

SESS. II.—1891.
NEW ZEALAND.

MINES STATEMENT,

BY THE HON. R. J. SEDDON, MINISTER OF MINES.

MR. SPEAKER,—

In making my first Statement showing the results and growth of the mining industry, and the beneficial effect it produces on the colony, it is necessary for me to refer to its progress in the past, and to its future development, in order to show its tendency to promote the settlement of a permanent population following agricultural, industrial, and other pursuits. The discovery of gold in any country is the means of attracting people to its shores, and this alone has brought thousands of persons into New Zealand who otherwise would not have come, and although many of them have long ceased to be connected with mining, they have followed other pursuits, and made this country the land of their adoption.

It may be interesting to honourable members for me to state that about one-eighth the entire European population at the present time is supported by the mining industry, and hence it must be recognised as an important factor in contributing to the revenue of the colony. In 1857, when gold was first discovered in the Collingwood district, the European population was only about 57,000, and, notwithstanding the large exodus that has taken place during the last five years, we have now a population of 626,830. Moreover, we find that during the first twenty-nine years of our goldfields, from 1857 to 1886, the average annual increase of the population was 16,154, but during the last five years it has only averaged 9,500. No better proof can be given that mining tends to settle a permanent population than by calling attention to the settlement on the west coast of the Middle Island, comprising the Counties of Buller, Inangahua, Grey, and Westland, which have now a population of 31,450; and had it not been for the discovery of gold and coal in these counties, this portion of the colony would still have been in its native state and looked on as a wilderness. Therefore, in regard to settlement, the colony is indebted to a large extent to the hardy and intrepid miner, who has forced his way through the wilds where, in many instances, no human being had ever before trod, overcoming all obstacles, difficulties, and dangers that beset his path, until he unfolded the riches that for thousands of ages had been hidden in the bowels of the earth, thereby causing attention to be directed to this country as a land abounding in mineral wealth, also containing large areas of rich agricultural land, and possessing a climate that cannot be surpassed in any part of the world. Having all these advantages combined and brought prominently before the eyes of the world, the result has been the rapid growth of other pursuits and industries, thus making mining form a high incentive to the settlement of the people on the lands.

MINERAL PRODUCTION.

In the early days of the goldfields attention was mostly given to goldmining, but since then coal and other mineral products are eagerly looked after. There is no one who follows any profession or calling that requires more technical knowledge and training than the miner, in order to enable him to follow his avocation to the greatest advantage. He must have a knowledge of all the mineral ores, and be capable of ascertaining the percentage of metal those ores contain, as well as a practical knowledge of the methods of working lodes and auriferous

drifts ; the construction of mining machinery, water-races, dams and reservoirs ; a knowledge of the rocks and formations where different minerals are likely to be found : indeed, a thorough knowledge of mining requires many years of toil and study, in both the technical and practical branches. As year by year passes we find the necessity for men who are engaged in conducting large mining operations having a practical and technical knowledge of the branch they are engaged in, as it is only by this means that the mining industry will be placed on a more solid and commercial foundation, and give greater encouragement for the investment of capital to open up and develop our mineral wealth.

The quantity and value of gold, minerals, and kauri gum produced in the colony since 1853, up to the end of December last, will be found in Table I., annexed, whilst Tables III. and IV. give the detailed production year by year. It will be seen from Table I. that the total value of gold and silver obtained amounted to £46,560,626, and the total value of minerals and kauri gum £8,973,020 ; making a total of £55,533,646 : whilst the value of the mineral produce exported and coal consumed within the colony for the year ending the 31st December last was : Gold, £773,438 ; silver, £6,162 ; antimony ore, £11,121 ; manganese ore, £1,004 ; hæmatite ore, £5 ; unclassified minerals, £273 ; coal, £67,003 ; coke, £3,334 ; coal consumed within the colony, £282,933 ; and kauri gum, £378,563 : making a total of £1,523,836, as against £1,493,167 for the previous year. These figures show that, although in some branches of mining there has been a decrease in the production last year, nevertheless the totals show an increased value of £30,669, which proves that the industry is gradually progressing.

GOLD-MINING.

In referring to the gold-mining industry, I regret to have to state that the yield last year shows a considerable falling-off from the previous one, and the lowest yet recorded ; but if honourable members will refer to the reports of the Inspecting Engineer and Wardens, they will see that the cause of this is to some extent attributable to the extremely dry season, which prevented hydraulic sluicing operations being carried on. The quantity and value of gold obtained from the different districts for the year ending the 31st March last, will be seen in Table II., annexed, the total quantity being 171,080oz., representing a value of £685,321 ; whilst the yield for the previous year was 201,760oz., representing a value of £803,174 : showing a decrease in the yield of 30,680oz., or a money value of £117,853. Notwithstanding the large falling-off last year, it is gratifying to find that the yield from the quartz-mines—in the two principal fields of the colony—shows an increase of 6,122oz., representing a value of £26,343. The decrease in the production of gold last year was : From Marlborough, 4,819oz. ; Nelson, 1,983oz. ; West Coast, 7,274oz. ; and Otago, 23,286oz. ; whilst the increased yield from Auckland was 6,682oz., the latter being due to the Kuao-tuna and Waihi gold-fields. In taking the production of gold last year, the West Coast contributed 50·7 per cent. ; Otago, 24·4 per cent. ; Auckland, 22·6 per cent. ; and Nelson and Marlborough, 2·3 per cent. The returns for the past year show that the percentage of gold produced is greater on the West Coast and in the Auckland District, and less in other districts than it was for the previous year. I will now, Sir, refer to the different branches of gold-mining—namely, quartz, alluvial, hydraulic, sluicing, and dredging.

QUARTZ-MINING.

Quartz-mining may be considered the most permanent branch of the gold-mining industry, but one in which very little has yet been done to test the lodes at deep levels. Rich discoveries have been made near the surface, and several mines have been worked to a depth of 500ft., but below this depth there are only two mines in the North Island, and three in the Middle Island, in which any prospecting has been done. There is a large extent of an auriferous and argentiferous belt of country on the Hauraki Peninsula, extending beyond Te Aroha, and also a belt of country from Puhipuhi to Cape Brett, which abounds in mineral lodes, where little or no prospecting has been yet done. And when we come to the Inangahua district, there is a wide belt of country, known to contain auriferous lodes, extending from the Big River to the Mokihinui, a distance of 60 miles, and it may be said that some portions of this belt have not yet been trodden by the foot of man, and very little prospecting has been done except in the localities where the mines are being worked. Again, in Otago, where rich deposits of gold have been obtained in the alluvial drifts, and where in many places the gold is intersected with fragments of quartz, yet comparatively few payable auriferous lodes have yet been discovered.

In the North Island, gold- and silver-mining is entirely confined to the working of quartz-lodes, some of which contain ore of a complex and refractory character, being difficult to treat so as to recover a fair percentage of the precious metals.

PUIHIPUI.

On the Puhipuhi field, where the latest discoveries have been made, very little has yet been done to prove the payable nature of any of the lodes. One small reduction-plant has recently been erected, which will afford facilities for testing some of the ore in bulk, and the value of the lodes ascertained. However, this plant is merely a prospecting one, and, although it may test the value of the ore, it is not one likely to be worked economically. There are numerous lodes in this locality containing silver, which is generally found in a free state near the outcrops; but so little work has yet been done that it would be premature to express a decided opinion as to the extent or payableness of the field. The outlook is, however, most favourable.

KUAOTUNA.

On the northern portion of the Hauraki Peninsula, the Kuaotuna field promises to give good returns, but the gold is in so minute particles, and so finely disseminated through the quartz, that it is difficult to save it with the appliances now in use. I am informed that possibly not more than 40 per cent. of the gold is recovered by the ordinary battery process, the rest being partly carried away in suspension amongst the muddy water, and partly left in the tailings. In many of the claims on this field the work done is only of a prospecting character, and it is only in a few of them where stoping operations have been carried on. The Try Fluke Company has so far been the most successful: from 3,083 tons of stone, 5,077oz. of gold was obtained. There are now three batteries at work.

COROMANDEL.

At Coromandel a large expenditure has been made by two English companies, and a considerable amount of work has been done. One of these companies—the Kapanga—has met with fair success, but the other—the Coromandel—has not yet found any lode payable for working. A limited number of men are employed in Scotty's, Tokatea, Royal Oak, and Harbour View Companies, but the three latter companies are not carrying on the workings so energetically as they might.

THAMES.

The Thames field, which is by far the largest in the Hauraki Peninsula, is not turning out so much gold as it did in former years, yet the mines are the means of supporting a large population, and some of them hold out prospects of being profitable investments for their owners for years to come. The Saxon, Moanataiari, Fame of Fortune, Waiotahi, Occidental, Cambria, Trenton, and May Queen, were the largest gold-producing mines on the field last year. Three of these have been dividend-paying companies for several years past. The Saxon, with a paid-up capital of £4,033, has paid £15,417. The Waiotahi, with a paid-up capital of £15,000, has paid £24,000, while the Cambria has paid £79,357 in dividends, with only a paid-up capital of £1,181. The deepest workings are in the Saxon mine. The workings in this mine are being carried on from the 470ft. level, and there is still good payable stone left underfoot. The greatest difficulty to contend with is the drainage of the mines working at deep levels; this is at present effected by the Big Pump, on which the Government expended £50,000 in purchase and erection. The working expenses in connection with this pump, I am informed, are about £340 per month. This amount has to be paid by a few claims, some of which are not benefited, but being included within the drainage area they have to contribute towards the working expenses.

WAIHI.

