..	..	..	..	60	612	2,611	10,423	..	..	2,674	11,335	7,020	5,977	87	135	4,725	242,817	20,005	17,177	275,799
1881	18,885	4,236	5	36	..	..	2	24	1,271	3,283	..	..	1,955	4,303	6,621	5,610	223	353	5,461	253,788	18,885	15,438	271,633
1882	5,694	1,286	9	41	..	..	30	900	2,181	6,963	..	..	2,784	8,597	3,207	2,380	275	480	5,533	260,369	5,694	14,019	281,016
1883	16,826	3,785	46	678	..	..	31	804	384	1,155	½	12	22	110	6,522	4,879	1,430	2,057	6,518	336,606	16,826	14,593½	350,086
1884	24,914	5,125	20	106	..	..	..	..	318	809	..	..	..	..	6,104	4,461	236	372	6,393	342,151	24,914	13,071	353,024
1885	16,624	3,169	..	..	..	..	666	5,289	602	1,716	50½	208	114	993	43,893	51,257	267	385	5,875¾	209,762	16,634	51,468¼	362,779
1886	12,108	2,946	20	390	..	..	62	1,784	328½	1,316	..	..	445	1,846	46,136	52,133	497	715	4,920¾	257,653	12,108	52,411¼	318,783
1887	20,809	3,453	..	..	..	..	134	3,989	305	895	..	..	144	4,142	44,129	44,650	183½	266	6,791	362,449	20,809	51,666½	419,844
1888	403	71	2	75	..	..	376	6,246	1,085	2,404	..	..	162	2,955	68,087	64,971	953	1,646	8,482	380,933	403	79,145	459,261
1889	24,105	4,043	..	..	..	..	493	5,319	1,080	2,569	..	..	199	9,985	86,405	84,347	2,132	3,407	7,519	329,590	24,105	97,828	439,260
1890	32,637	6,162	..	..	..	..	515	11,121	482	1,004	1½	5	19	273	69,614	67,003	2,218	3,334	7,438	378,563	32,637	80,287½	467,465
1891	28,023	5,151	0¼	4	..	..	413	4,950	1,153	2,634	..	1	2	6	91,664	91,173	2,544	3,658	8,388	437,056	28,023	104,164¼	544,633
1892	22,053	3,996	..	..	..	..	364	4,900	521	1,239	..	..	84	631	78,911	80,225	4,306	5,691	8,705	517,678	22,053	92,891	614,360
1893	63,076	9,743	..	..	..	..	331	3,467	319	943	..	..	37	650	69,136	72,699	51	53	8,317	510,775	63,076	78,191	598,330
Totals	667,762	153,887	1,394¼	17,866	5,666	37,367	3,481	49,507	17,296½	56,107	52½	226	14,179	70,322	658,411	659,882	15,843	23,643	160,040½	6,860,196	667,762	876,473¾	7,929,003

NOTE.—Silver-ore, 37 tons, £1,225.

No. 5.

RETURN showing the QUANTITY and VALUE of COALS IMPORTED into NEW ZEALAND during the Quarter ended the 31st March, 1894.

Country whence Imported.	Quantity.	Value.
	Tons.	£
United Kingdom	209	260
New South Wales	30,115	28,739
Queensland	701	403
Totals	31,025	29,402

No. 6.

TABLE showing the INCREASE or DECREASE in the PRODUCTION of COAL in the Colony, and Imported, Year by Year, during the last Fifteen Years.

Year.	Coal raised in the Colony.		Coal imported		
	Tons.	Yearly Increase or Decrease.	Tons.	Plus or Minus.	Increase and Decrease.
1878	162,218	..	174,148	..	..
1879	231,218	69,000	158,076	−	16,072
1880	299,923	68,705	123,298	−	33,778
1881	337,262	37,339	129,962	+	6,664
1882	378,272	41,010	129,582	−	380
1883	421,764	43,492	123,540	−	6,042
1884	480,831	59,069	148,444	+	24,904
1885	511,063	30,232	130,202	−	18,242
1886	534,353	23,290	119,873	−	10,329
1887	558,620	24,267	107,230	−	12,643
1888	613,895	55,275	101,341	−	5,889
1889	586,445	27,450	128,063	+	26,722
1890	637,397	50,952	110,939	−	17,124
1891	668,794	31,397	125,318	+	14,379
1892	673,315	4,521	125,453	+	135
1893	691,548	18,233	117,444	−	8,009

No. 7.