At Waihi one of the finest plants in the colony has been erected, and a large additional plant is now in course of construction. The Waihi Company, who are the proprietors of the plant referred to, purchased during last year the Martha mine for £3,000. In order to show the value of improved machinery and appliances for the treatment of auriferous and argentiferous ores, the Martha Company worked this mine for eight years, and could only recover from 4dwt. to 6dwt. of gold per ton, which merely paid the working expenses; but since the present company have worked the mine they can get handsome returns. One parcel of the ore, sold to the Cassell Company, realised £100 a ton. The lode is the largest of any yet worked

in the colony, it being 45ft. wide in places, and contains fairly good ore all through it. The present indications show it as being the most valuable mining property in the district.

TE AROHA.

At Te Aroha it is to be regretted that the Australian syndicate who purchased the plant and mining properties of Messrs. Firth and Clarke, at Waiorongomai, did not meet with success. After expending about £60,000 in the purchase of the properties, and in making additions to the plant, they omitted to leave a portion of their capital to prospect the mine, and the result has been that recently the plant and properties have been purchased for £3,500. Notwithstanding the great loss sustained by this company or syndicate, there are reasons to believe that the mines will turn out a deal of gold, and that Te Aroha will yet become a large mining district.

According to the returns supplied from the proprietors of the different milling plants in the North Island, the quantity of retorted gold obtained last year from the various fields was as follows: Coromandel, 9,838oz. 6dwt.; Thames, 38,112oz. 12dwt.; Ohinemuri, 1,279oz. 10dwt.; Te Aroha, 517oz.: making the total gold returns 49,757oz. 14dwt., representing a value of £128,416: and in addition to this there was 42,573oz. 14dwt. of bullion, of a value of £26,325, and ore was sold to the value of £4,508; thus making the value of the produce of the North Island goldfields to be £159,249; whereas, according to the Customs returns, the quantity entered for duty for exportation for the same period was 38,630oz., having a value of £153,678.

MAHAKIPAWA.

At Mahakipawa, the Ravenswood Company, of London, has purchased five of the licensed holdings which were taken up as quartz-claims. They are erecting crushing machinery and an aerial tramway to convey the quartz from the mines to the battery. But none of the quartz from this field has yet been tested in bulk. However, good prospects are said to have been obtained from tests in the hand-mortar, and the proprietors consider they have a valuable property.

REEFTON.

In the Reefton district a number of new discoveries have been made in the vicinity of Merrijigs, some of which are likely to prove highly payable. The principal gold-producing mines last year were the Globe, Progress, Inkerman, Keep It Dark, No. 2 South Keep It Dark, Cumberland, Golden Treasure, and Fiery Cross. The yield of gold last year was 23,347oz., having a value of £91,998, as against 17,780oz., representing a value of £69,777 for the previous year: thus showing an increased yield last year of 5,567oz. gold, representing a value of £22,322; whilst the amount paid in dividends was £27,325, against £18,250 for the previous year. The prospects in the district are much brighter than they have been for years past.

OTAGO.

In Otago some of the quartz mines are not turning out according to expectations, as, for instance, those in the Nenthorn district, which have, so far, proved a failure; but none of the claims have ever been tested to any great depth, the outcrops of the lodes having only been worked. In the Lake District, at Skipper's and the Shotover, the Phoenix and Gallant Tipperary Company's mines are looking well, and the same can be said of the Sunrise Mine at Macetown.

ALLUVIAL MINING.

I now come to alluvial mining, which is entirely confined to the Middle Island. This branch of mining consists of working the auriferous drifts from shafts, adits, and by hydraulic sluicing and dredging. Alluvial mining proper may be said to be confined to ground worked from shafts and adit levels, such as the workings in the deep ground at Mahakipawa, in the Marlborough District, and at Rimu, Back Creek, and Ross, on the West Coast; but by far the greater portions of the auriferous drifts are worked by hydraulic sluicing.

MAHAKIPAWA.

The workings at Mahakipawa are very limited, being confined to the creek-bed and the small flat at the mouth of the gorge. It is not yet known whether the gold will continue to go far into this flat. So far, this has been a good field, and has been the means of supporting a population of from two hundred and fifty to four hundred since it was opened,

The gold is of a coarser character than that found on any other field on the West Coast. Some nuggets as large as 30oz. are said to have been obtained, which cannot have been carried a long distance by water, as they resemble the gold found in lodes, having sharp angular edges, and impregnated with quartz. Many of the claims in the lower portion of the creek still continue to give their owners good wages for working, and it is believed that the lead of gold will yet be traced into deep ground in Cullen's Flat.

RIMU.

During last year gold was discovered by Messrs. Beatty and party on an alluvial-drift terrace, about a mile to the southward of the Back Creek lead, near Rimu. This discovery is of considerable importance, as it may be the means of tracing the gold towards Ross. The sinking is from 75ft. to 100ft. in depth. Two different gold-bearing layers have been passed through, which are from 3ft. to 6ft. in thickness, yielding from 2dwts. to 10dwts of gold to the load. About twenty-seven claims are considered to be payable for working, in which 114 men are employed. All the gold has so far been found on a false bottom, having similar gravel-drift underneath to that passed through, which indicates that there is a great probability of richer layers of auriferous wash-drift being found at a deeper level. A considerable amount of prospecting is going on under the supervision of the miners' association of the district.

ROSS.

This is the most interesting alluvial goldfield in the colony. Nine different auriferous layers of wash-drift have been passed through, and no main bottom yet reached. The deepest is about 250ft. below sea-level, and underneath this there is a brown gravel-drift full of small rounded sandstone boulders, similar in character to that found on the top of Mount Greenland, about 3,000ft. above sea-level. The nature of the wash-drift found on top of this bottom coincides with that found on the top of the mountain referred to; and some of it has proved very rich in gold. There is no doubt when this wash-drift was deposited on Ross Flat the whole of the country was at a much higher elevation, and probably the source of the gold will yet be found back in the mountains, as there is sufficient evidence to show that the Mikonui River has been flowing in a different direction from its present course, and this river was probably the means of depositing the large accumulations of auriferous drifts on the flat. In the early days of the field a large population was engaged in working the shallow ground, but in following the gold into the flat, the quantity of water to contend with was beyond the means of private parties getting machinery to overcome it. The greater portion of this ground has been held for the last nine years by the Ross United Company, who erected a pumping-plant and proved the richness of the deep levels, but they soon found that the pumping appliances were far too small to contend with the water, consequently these levels have been abandoned for several years, and the top levels have been partly worked by means of shafts and partly by an elevating plant, where only a few men on tribute are employed, who are paying the company about 35 per cent. of the gross yield of gold they obtain. The condition of affairs is anything but satisfactory. The claim-owners have not sufficient capital to procure the necessary appliances, yet they have expended so much money that they refuse to face the inevitable. Meantime the miners in the district and the colony suffer.

RANGITOTO.

A considerable amount of prospecting has been done in this district, and it is reported that silver has been discovered in payable quantities in a semi-decomposed granite rock. Some of the assays made from stone in this locality show it to contain a high percentage of silver; but whether it will prove payable for working on a large scale has not yet been determined.

SOUTH WESTLAND.

A small population still continues to get a livelihood by working the auriferous sand on the ocean beaches between the mouth of the Mikonui River and Jackson's Bay; but very little prospecting has ever been done inland, although some good patches of gold have been found in the vicinity of the Mapourika Lake, and in the Waiho River. The large quantity of gold found on the ocean beaches, especially on the Five-mile, Gillespie's, Bruce Bay, and the beaches south of the Paringa River, clearly indicates that rich deposits will yet be found inland when the country becomes properly explored and prospected. The Waiho River has, no doubt, been the means of bringing down the gold found on the Five-mile

Beach, and Cook's River that found on Gillespie's Beach. Indeed, all the rivers southward have been the means of bringing down large quantities of gold from time to time, and still continue to do so; but the country inland being precipitous, and at a high elevation, difficult of access, and the obstacles in the way of getting provisions, have prevented this part of the country from being yet properly explored.

HYDRAULIC SLUICING.

The improvements in hydraulic sluicing appliances of late years have enabled ground to be worked which in former years was considered valueless, owing to there being no fall to sluice it away by the ordinary method; such ground is now worked on the hydraulic elevating principle. This system was first introduced by Mr. J. R. Perry to work the tailings in the bed of Gabriel's Gully, about nine years ago, but it was used in California several years before. Since its introduction this system has gradually come into use, until it is now generally adopted for working the low-lying lands where fall cannot be obtained to sluice the ground in the ordinary manner.

WEST COAST.

On the West Coast the principal fields where hydraulic sluicing is carried on are Addison's Flat, Croninville, Charleston, the Grey Valley, Kumara, Waimea, and Stafford, but the largest population employed at this system of mining is at Kumara. The Kumara goldfield has been opened for about fifteen years, an average of about six hundred miners having been employed on it during that period, while the area of auriferous drifts does not exceed 2,100 acres, of which not more than about 550 acres have been partially worked. From this small area gold to the value of about £1,100,000 has been obtained, and at the present time there is no telling the extent of riches lying buried underneath the false bottom on which most of the claims have been worked. The ground is held in comparatively small claims, so closely joined on to each other, that whilst the upper levels continue to pay the claim-holders for working, they are indifferent about testing the ground underneath the false bottom, but no doubt the time will come when prospecting-shafts and adit-levels will be constructed which will probably reveal richer treasures than have been heretofore discovered.

The land on the West Coast within the area of the selection by the Midland Railway Company, in which gold-workings are situate, will be resumed in blocks, in accordance with the conditions of the company's contract, up to an area of 250,000 acres, and the balance of the 750,000 acres, proposed to be reserved for mining purposes, will be taken from time to time as required.

OTAGO.

In Otago there is a large extent of country covered with auriferous drifts, some of which contain rich deposits of gold. There is scarcely a valley or bed of a stream falling into the Clutha that does not contain alluvial drifts payable for working with a good supply of water. It may be said that the number of men who can be profitably employed in hydraulic mining is limited by the quantity of water that can be diverted from its original source to command the ground at a sufficient elevation to carry on sluicing operations advantageously. When we see the extent of drift terraces along the valleys of the Molyneux, Manuherikia, Kawarau, and Shotover Rivers, it cannot be said that alluvial gold-mining is exhausted. Hundreds of years will pass away, and ground will then be found payable for working. The rich deposits of gold recently discovered in the Island Block Company's property show that, although 30 years have elapsed since gold was first discovered in Otago, and thousands of people have walked over the ground, it was never, until a few years ago, considered of any value. It was only after the introduction of the hydraulic elevator, at Gabriel's Gully, that it dawned on men that the Clutha Valley could be worked on a similar system; but, unfortunately, before this time came, a large extent of highly auriferous land in this valley had been disposed of by the Crown to private individuals for a mere trifle in comparison to its intrinsic value. The Island Block Company acquired a certain area of land in the Clutha Valley from the original purchaser, and have spent about £21,000 in works and hydraulic plant; last year's returns show that the company has very fair prospects of being recompensed for their outlay. Other companies are commencing similar operations in this valley, and one of them—the Hercules—has, within about eighteen months, got back nearly the whole of its outlay. Another of these companies—the Roxburgh Amalgamated—commenced sluicing operations last year. The returns for the period worked show that it is likely to prove a remunerative venture,

This system of working the alluvial drifts is not only attracting the attention of men in the locality, but also those residing in other colonies. Messrs. Moody and Davis, private bankers, in Melbourne, have embarked largely in mining ventures in the valleys of the Shotover and Arrow Rivers. In the former place the cost of their works and plant has, up to the present time, been about £8,000, and it is estimated that a considerable amount will yet be required to complete them. At the Arrow they have expended about £3,000, and it is probable that an additional £3,000 will have to be expended before the claim is in working order. When we see works of such magnitude undertaken by private individuals, and brought to a successful issue, we may reasonably anticipate that the day is not far distant when mining properties will be eagerly sought after, and plenty of capital will be forthcoming to develop and work them.

Again, at Tinker's and St. Bathans, extraordinary values are placed on some of the mining properties; as for instance, a small water-race about two miles in length, and with only the right to seven sluice-heads, being purchased by the Undaunted Company, at Tinker's, for £10,800. At the same place Mr. John Ewing, an enterprising miner, has recently constructed a water-race and hydraulic plant at a cost of about £10,000, and during last year he only had enough water to enable him to work for eleven weeks; yet, in this period, he got sufficient gold to cover all the season's working expenses and 10 per cent. interest on the capital expended, whilst the average yield of gold per cubic yard of material moved was only about 2gr. This gentleman has two other claims in the vicinity of St. Bathans, and from one of these he got 1,500oz. gold between the months of January and May of this year. It has been clearly proved by many companies, as well as private individuals, that by adopting improved appliances and a systematic method of working, mining enterprises can be made quite as remunerative as any other industry, and equally as safe an investment for capital.

DREDGING.

I now, Sir, come to the latest system adopted for working the ocean beaches, river-beds, and low-lying flats, where the ground is comparatively of a shallow depth. A large number of dredges have been constructed to work the ocean beaches and river-beds, many of which have proved successful in their operations; but the washing appliances in connection with these dredges have in many instances been of so defective a character that only a small percentage of gold in the material lifted has been recovered. Several descriptions of dredges have been employed, namely—the Centre Bucket, the Welman, Ball, and Von Schmidt dredges, as well as the Priestman Grab; but the Centre Bucket dredge is the favourite one for working gravel-flats and river-beds. All these dredges are, however, defective in washing appliances. The hulls or pontoons on which the dredging machinery is placed are too small to admit of good separating appliances and gold-saving tables being constructed. Improvements are being, however, made in these, and before long we may reasonably hope that this system of gold mining will be successfully carried on, and that the ocean beaches and river-beds will be made to yield up their hidden treasures. There are now a large number of centre-bucket dredges on the Molyneux, Kawarau and Shotover Rivers, and most of these are said to be profitable ventures. The latest one constructed is at the sand-hills on the Shotover River, which is worked by electro-motive force, generated about one and a half miles distant from the place where dredging operations are carried on, thus showing that our streams and rivers can be utilised as a power to generate this force, which can be transmitted long distances on a small copper wire to the place where machinery requires to be erected.

RESULTS OBTAINED FROM MINING INVESTMENTS.

Before concluding my remarks on the gold-mining industry it may be interesting to show the results obtained by mining companies throughout the colony. By referring to the tabulated statement in the Inspecting Engineer's report (*vide* pp. 53 to 57) of the gold-mining companies who have complied with the provisions of "The Mining Companies Act Amendment Act, 1890," by publishing a statement of their affairs, it will be seen that the total amount of subscribed capital in mining companies is £2,024,149; and of this amount, the value of scrip given to shareholders without any money being paid has amounted to £819,533. The actual amount of cash paid up is £496,754; whilst dividends have been paid to the extent of £593,066: thus leaving a profit on the working of £96,311—and it must be borne in mind that these figures include the paid-up capital in dredging companies, namely, £72,779, which have scarcely yet got any returns. It must be admitted, even by the opponents to this

industry, that these results are highly satisfactory, showing as they do that gold-mining is not only self-supporting, but it is an industry which gives fair returns for the investment of capital. While admitting that many persons have lost money in mining companies, I would point out that this is due in a great measure to reckless investments by purchasing shares far above their legitimate value, and by persons taking up shares in companies where a large amount has been given away in scrip without any money being paid for the same. Where gold-mining is conducted on commercial principles, it is a safer investment for capital than many other industries, as the marketable value of the produce does not fluctuate.

GOLDFIELDS REVENUE AND GOLD DUTY.

The amount received in goldfields revenue for the year ending the 31st March last was £19,074, and in gold duty for the same period £16,961, making a total of £36,035. The average number of miners employed on the goldfields for this period being 13,409, showing that the average tax on the gold-miner, in addition to the amount he contributes to the revenue by the consumption of dutiable goods, is £2 13s. 9d. a man per annum. The total amount of revenue derived from the goldfields up to the end of March last was £2,417,694.

VALUE OF GOLD.

Complaints have been made that a fair price was not given by the banks for gold, and the Government have been requested to open gold-offices. To set the matter at rest, and in order to ascertain the correct mint-value of gold from the different fields in the colony, I forwarded five separate samples of about 12oz. each respectively from Reefton and Kumara on the west coast of the Middle Island, and from the Island Block Company's claim, Clutha Valley, Mr. Leijon's dredging claim, Alexandra, and from St. Bathans, Otago, to the Sydney Mint, and the returns forwarded by the Deputy Master of that Mint show that the gold from Reefton is worth, per ounce, £4 2s. 10½d.; Kumara, £4 1s. 4½d.; Island Block, £4 1s. 7½d.; Alexandra, £4 0s. 11½d.; and St. Bathans, £4 2s. 7½d. By referring to Table 11 annexed it will be seen that the whole of the samples were above the standard value: Reefton being the highest with 1·424 carats, and Alexandra the lowest with 0·860 carats, above standard of 22 carats. The expense in connection with forwarding this gold to Sydney, including mint charges, amounted to 1s. 6d. per oz. The freight on this small quantity, which was the largest item in the expenses, would have been no more had the parcel been 500oz., and as each parcel had to be assayed separately in order to ascertain its value the present expense in connection with forwarding the gold to the Mint is far in excess of what it would be if large parcels were sent.

COAL-MINING.

I will now, Sir, refer to coal-mining, as an industry rapidly increasing, notwithstanding the disadvantages under which some of our principal mines are placed in regard to the cost of transit and shipment of coal to foreign and colonial markets. The time is not far distant when our coal will be largely brought into competition with that from New South Wales, and other countries, in the markets of the world. The class of bituminous coal, and the large extent of it on the west coast of the Middle Island, must ultimately bring it into prominence as a fuel not to be surpassed, if even equalled. This, Sir, is not merely an assertion, which cannot be borne out by fact, as every one who has used this coal in ocean steamers speaks highly of its value; and when we see so eminent an authority as Sir John Coode refer to it in such glowing terms, as he did in his presidential address to the Institution of Civil Engineers, London—when he said: "The bituminous coal found on the west coast of the South Island is declared by engineers to be fully equal to, if not better than, the best description from any part of the world. The wonderful escape of Her Majesty's ship, 'Calliope,' during the hurricane at Samoa, when her engines were tried to the uttermost, has been attributed by her captain and the people of New Zealand—apparently with good reason—to the superior quality of this coal which was being used at the time." When our West Coast harbours are completed, so that vessels carrying from 3,000 to 4,000 tons on one bottom can enter and take away the coal, we shall then be able to compete in foreign markets with coal sent from other places. Seeing that our bituminous cannot be utilized to any large extent, it is of the utmost national importance that those harbour works should be completed at an early date; in the meantime we can only expect an output from the mines equal to the consumption within the colony.

Seeing that we have so valuable an asset as our coalfields, it behoves the Government to carefully conserve the coal lands, and that when leased, to see that the conditions under which they are granted provide for the proper working of the mines, so that the coal may not be wasted. It is stated by Mr. Kennedy, the managing director of the Brunner Mines, that about 500 tons of slack coal is emptied into the Grey River every month, which ought to be utilized. If this slack were washed and ground into fine dust, as is done in Wales, and made into coke, it would produce the finest quality in the world, and find a ready market at Port Pirie, where Welsh coke is now being used for smelting purposes. Care should also be taken that the amalgamations of large coal-mining leases are not effected unless strong reasons are shown that the coal cannot be advantageously worked otherwise. The taking up of large areas of land in coal-mining leases, as in the past, and holding them year after year without any work being done, will be discouraged. The lessees should be compelled to either work the mines or have the leases cancelled.