TABLE showing the OUTPUT of COAL from the various Mining Districts, and the Comparative INCREASE and DECREASE, for the Years 1892 and 1893, together with the TOTAL APPROXIMATE QUANTITY of COAL produced since the Mines were opened.

Name of District.	Output of Coal.		Plus or Minus.	Increase or Decrease.	Approximate Total Output of Coal up to 31st December, 1893.
	1892.	1893.			
	Tons.	Tons.		Tons.	Tons.
Kawakawa	18,515	11,307	−	7,208	799,068
Whangarei, Kamo, Ngunguru and Whauwhau	9,924	23,379	+	13,455	299,163
Waikato	57,894	57,251	−	643	711,674
Mokau	1,823	781	−	1,042	7,505
Pelorus	..	..	..	..	711
West Wanganui	1,981	2,471	+	490	44,566
Westport	208,076	227,178	+	19,102	1,627,121
Reefton	4,368	3,904	−	464	56,012
Greymouth	178,244	138,179	−	40,065	1,838,453
Malvern	11,101	10,700	−	401	296,129
Timaru	1,446	1,220	−	226	8,108
Otago	157,610	174,236	+	16,626	2,550,828
Southland	22,333	40,942	+	18,609	257,511
Totals	673,315	691,548	+	18,233	8,496,849

No. 8.

TABLE showing the DIFFERENT CLASSES of COAL from the MINES in the COLONY.

Name of Coal.	Output of Coal.		Plus or Minus.	Increase or Decrease.	Approximate Total Output of Coal up to the 31st December, 1893.
	1892.	1893.			
	Tons.	Tons.		Tons.	Tons.
Bituminous	406,828	380,901	−	25,927	4,319,478
Pitch	89,549	131,071	+	41,522	1,333,585
Brown	149,460	156,154	+	6,694	2,580,978
Lignite	27,478	23,422	−	4,056	262,808
Totals	673,315	691,548	+	18,233	8,496,849

No. 9.

TABLE showing the NUMBER of COAL-MINES in OPERATION, the NUMBER of MEN EMPLOYED, and the OUTPUT of COAL per MAN.

Number of Mines working.	Number of Miners employed in each Mine.	Total Number of Men employed.	Output of Coal during 1893.	Average Output per Man.
			Tons.	Tons.
119	1 to 4 men in each	212	56,854	268
11	5 to 10 „	69	23,768	344
2	11 to 20 „	29	5,901	203
21	21 men and upwards	1,578	605,025	383
153		1,888	691,548	366

No. 10.

RETURN showing the QUANTITY and VALUE of COAL IMPORTED INTO and EXPORTED FROM NEW ZEALAND during the Year ended the 31st December, 1893.

Imported.			Exported.		
Countries whence imported.	Quantity.	Value.	Countries to which exported.	Quantity.	Value.
	Tons.	£		Tons.	£
United Kingdom	1,383	1,587	United Kingdom	50,838	54,637
New South Wales	113,122	108,625	Victoria	1	1
Queensland	2,939	1,744	New South Wales ..	8,210	9,526
			Tasmania	65	72
			Norfolk Island	99	133
			Fiji Islands	4,436	4,035
			Bengal	2,400	2,000
			France	200	220
			U.S. America, West Coast..	375	469
			South Sea Islands ..	8,502	8,666
Totals	117,444	111,956	Totals	75,126	79,759

NOTE.—Foreign coal: Included in exportation to—United Kingdom, 837 tons, value £960; New South Wales, 2,306 tons, value £2,886; Tasmania, 20 tons, value £20; Norfolk Island, 1 ton, value £1; Fiji, 42 tons, value £53; U.S. America, West Coast, 375 tons, value £469; South Sea Islands, 2,409 tons, value £2,871. The remainder is New Zealand produce.

W. T. GLASGOW,
Secretary and Inspector.

Department of Trade and Customs, Wellington, 30th March, 1894.