Since 1878, when the returns of the output from the various mines have been kept by the Mines Department, there was a steady increase in the output year by year up to 1889, but there was a falling-off in that year of 27,450 tons from that of the previous year. It is, however, gratifying to find that last year there was a considerable increase. The total output last year was 637,397 tons, as against 586,445 tons for the previous year, showing an increase of 50,952 tons. The coal imported last year amounted to 110,938 tons, as against 128,063 tons for the year previous, being a decrease of 17,124 tons. Taking the total output from all the mines of the colony, and the quantity of coal imported last year, we have 748,336 tons, as against 714,508 tons of coal raised and imported for the year previous, showing an increased consumption of 33,828 tons. During last year 76,388 tons was exported; but of this quantity 42,984 tons was used in coaling Direct mail-steamers, which may be considered as consumption within the colony, as it is by the trade between the colony and the Home Country that these steamers are supported. On this basis, therefore, the total consumption of coal within the colony last year was 714,932 tons, as against 675,218 tons for the previous year, being an increase of 39,714 tons. I think there can be no better indication of the gradual progress of industries in the colony than is shown by the extra quantity of fuel consumed. The total quantity of coal raised in the colony since the records have been kept by the Mines Department is 6,456,674 tons.

The importation of coals last year was caused to some extent by the unfortunate strikes which occurred. For instance, the Shaw-Savill Company sent about 4,621 tons from Europe, so as to insure their Direct steam-vessels not being delayed in the colony for want of coal, and several cargoes of coal came from New South Wales, which otherwise would not have been imported. This shows the necessity of provision being made for an amicable settlement of all disputes arising between employers of labour and employés, so that labour and capital may go hand in hand and combine together for the development of the mineral resources of the colony. It is to be regretted that, notwithstanding the large increase of output from the coal-mines last year, there was a decrease of 11,799 tons of bituminous coal, which is the class we have to look to in the future for export. This decrease is due to the mines at Brunner and some of the mines in the Westport district being all held by one company, and also to the strike, which stopped all operations in the Brunner mines for a considerable time. The output from these mines last year was 19,057 tons less than for the year previous. The total output of the different classes of coal last year may be summarised thus: Bituminous coal, 323,712 tons; pitch coal, 124,593 tons; brown coal, 171,725 tons; and lignite, 17,367 tons; the latter class entirely depending on the quantity required for consumption in the locality where it is raised. A comparison with the output for the previous year will be found in Table No. 5 annexed.

During last year an important coalfield was opened at Hikurangi, in the Whangarei district, and 3,743 tons of coal was placed in the market, which proved to be equal, if not superior, to the semi-bituminous coal worked at Kawakawa, at the Bay of Islands. There is a large extent of coal in this new field; but before it can be brought at a reasonable cost to market, a railway or tramway will have to be constructed to connect the mines with a port of shipment. In the Kawakawa Mine, which has been worked for nearly twenty years, the coal is nearly exhausted, there being nothing left but some pillars near the mouth of the adit level, which will be all taken out during the present year. The principal increased output from the different mines has been: From Kaitangata, 16,576 tons; Nightcaps, 9,412 tons; Ralph's Taupiri, 9,108 tons; Kamo, 7,619 tons; Waimangaroa, 3,787 tons; Taupiri

Extended, 3,180 tons; Shag Point, 2,808 tons; and Abbotsford, 2,618 tons; whilst the principal decreased output has been in the Westport Colliery Company's mines at Brunner.

It will be the duty of the Government to guard against undue amalgamations or transfers of leases, especially those containing bituminous coal, so as to cause monopolies inimical to the interests and welfare of the colony. We have already one company, one-half of the shareholders who reside in a neighbour colony, holding the principal mines on the west coast of the Middle Island where bituminous coal is raised, and, judging from the tenders sent in last year for the supply of fuel for our railways, if the whole of the mines were held by one company the cost of fuel would be considerably increased.

Last year a contract for the supply of 15,000 tons of coal for our railways was taken by the Mokihinui Company; but, owing to their steamer being wrecked, and the company not being able to get vessels to enter the Mokihinui River to take the coal away, the contract had to be handed over to the Grey Valley Coal Company to carry out on behalf of the contractors; but had the Mokihinui Company not been in existence the contract price would have been increased from 1s. to 2s. per ton. In about twelve months the Westport-Ngakawau railway extension will be completed to Mokihinui, bringing the mine into direct communication with Westport, which will enable the company to enter into competition with other coal proprietors in supplying coal.

During last year a large seam of excellent bituminous coal was opened up at Blackball, in the Grey district, and it is said the Midland Railway Company intend to construct a branch line to the mine, so that the coal can be conveyed to Greymouth for shipment. Another new mine has also been taken up by a Co-operative Company, formed of colliers and others, on the south side of the Mokau River in the North Island, about twenty miles up from its mouth, and, although the coal is not to be compared for steam purposes to that found on the west coast of the Middle Island, it is a good household coal, and should find a ready market within the colony.

In regard to the future working of the coalmines, it is the intention of the Government to make it compulsory for the holders of coal leases to work them, and comply with the conditions under which they were granted, or the leases will be cancelled. The recommendations of the Westland Coal-fields Committee in 1889, with reference to the Granity Creek lease, are receiving the attention of the Government, and steps will be taken to compel the holders to comply with the conditions of the lease. The owners of the Coal Creek and the Collingwood coal-leases have been notified that, unless progress is made in carrying on mining operations, steps will be taken to cancel the leases. In one case, a large money deposit has been insisted on to show that the company intends to begin the construction of their railway at an early date. The valuable suggestions made in the report of the Royal Commission appointed to inquire into the condition of the Grey Valley mines will also receive due attention, and future leases will be prepared having more uniform conditions. Mr. Cochrane has been appointed an additional Inspector of Mines, so that the public interests may be better conserved and the mines kept in good condition, as recommended by the Commission.

The number of men employed last year in connection with the coalmines was 1,846, of which number 512 men were employed on the surface and 1,334 men in the underground workings, showing that nearly 28 per cent. of the number employed are connected with works on the surface. The average output per man for the year has been 345 tons; but if we deduct the lignite raised, and persons employed in these pits, the average output from the mines last year would be increased to 352 tons.

EARNINGS OF THE MINERS.

Gold-mining.—It is very difficult to accurately ascertain the number of persons employed in gold-mining, as the returns furnished are in some instances based on the number of miners' rights issued, and it is well known many persons hold these who are employed at other avocations. The returns show that on the 31st March last there were 13,032 persons engaged in gold-mining, and at the end of the previous year there were 13,787, which makes an average of 13,409 for last year. Therefore, taking the value of the gold obtained for the same period—namely, £685,321, it gives the average yearly earnings of the miners as £51 2s. 7d. per man, as against £59 16s. 6d. for the previous year. The amount of average annual earnings is arrived at on the same basis as in former years, and shows a falling off in the earnings of the miners to the extent of £8 13s. 11d. per man, which may be partly set down to the extremely dry season and consequent scarcity of water.

Coal-mining.—In order to arrive at the average earnings of the miners we have to take the cost of hewing, haulage, screening, and loading, which may be fairly set down at an average of 6s. per ton. The average number of persons employed in connection with the coal-mines last year was 1846, the output of coal being 637,396 tons, the average earnings of the miners was £103 11s. 8d., as against £103 6s. 2d. for the previous year.

The number of persons employed working other minerals and in obtaining kauri gum cannot be accurately ascertained, but it is well known that the latter industry gives employment to a number of Europeans as well as to a large Native population.

OTHER MINERAL ORES.

Very little has yet been done towards prospecting or working mineral lodes in the colony other than those containing gold and silver. Comparatively small parcels of antimony, copper, manganese, and chrome ores have been from time to time exported to Europe for treatment, but the cost of transit to a port of shipment, freight, and other charges, have been so high that very little encouragement has hitherto been given to incur any large expenditure in the development of these ores.

ANTIMONY.

Antimony ore is found in many places in the North and Middle Islands, but the principal workings are situated between Endeavour Inlet and Port Gore. These workings were commenced by a syndicate formed in Wellington, who opened up a large lode of rich antimony ore, erected smelting-works, and turned out pure star antimony, but the price of the metal being low, they did not get sufficient return for the capital invested. They disposed of their property to the Endeavour Inlet Antimony Company, which was formed in London. This company has been sending the dressed ore to England for treatment. The total quantity of pure metal and dressed ore exported up to the 31st March last was 2,373 tons, representing a value of £36,190. During last year 515 tons of ore containing from 48 to 60 per cent. of antimony was exported by the Endeavour Inlet Company, having a value of £11,121.

COPPER.

Copper ore has been worked in the Island of Kawau in the Auckland District, also at the Dun Mountain and Anisecū Valley in the Nelson District. At the latter place the Champion Company opened up two mines, and erected smelting-works alongside the Roding River, but these works being defective in their construction, and the capital of the company exhausted, no mining operations have been carried on for the last four years. The total quantity of copper ore exported has amounted to 1,394 tons, having a value of £17,862.

MANGANESE.

Considerable quantities of manganese ore are found in the northern portion of the Auckland District. About 15,303 tons have been exported to other countries, having a value of £51,291. During last year the Colonial Manganese Company produced from Waiheke Island about 1,020 tons of ore, which is said to be worth £2 per ton, and 150 tons has been produced in the Whangarei district, having a value of £2 5s. per ton.

TIN.

The supposed rich discoveries of tin ore in Stewart Island made about two years and a half ago have unfortunately not yet been verified. Although there are small quantities of the ore to be found wherever there is any drift gravel covering the granite or gneiss formation on the northern portion of the island, it has never been found in anything like sufficient quantities to pay the expense of working, and there being only small areas of ground here and there where drift gravel can be found; this, together with the scarcity of water, precludes any extensive sluicing operations for saving and collecting the ore being undertaken.

KAURI GUM.

I now come to the production of kauri gum, which, although not a mineral in the strict sense of the term, is closely allied to one, inasmuch that it is difficult to state where the vegetable substance ends and the mineral one begins. It is well known that amber was once a vegetable resin, and also coal-deposits are formed from vegetable substances; but these have become so altered by fossilisation that they now belong to the mineral kingdom. Some of the kauri gum has been buried in the earth for such a length of time that it has become

considerably altered, and resembles ambrite so closely that it is said the latter mineral has been collected and sold as kauri gum. During last year there was 7,438 tons exported, having a value of £378,563; whilst for the year previous there was 7,519 tons, of a value of £329,590. This shows that the value of the gum exported last year was £7 more per ton than for the previous one. The kauri gum industry is one requiring no expensive outfit, a haversack, steel prod, spade, and knife, are all that is used by the digger to enable him to produce the gum in a marketable condition; therefore, its value represents the cost of labour or the wages of those employed in procuring it. It is an industry which affords employment to a number of small settlers who have taken up land in the northern district, and it is also the means of affording a livelihood to a large Native population. Taking the value of gum exported last year, and the value of the gold and silver produced in the Auckland District, it amounts to £510,485, which must form a great factor in producing prosperity in this portion of the colony. The total quantity of gum exported since 1853 has been 134,630 tons, representing a value of £5,394,687.

DEVELOPMENT OF THE MINING INDUSTRY.

There are three things especially necessary for furthering the development of the mining industry—namely, roads and tracks, water-supplies, and prospecting. Works of this character are essential to mining, and require a certain amount of Government aid to bring them to a successful issue.

ROADS AND TRACKS.

The most necessary works for assisting to develop our mineral lodes and encourage the growth of the mining industry are the construction of roads and tracks, without these mining cannot be carried on to any extent. There are many places in the colony comparatively unexplored, especially on the West Coast of the Middle Island, the southern portions of Otago, and also the northern portion of the Auckland District. Owing to the broken and hilly character of the country where mining is generally carried on, being in many places covered with a dense forest, the construction of roads and tracks is indispensable to the development of the mineral wealth. The expenditure under this head for the year ending the 31st March last amounted to £13,146, and the liabilities on works in progress at the end of the year to £10,649. Of this expenditure, £10,894 was on roads and tracks constructed wholly by Government, and £2,252 was on roads and tracks constructed by local bodies on plans and specifications of work being approved by the department and subsidies granted to the extent of £1 for £1. The expenditure on works of this nature during the last eight years has been £99,146 on roads constructed wholly by the department, and £64,782 as subsidies to local bodies, making a total expenditure of £163,928 on roads and tracks.

WATER SUPPLY.

One of the greatest accessories to mining is a good water supply. Without this the large areas of our auriferous drifts cannot be successfully worked. In certain cases the Government was induced to undertake the construction of large works for supplying water to goldfields. Experience has however proved that such works are better left to private enterprise, as the persons immediately interested have the best information as to the nature and extent of auriferous ground that any water supply would command. It is accordingly proposed to ask the House for a vote to aid in the construction of works of this character.

PROSPECTING.

In the early days of the goldfields gold was found in such large quantities and in places so easy of access that the gold-digger was always eager to explore the country with the view of finding gold in some quiet spot where he would be likely to carry on his workings for some time unmolested. This led to prospecting parties being formed by those who were in good claims which enabled them to find the means of providing for the prospectors. Another inducement to prospecting was that the area of the ordinary mining claims being at that time small and quickly worked out, if the prospectors were fortunate enough to make any new discoveries they were certain of getting larger claims.

The second stage of prospecting was by the storekeepers who found that as the shallow ground became exhausted the miners began to leave the field. This made them alive to the fact that, unless new discoveries were made, they would have to give up business, and accordingly found it to their interests to assist the miners in sending out prospecting parties.

But as mining progressed the ground became deeper and more difficult to work, requiring a greater amount of capital which not only absorbed the spare cash of the individual miner, but in many instances compelled him to rely on the storekeeper for assistance. Accordingly the money which was previously available for prospecting is now directed into other channels connected with mining.

Under the existing state of affairs it becomes the duty of the Government, in order to develop our mineral wealth, to assist the miners in further prospecting and exploring the country. To do this systematically and economically all works appertaining to prospecting should be placed under the direction of the local authority or miner's association in the district where prospecting is being carried on. It is therefore proposed to ask the House for a small vote for this purpose.

SUMMARY OF EXPENDITURE ON WORKS.

To summarise the expenditure on works constructed and authorities on works in progress since the votes were placed under the Minister in charge of the department, it has been as follows: Roads and tracks on goldfields, £220,184; roads and tracks to open up mineral lands, £6,852; water-races, £45,508; drainage-channels, £21,401; prospecting works, £48,481; wharves, £436; diamond and other drills, £4,448; towards the treatment of ores, £1,342; and schools of mines, inclusive of amounts paid to the University of Otago, £12,986: making a total of £361,640, out of which £257,749 has been paid by Government; and the liabilities amounted on the 31st March last to £11,312, the balance being paid by local bodies and private companies. A detailed statement of these works will be found in the tables attached to the report of the Inspecting Engineer.

SCHOOLS OF MINES.

Since the establishment of schools of mines throughout the colony the miners have far more knowledge about the mineral ores that are met with and the percentage of metals they contain. This will tend to cause mining to be conducted on a more intelligent basis, and cannot fail to produce a beneficial effect on the industry. The inauguration of this system of technical education is due to Professor Black, who, by his energy and perseverance, caused the miners in every district to take an interest in the subject, and by practical demonstration he showed them that, in order to follow their avocation with success, it was necessary to be able to distinguish the mineral ores met with, and also their value. It must, however, be admitted that any system of peripatetic teaching can only have the effect of temporarily arresting the attention of those wishing to acquire knowledge on this subject, but it cannot be denied that it has a great impetus in inducing men to attend these schools for a considerable time in order to get a sound practical training. The greatest success attending this system of technical education has been at the Thames, where the teaching is carried on continuously by holding day classes for those who can attend, and night classes, which the workmen from the mines and others avail themselves of. The result of teaching at this school last year has been very encouraging, the average attendance being forty-five regular students, and fifty-one pupils from the public schools attending Saturday lectures. It is gratifying to find that many of the miners attending the night classes are taught drawing, mathematics, surveying, mining, geology, chemistry, and assaying. The large attendance at this school, and the great interest taken in the work, may be partly attributed to the mines at the Thames being concentrated within a small radius, which admits of the workmen attending at night, and also to the large number of mineral lodes in this part of the colony, containing complex and refractory ores, requiring different methods of treatment from that formerly adopted to make them pay for working.

The same system of teaching as at the Thames has been adopted at the Reefton school, but the success attending it has not been so encouraging. The instructor attributes this to the mines being situated a long distance from the town, which prevents the miners from attending. Seeing that this is the case the instructor will devote a portion of his time in giving instruction in the various schools on the West Coast, in order to revive the interest taken in them generally. In Reefton, although the centre of a large quartz-mining district, the mines are situated long distances apart, and as the workmen live near the place where they are employed they have not the same opportunities of attending the school as those residing in the Thames District.

It is very satisfactory to find that a number of those who have attended the schools have successfully passed the examination for mining manager's certificates, and I am informed that each examination shows better results than the preceding one. The expenditure on the

schools last year amounted to £1,392, and the total expenditure since their inauguration six years ago has been £12,986, of this amount £3,000 was given towards the School of Mines in connection with the University of Otago. Arrangements were formerly made that £500 would be given to the University of Otago, on condition that Professor Ulrich's services would be placed at the disposal of the Government during the six months' vacation to examine any mineral lodes, auriferous drift, or coal-bearing lands in whatever portion of the colony his services might be required, but owing to an accident he met with many years ago he cannot travel about in very rough country, consequently his services could not be utilised to any great extent. The University Council have recently appointed a lecturer in metallurgy, which may be the means of a larger number of students attending lectures in connection with mining, and cause more attention to be given to the proper treatment of metalliferous ores.

Negotiations will shortly be entered into with the Chancellor with the object of getting night classes held at the School of Mines in connection with the University of Otago, where similar subjects will be taught as at the Thames school, and candidates prepared for mine-managers' examinations; also that assays of any mineral or metalliferous ore from Otago and Southland be made on the same terms as that charged at the other schools of mines. If this can be carried out, a subsidy will be granted.

MINING LEGISLATION.

During the recess I had three Bills prepared which directly affect the mining industry in this colony. These were the Promoters' and Directors' Liability Bill, the Mining Bill, and the Coal-mines Bill.

The Promoters' and Directors' Liability Bill has passed both branches of the Legislature, and it cannot fail to produce a wholesome effect in the constitution of mining companies in the future, as it makes directors, promoters, and other persons responsible for the statements set forth in any prospectuses or notices inviting persons to subscribe for shares or in debentures or debenture stock of a proposed company.