No. 11.

NUMBER of MINERS EMPLOYED during the Years ending 31st March, 1893 and 1894.

Mining District.	Alluvial Miners.		Quartz-miners.		Totals.		Grand Total.	
	European.	Chinese.	European.	Chinese.	European.	Chinese.	1893.	1894.
AUCKLAND—								
North Hauraki and Coromandel ..	..	..	199	2	199	2	287	201
Thames	..	..	650	..	650	..	676	650
Ohinemuri	..	..	454	..	454	..	420	454
Te Aroha	..	..	29	..	29	..	23	29
Puhipuhi	..	..	..	..	..	..	10	..
	..	..	1,332	2	1,332	2	1,416	1,334
MARLBOROUGH—								
Pelorus	2	..	..	..	2	..	10	2
Wairau	20	..	..	..	20	..	15	20
Cullen's Creek	125	..	..	..	125	..	130	125
Waikakaho	25	..	10	..	35	..	40	35
Wakamarina	60	..	..	..	60	..	40	60
Kaituna and Duncan's Valley ..	7	..	..	..	7	..	8	7
	239	..	10	..	249	..	243	249
NELSON—								
Wangapeka	36	..	..	..	36	..	32	36
Collingwood and Takaka ..	146	2	20	..	166	2	162	168
Motueka	8	..	..	..	8	..	8	8
Inangahua	148	191	312	..	460	191	640	651
Ahaura	593	217	9	..	602	217	670	819
Charleston	150	..	..	..	150	..	220	150
Westport, including Addison's, Northern Terraces, Waimangaroa, North Beach, Mokihinui, Karamea, and Lower Buller Valley	270	..	..	..	270	..	245	270
Lyell	34	17	74	..	108	17	126	125
Murchison .. .. Owen	125	50	..	..	125	50	178	175
	1,510	477	415	..	1,925	477	2,281	2,402
WESTLAND—								
Ross	150	14	6	..	156	14	175	170
Stafford and Goldsborough ..	420	150	..	..	420	150	570	570
Hokitika and Kanieri	600	50	..	..	600	50	490	650
Kumara	500	100	..	..	500	100	600	600
Greymouth .. .. Arnold	750	200	..	..	750	200	1,200	950
Okarito	120	1	..	..	120	1	91	121
Jackson's Bay	..	..	..	..	..	..	40	..
	2,540	515	6	..	2,546	515	3,166	3,061
OTAGO—								
Hindon	25	4	24	..	49	4	67	53
Tuapeka	366	297	6	..	372	297	767	669
Clyde and Alexandra	275	114	20	..	295	114	377	409
Cromwell	300	165	25	..	325	165	480	490
Roxburgh	350	63	..	..	350	63	413	413
Black's	141	35	..	..	141	35	183	176
Tapanui	40	40	..	..	40	40	80	80
Waikaia	70		..	..	70	85	189	155
Wyndham	40	..	..	..	40	..	39	40
Longwood .. .. Orepuki .. .. Roundhill and Wilson's River	240	150	80	..	320	150	620	470
Wakatipu Goldfields—Arrow, Macetown, Cardrona, Kawarau, Bracken's, and Motatapu	300	50	100	..	400	50	450	450
Queenstown	325	50	100	..	425	50	500	475
Naseby, Kyeburn, Clarke's, and Mount Burster Hamilton, Sowburn, &c. Hyde and Fullerton's .. Serpentine	350	180	20	..	370	180	850	550
Macrae's, Strath-Taieri, Shag Valley, Nenthorn, St. Bathan's, and Ida Valley								
Maerewhenua	77	..	..	..	77	..	76	77
	2,899	1,233	375	..	3,274	1,233	5,091	4,507
SUMMARY.								
AUCKLAND	..	..	1,332	2	1,332	2	1,416	1,334
MARLBOROUGH	239	..	10	..	249	..	243	249
NELSON	1,510	477	415	..	1,925	477	2,281	2,402
WESTLAND	2,540	515	6	..	2,546	515	3,166	3,061
OTAGO	2,899	1,233	375	..	3,274	1,233	5,091	4,507
Totals	7,188	2,225	2,138	2	9,326	2,227	12,197	11,553

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