The Mining Bill, whilst consolidating the existing Acts, holds out further inducements for the investment of capital, and for the stability of such capital when invested in mining enterprises. Amongst other things, provisions are made for the reduction of rent, compulsory working of claims, increased area of land held under occupation license, proclamation of the lower portions only of rivers for tailing-channels, giving greater security to individuals entering into mining partnership, the granting of second-class certificates to mining managers, and also the issue of service certificates without examination under prescribed conditions.

The reduction of rent, security of tenure, together with compulsory working of claims, will insure mining being carried on more energetically, thus affording greater employment of labour.

The increased area proposed to be held under occupation license will enable miners to make comfortable homes for themselves, and afford a means of employment when not engaged in mining. For instance, in many parts of the colony fruit-growing might be made a profitable industry, whilst everywhere crops of other produce could be raised, or the land utilised for grazing.

The proclamation of the lower portions of the rivers only will, in many instances, provide all that is necessary for the discharge of tailings, whilst the amounts of compensation payable will be considerably reduced.

The clause in the Bill relating to mining partnership gives greater facilities to persons to combine together to work mining properties, each member having a lien on the partnership property for the amounts of the debts due to creditors, and for any money advanced by him, and in the event of any partner disposing of his interest, which he can do without dissolving the partnership, the purchaser takes the share or interest, subject to existing liens. Further, if any partner deserts or abandons his share or interest for a period of sixty days, the other partners may institute proceedings to be put in possession of such abandoned share or interest.

As it has been found to be a hardship on many persons who, from long experience, were competent to undertake the management of mines to compel them to pass examination, it is proposed to have two grades of mine-managers' certificates, and also to issue service certificates without examination to any person of good repute who has had not less than seven years practical experience in underground workings, and on the production of a certificate from the Inspector of Mines that he is qualified to take charge of a mine,

The Coal Mines Bill provides for this branch of mining being placed directly under the control of the Minister of Mines instead of the Land Boards. Applications for leases within mining districts being dealt with by the Warden, and outside mining districts by the Commissioners of Crown Lands, subject in each case to the approval of the Minister. No assignment, transfer, or amalgamation of leases shall be deemed to be completed unless public notification has been given, and the application has been laid on the table of the House of Representatives for ten days.

It is proposed to make it compulsory on the owners and lessees of coal mines to supply the Government and other railways, and also steam vessels with coal on reasonable terms for their travelling requirements.

Service certificates without examination can also be issued to persons on similar conditions to those required in the Mining Bill, the only difference being that ten years practical experience is required instead of seven.

It is proposed to take power for the resumption by the Crown of coal-mines, with the consent of the owner, in cases where leases were issued, or the land alienated before the passing of the Act of this session, and without such consent in any lands thereafter alienated or leased on the payment of full compensation to the owner or occupier for the value of the lands and improvements, and in the case of the Governor and the owner or occupier not agreeing, the amount of compensation will be determined under "The Public Works Act, 1882." The power of the State to resume and to work coal-mines will have a tendency to check any serious friction between the coal-mine proprietors and their workmen.

Amongst several other new provisions eight hours is to constitute a day's work; and in cases where persons are employed consecutively for seven days a week in connection with steam machinery, they are to have twelve half holidays or six whole holidays during the year, and a contribution on the output of coal is to be made compulsory on the owner or lessee of any coal-mine, so as to afford relief to the workmen or their families in cases of accidents occurring.

GEOLOGICAL SURVEY.

The twenty-fifth annual report on the work done in connection with the Museum and Laboratory has been distributed to members, and the twenty-sixth, bringing it up to the 30th June last, is in course of preparation.

The twenty-first volume of the Geological Reports is now in the press, and will contain, in addition to the usual progress report of the Director, twenty-one special reports on various mineral districts of the colony, and an appendix which gives a brief description of points of special geological interest in each of the counties into which the colony is subdivided.

During the past year the following districts have been surveyed and reported on: In the northern district of Auckland there has been a further examination, and the mapping of the coalfield continued, the eastern outcrop of which extends without interruption from Whangarei to Mongonui; and, although up to the present time mines have only been worked at the former place and at Kawakawa, there are several other places where the indications are decidedly favourable. A large area of the field is obscured by a cover of volcanic rocks, which makes it difficult to trace the coal-measures westward to the dip without the aid of a diamond-drill.

The silver-bearing lodes at Puhipuhi and the extension of the same kind of mineral continuing towards Cape Brett and Mongonui were also surveyed. The richest lodes, it appears, are in greenstone rock, where it has been decomposed to a great depth from the surface to a soft sandstone and pipeclay. The hard undecomposed rock also contains cherty lodes, but in these the precious metal is only present in minute quantity. As, besides the extensive coalfields and the occurrence of silver and gold, ores of mercury, copper, manganese, and iron are found in the north Auckland peninsula, it may be considered a promising mining district.

Other reports relate to the coalfields on the west coast of the South Island, which have been generally re-examined and detailed surveys made, particularly in the Mokihinui district, where a large expenditure is being incurred at present. It is satisfactory to find that a more minute survey of this area has shown that there is abundance of coal to warrant the outlay.

The geological survey of the Kaikoura Mountains is a work of great importance, which has been further advanced during the year. It is probably only through the study of this particular district that it will be possible to obtain a clue to the distribution of mineral veins in other parts of the colony. This arises from the circumstance that this mountain-chain is

of comparatively recent date, and has been formed by movements along lines of fault that have influenced the western ranges. In these movements even surface-gravels have been involved, and some of the richest auriferous deposits appear to have been derived as a re-wash from the earlier-formed alluvia which have been thus preserved. This is especially the case at Parapara, near Collingwood, where there is evidence of an immense body of auriferous gravel, about 300ft. thick, having been nipped in a fault that runs for many miles in a straight line. The gravel deposit, which extends to an unascertained depth, appears to have been the source of the gold obtained in the district. Most of the gold has been gathered from watercourses that intersect the above-mentioned lead. Extensive trials have been made which show that this gravel is on the average much richer than many similar deposits that are profitably worked by hydraulic mining in California and many places in this colony.

By a recent examination of the Bluespur the Director has satisfied himself that the source of the gold is also in this case from an ancient gravel that has been involved and preserved in a fault-line, and no doubt many similar instances will be discovered bearing out this new interpretation of the origin of our alluvial gold.

The other reports relate to antimony and manganese lodes which have lately been discovered in Otago, to the geological structure of some parts of Canterbury, and to various special examinations of gold- and coal-mines.

CONCLUSION.

In concluding my remarks on the mining industry I hope, Sir, I have not wearied honourable members with unnecessary details. Its importance demands it to be recognised as the leading industry in the colony, and one of the greatest factors conducing to our prosperity. Our rich agricultural lands have been year after year passing into private hands, until we have comparatively little left but the hilly and mountainous portions; and yet it is in these lands where the rich mineral lodes are generally found, containing treasures sealed up in the bowels of the earth awaiting discovery by man; treasures capable of producing a means of sustenance to a large population. The days have passed away when the individual gold-digger can sally forth in the morning and be certain of earning his wage with no other implements than a pick, shovel, and a tin dish. The shallow rich auriferous drifts are gradually getting worked out, and it is only by the use of modern appliances that we may in the future hope to make mining a profitable avocation to follow. More attention is yearly being directed to the development of the mineral lodes and improvements in mechanical appliances for the saving of labour, and also in reduction plants, whereby the complex ores met with can be economically treated; so that mining in the past has very little in common with its future progress. Mining ventures have been looked on by many with great distrust, and no doubt justly so, but with modern appliances, and conducted on commercial principles, we may hope to see these ventures more sought after as being legitimate channels for the investment of capital. There is no country in the world offers better facilities for carrying on mining than New Zealand, and few, if any, can compare with its richness in mineral wealth in proportion to its area. Its large and abundant water-supplies are the means whereby the auriferous drifts can be profitably worked, whilst its rapid-flowing rivers, creeks, and streams can readily be utilised as a cheap motive-power to drive machinery in connection with mining. It has been practically demonstrated at Skippers and the Sandhills in Otago that wherever water can be obtained as a motive-power to generate electricity the electro-motive force can be conveyed long distances by small wires placed on telegraph-poles to the place where machinery is required to be erected. Taking all these advantages into consideration, a colony abounding in mineral wealth, requiring only to be developed, and having a climate which cannot be surpassed in any part of the world, we may confidently look forward with the assurance that as the mining industry advances it will maintain its former position as the most prominent factor in adding to the prosperity and future greatness of this colony.

No. 1.

TABLE showing the COMPARISON in QUANTITY and VALUE of GOLD ENTERED for DUTY for EXPORTATION for the Years ending the 31st December, 1889 and 1890; also the TOTAL VALUE since January, 1853.

Name of Metal or Mineral.	For Year ending the 31st December, 1890.		For Year ending the 31st December, 1889.		Total from the 1st January, 1853, to the 31st December, 1890.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Precious metals—	Oz.	£	Oz.	£	Oz.	£
Gold	193,193	773,438	203,211	808,549	11,818,221	46,425,629
Silver	32,637	6,162	24,105	4,043	554,610	134,997
Total gold and silver	225,830	779,600	227,316	812,592	12,372,831	46,560,626
Mineral produce, including kauri-gum—	Tons.	£	Tons.	£	Tons.	£
Copper-ore .. .. .	..	..	..	..	1,394	17,862
Chrome-ore .. .. .	..	..	..	..	5,666	37,967
Antimony-ore	515	11,121	493	5,319	2,373	36,190
Manganese-ore	482	1,004	1,080	2,569	15,303½	51,291
Hæmatite-ore	1½	5	..	..	52½	225
Mixed minerals	19	273	199	9,985	14,066	69,035
Coal exported	69,614	67,003	79,490	76,228	407,480	403,555
Coke exported	2,218	3,334	2,132	3,407	8,942	14,241
Coal, output of mines in colony	565,367	282,933	506,955	253,477	5,889,135	2,944,567
Kauri-gum	7,438	378,563	7,519	329,590	134,630½	5,394,687
Total quantity and value of minerals	646,154½	744,236	597,868	680,575	6,478,882½	8,973,020
Value of gold and silver, as above .. .. .	..	779,600	..	812,592	..	46,560,626
Total value of minerals produced, including gold and silver .. .. .	..	1,523,836	..	1,493,167	..	55,533,646

No. 2.

TABLE showing the QUANTITY and VALUE of GOLD ENTERED for DUTY for EXPORTATION from NEW ZEALAND for the Years ending the 31st March, 1890 and 1891, and the TOTAL QUANTITY and VALUE from 1857 to the 31st March, 1891.

District and County or Borough.	Year ending 31st March, 1891.		Year ending 31st March, 1890.		Increase or Decrease for Year ending 31st March, 1891.		Total Quantity and Value from January, 1857, to 31st March, 1891.	
	Quantity.	Value.	Quantity.	Value.	Increase.	Decrease.		
AUCKLAND—	Oz.	£	Oz.	£	Oz.	Oz.	Oz.	£
County of Coromandel ..	6,039	24,427	4,338	17,178	1,701	..	..	..
County of Thames ..	13,701	52,427	11,380	43,796	2,321	..	..	..
County of Ohinemuri ..	8,761	36,293	2,525	10,092	6,236	..	..	..
County of Piako ..	744	2,902	631	2,446	113	..	..	..
Borough of Thames ..	9,385	37,629	13,064	51,774	..	3,679	..	..
Te Aroha Town District ..	..	..	10	40	..	10	..	..
	38,630	153,678	31,948	125,326	6,682	..	1,655,948	6,187,924
WELLINGTON ..	..	..	..	..	..	..	188	706
MARLBOROUGH—								
County of Marlborough ..	2,333	9,332	4,508	17,996	..	2,175	..	..
Blenheim Borough ..	..	..	1,644	6,575	..	1,644	..	..
Picton Borough ..	..	..	1,000	3,711	..	1,000	..	..
	2,333	9,332	7,152	28,282	..	4,819	66,781	258,509
NELSON—								
County of Waimea ..	92	362	342	1,271	..	250	..	..
County of Collingwood ..	1,518	6,044	3,251	12,322	..	1,733	..	..
	1,610	6,406	3,593	13,593	..	1,983	234,710	930,601
WEST COAST—								
County of Buller ..	12,655	50,620	9,673	38,632	2,982	..	..	..
County of Inangahua ..	22,548	90,195	23,108	92,304	..	560	..	..
County of Grey ..	16,647	66,587	27,149	108,531	..	10,502	..	..
County of Westland ..	29,675	118,698	27,545	110,126	2,130	..	..	..
Brunnerton Borough ..	50	200	66	263	..	16	..	..
Kumara Borough ..	1,726	6,899	2,640	10,561	..	914	..	..
Hokitika Borough ..	203	810	337	1,349	..	134	..	..
Ross Borough ..	3,286	13,145	3,548	14,189	..	262	..	..
Reefton Borough ..	2	7	..	..	2	..	..	..
	86,792	347,161	94,066	375,955	..	7,274	5,113,341	20,306,902
CANTERBURY ..	..	..	..	..	..	..	48	192
OTAGO—								
County of Taieri ..	659	2,628	255	1,022	404	..	..	..
County of Tuapeka ..	13,685	56,280	10,727	48,870	2,958	..	..	..
County of Vincent ..	7,266	29,258	11,506	45,960	..	4,240	..	..
County of Maniototo ..	3,175	12,847	5,507	22,188	..	2,332	..	..
County of Waihemo ..	705	2,784	811	3,250	..	106	..	..
County of Waikouaiti ..	1,410	5,619	1,164	4,656	246	..	..	..
County of Waitaki ..	1,690	6,724	1,396	5,584	294	..	..	..
County of Bruce ..	49	195	70	278	..	21	..	..
County of Lake ..	6,309	25,529	8,176	32,663	..	1,867	..	..
County of Wallace ..	3,786	15,005	5,011	20,024	..	1,225	..	..
County of Fiord ..	360	1,423	48	192	312	..	..	..
County of Southland ..	2,463	9,817	4,212	16,846	..	1,749	..	..
County of Stewart Island ..	8	32	3	12	5	..	..	..
County of Clutha ..	21	80	20	80	1	..	..	..
Unknown ..	23	90	48	175	..	25	..	..
Borough of Alexandra ..	106	433	202	814	..	96	..	..
Dunedin ..	..	..	15,845	63,404	..	15,845	..	..
	41,715	168,744	65,001	260,018	..	23,286	4,784,032	18,887,180
Totals ..	171,080	685,321	201,760	803,174	..	30,680	11,855,048	46,572,014

No. 3.

TOTAL QUANTITY AND VALUE OF GOLD ENTERED FOR DUTY FOR EXPORTATION FROM THE 1st JANUARY, 1857, TO THE 31st DECEMBER, 1890. (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	£	..	£	..	£	..	£	..	£	..	£	10,437	£
1858	..	1,192	13,226	51,272	..	..	..	..	..	..	..	..	..	..	13,584	52,464
1859	7,336	28,427	..	..	..	..	..	..	..	..	..	..	7,336	28,427
1860	4,538	17,585	..	..	..	..	..	..	..	..	..	..	4,538	17,585
1861	6,385	24,552	..	..	..	..	..	..	..	..	..	..	194,081	751,873
1862	..	4,098	10,422	40,386	..	..	..	..	..	..	..	..	..	..	410,862	1,591,889
1863	..	4,483	13,553	55,841	..	..	..	..	..	..	..	..	..	..	628,450	2,431,723
1864	..	3,448	14,410	37,120	..	..	..	..	..	..	..	..	..	..	480,171	1,856,837
1865	..	5,449	12,137	47,090	24,838	95,231	..	..	187,696	727,321	..	..	..	..	574,574	2,226,474
1866	..	17,096	7,650	29,643	7,952	30,814	289,897	1,127,370	399,201	1,546,905	..	..	..	..	735,376	2,844,517
1867	..	17,463	9,123	35,918	501	1,818	532,572	2,140,946	614,987	2,380,750	..	..	..	..	686,905	2,698,862
1868	..	6,637	7,123	25,918	501	1,978	511,974	2,018,874	158,670	623,815	..	..	..	..	614,281	2,362,995
1869	..	53,660	5,999	38,896	404	1,616	405,762	1,608,844	171,649	686,596	..	..	..	..	730,029	2,787,320
1870	..	434,687	10,631	42,524	666	2,664	317,169	1,269,664	153,364	613,456	..	..	..	..	445,370	1,731,261
1871	..	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
1872	..	1,188,708	10,014	40,056	1,867	7,468	232,882	931,528	154,940	619,760	..	..	..	..	730,029	2,787,320
1873	..	369,341	8,175	32,700	2,057	8,228	172,574	690,296	157,674	630,696	..	..	..	..	445,370	1,731,261
1874	..	497,123	13,697	54,786	1,274	5,050	188,501	756,442	182,416	734,024	..	..	..	..	505,337	1,987,425
1875	..	305,068	5,642	22,158	1,198	4,748	157,531	631,203	135,107	542,154	..	..	..	..	376,388	1,505,331
1876	..	262,156	4,577	17,866	1,139	4,636	158,678	635,480	121,423	487,632	..	..	..	..	355,322	1,407,770
1877	..	221,905	14,018	55,862	450	1,796	133,014	531,274	118,477	473,491	..	..	..	..	322,016	1,284,328
1878	..	403,527	5,367	21,092	870	3,197	153,198	612,823	113,169	455,841	..	..	..	..	371,685	1,496,080
1879	..	220,454	4,463	17,223	404	1,617	144,634	578,508	105,008	422,277	..	..	..	..	310,486	1,240,079
1880	..	154,235	2,993	11,424	879	3,460	142,822	571,061	102,869	407,868	..	..	..	..	287,464	1,148,108
1881	..	176,416	3,222	12,223	1,550	5,650	144,090	575,258	113,666	457,705	..	..	..	..	305,248	1,227,252
1882	..	141,326	3,453	13,089	1,378	4,631	127,544	509,971	102,670	411,923	..	..	..	..	270,561	1,080,790
1883	..	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
1884	..	163,618	2,064	7,724	636	2,524	116,905	447,152	87,478	352,394	..	..	..	..	248,374	993,352
1885	..	143,564	2,159	8,002	1,079	4,306	111,686	446,517	78,810	318,932	..	..	..	..	229,946	921,797
1886	..	170,416	2,798	10,337	540	2,160	117,861	471,325	73,183	294,378	..	..	..	..	237,371	948,615
1887	..	128,140	2,582	9,979	404	1,451	112,571	446,287	79,104	317,518	..	..	..	..	227,079	903,569
1888	..	121,564	2,914	10,829	1,041	3,759	98,774	395,430	70,443	279,518	..	..	..	..	203,869	811,100
1889	..	139,556	3,027	11,320	699	2,547	100,139	400,405	62,107	247,142	..	..	..	..	201,219	801,066
1890	..	113,191	3,252	12,310	5,189	20,167	101,696	406,451	64,419	256,430	..	..	..	..	203,211	808,549
..	..	125,760	2,856	11,049	6,073	24,285	89,096	356,368	63,410	255,926	..	..	..	..	193,193	773,438
Totals ..	1,639,357	6,122,473	234,630	930,281	66,751	258,509	5,093,249	20,226,540	4,783,968	18,886,928	188	706	48	192	11,818,221	46,425,629

No. 4.

TABLE showing the TOTAL QUANTITY of MINERAL ORES (the Product of Mines other than Gold), COAL, COKE, and KAURI GUM, EXPORTED from the Colony up to 31st December, 1890.

Year.	Silver.		Copper Ore.		Chrome Ore.		Antimony Ore.		Manganese Ore.		Hematite 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.	Tons.	Value.
1853	..	£	..	£	..	£	..	£	..	£	..	£	..	£	..	£	..	£	830	15,972	830	£
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	..	25	..	..	..	..	..	..	..	..	..	..	..	..	1,811	20,037	2,167	23,066
1859	..	..	245	2,605	8	120	..	..	..	..	..	..	..	..	..	..	..	..	2,010	20,776	2,263	23,501
1860	..	..	137	1,590	116	1,440	..	..	..	..	..	..	..	..	..	..	..	..	1,046	9,851	1,300	12,883
1861	..	..	110	1,300	52	520	..	..	..	..	..	..	..	..	..	..	..	..	1,018	11,708	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	..	..	..	..	..	..	..	..	..	..	..	..	2,535	70,572	3,077	72,287
1867	..	..	246	2,700	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,685	77,491	3,904	81,419
1868	..	..	84	977	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,690	72,493	3,801	74,680
1869	11,063	2,998	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,850	111,307	3,800	115,100
1870	37,123	11,380	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,391	175,074	6,070	188,082
1871	80,272	23,145	7	120	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,054	167,958	6,750	192,715
1872	37,064	9,910	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,811	154,167	5,822	164,982
1873	36,187	9,850	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,834	85,816	3,558	96,321
1874	40,566	10,380	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,569	79,986	4,119	91,957
1875	29,085	7,569	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,231	138,523	5,631	149,272
1876	12,683	3,171	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,834	103,234	7,975	129,372
1877	38,893	7,556	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,633	118,348	8,682	137,711
1878	23,019	5,755	6	115	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,445	132,975	12,420	154,687
1879	20,645	4,512	55	1,105	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,229	147,535	12,722	163,001
1880	20,005	4,500	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,725	242,817	17,177	275,799
1881	18,885	4,236	5	36	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,461	233,788	15,438	271,633
1882	5,694	1,286	9	41	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,533	260,369	14,019	281,016
1883	16,826	3,785	46	678	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6,518	336,606	14,593	350,086
1884	24,914	5,125	20	106	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6,393	342,151	13,071	353,024
1885	16,624	3,169	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,875	209,762	51,468	362,779
1886	12,108	2,946	20	390	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,920	237,653	52,411	318,783
1887	20,809	3,453	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6,791	362,449	51,666	419,844
1888	403	71	2	75	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8,482	380,933	79,145	459,261
1889	24,105	4,043	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7,519	329,590	24,105	439,260
1890	32,637	6,162	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7,438	378,563	30,287	467,465
Totals	554,610	134,997	1,394	17,862	5,666	37,367	2,373	36,190	15,303	51,291	52	225	14,066	69,085	418,700	415,785	8,942	14,241	184,630	5,394	601,227	6,171,680

NOTE.—Silver ore, 37 tons, £1,225.

No. 5.

TABLE showing the INCREASED PRODUCTION of COAL, Year by Year, during the last Twelve Years, and the DECREASE of COAL IMPORTED for the same Period.

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	—	34,778
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

No. 6.

TABLE showing the OUTPUT of COAL from the various Mining Districts, and the Comparative INCREASE and DECREASE, for the Years 1889 and 1890, 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, 1890.
	1889.	1890.			
	Tons.	Tons.			
Kawakawa	27,000	30,367	+	3,367	740,992
Whangarei, Kamo, and Whauwhau	15,314	19,633	+	4,319	249,632
Waikato	51,941	64,729	+	2,788	540,660
Mokau .. .. .	..	1,188	+	1,188	1,188
Pelorus .. .. .	..	..	..	..	711
West Wanganui	3,574	4,092	+	518	36,786
Westport	167,033	170,406	+	3,373	985,683
Reefton	3,471	6,010	+	2,539	43,184
Greymouth	137,904	118,847	—	19,057	1,376,679
Malvern	12,194	15,083	+	2,889	259,553
Timaru	476	1,430	+	954	3,954
Otago	150,461	176,428	+	25,967	2,054,112
Southland	17,077	29,184	+	12,107	163,540
Totals	586,445	637,397	+	50,952	6,456,674

No. 7.

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, 1891.
	1889.	1890.			
	Tons.	Tons.			
Bituminous	335,511	323,712	—	11,799	3,143,910
Pitch	87,445	124,593	+	37,148	1,015,986
Brown	144,010	171,725	+	27,715	2,113,460
Lignite	19,479	17,367	—	2,112	183,318
Totals	586,445	637,397	+	50,952	6,456,674

No. 8.

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 1890.	Average Output per Man.
85	1 to 4 men in each	155	Tons. 42,945	Tons. 277
16	5 to 10 "	115	40,771	354
5	11 to 20 "	80	29,935	374
17	21 men and upwards	1,496	523,746	350
123		1,846	637,397	345

No. 9.

RETURN showing the QUANTITY and VALUE of COAL IMPORTED INTO and EXPORTED FROM NEW ZEALAND during the Year ended the 31st December, 1890.

Imported.			Exported.		
Countries whence imported.	Quantity.	Value.	Countries to which exported.	Quantity.	Value.
	Tons.	£		Tons.	£
United Kingdom	4,621	4,629	United Kingdom	42,984	47,824
Victoria	750	555	Victoria	635	502
New South Wales	100,421	92,238	New South Wales	11,155	10,700
Queensland	5,147	4,744	Queensland	151	99
			South Australia	6,814	3,532
			Norfolk Island	12	16
			Fiji Islands	6,554	4,853
			U.A. America, East Coast ..	3	4
			New Caledonia	117	87
			South Sea Islands	7,963	7,311
Totals	110,939	102,166	Totals	76,388	74,928

NOTE.—Foreign Coal: Included in exportation to—New South Wales, 3,980 tons, value £4,735; Fiji Islands, 124 tons, value £124; South Sea Islands, 2,670 tons, value £3,066. The remainder is New Zealand produce.

W. T. GLASGOW,

For Secretary and Inspector.

Department of Trade and Customs, Wellington, 15th June, 1891.

No. 10.

NUMBER of MINERS EMPLOYED during the Years ending 31st March, 1890 and 1891.

Mining District.	Alluvial Miners.		Quartz-miners.		Totals.		Grand Total.	
	European.	Chinese.	European.	Chinese.	European.	Chinese.	1890.	1891.
AUCKLAND—								
North Hauraki and Coromandel ..	..	..	339	..	339	..	420	339
South Hauraki .. ..	..	..	..	..	..	..	1,161	..
Thames .. ..	..	..	701	..	701	..	..	701
Ohinemuri .. ..	..	..	311	..	311	..	..	311
Te Aroha .. ..	..	..	36	..	36	..	105	36
	..	..	1,387	..	1,387	..	1,686	1,387
MARLBOROUGH—								
Pelorus	306	..	24	..	330	..	404	330
Wairau	37	..	..	..	37	..	..	37
	343	..	24	..	367	..	404	367
NELSON—								
Baton .. ..	..	..	..	..	..	..	..	..
Wangapeka	28	..	..	..	28	..	42	28
Sherry and Tadmor .. ..	..	..	..	..	..	..	..	..
Collingwood, Takaka, and West Wanganui	182	2	39	..	221	2	194	223
Motueka	6	..	..	..	6	..	..	6
Inangahua	75	186	420	..	495	186	775	681
Ahaura	486	192	..	..	486	192	770	678
Charleston	275	..	..	..	275	..	250	475
Westport, including Addison's, Northern Terraces, Waimangaroa, North Beach, Mokihinui, Karamea, and Lower Buller Valley	270	..	25	..	295	..	360	295
Lyell	60	6	62	..	122	6	83	128
Murchison	120	100	1	..	121	100	206	221
Owen .. ..	..	..	..	..	..	..	..	..
	1,502	486	547	..	2,049	486	2,680	2,535
WESTLAND—								
Ross	180	40	8	..	188	40	260	228
Stafford and Goldsborough ..	260	105	..	..	260	105	650	365
Hokitika and Kanieri	700	150	..	..	700	150	760	850
Kumara	520	100	..	..	520	100	620	620
Greymouth .. ..	..	..	..	..	..	..	..	..
Arnold	800	450	..	..	800	450	1,263	1,250
Greenstone .. ..	..	..	..	..	..	..	..	..
Okarito	94	1	..	..	94	1	91	95
Jackson's Bay	36	..	..	..	36	..	36	36
	2,590	846	8	..	2,598	846	3,680	3,434
OTAGO—								
Hindon	100	5	56	..	156	5	168	161
Tuapeka	440	400	40	..	480	400	920	880
Clyde	40	15	..	..	40	15	63	55
Cromwell	310	143	37	..	347	143	555	490
Alexandra	150	50	12	..	162	50	205	212
Roxburgh	268	45	..	..	268	45	311	313
Black's	156	45	10	..	166	45	220	211
Tapanui	30	30	..	..	30	30	60	60
Waikaia, Upper Waikaia, Nokomai, Waikaka, and Waikawa	200	180	..	..	200	180	356	380
Longwood .. ..	..	..	..	..	..	..	..	..
Orepuki	110	..	6	..	116	..	501	116
Roundhill	60	300	..	..	60	300	425	360
Wakatipu Goldfields—Arrow, Macetown, Cardrona, Kawarau, Bracken's, and Motatapu	325	80	50	..	375	80	550	455
Queenstown	375	100	100	..	475	100	293	575
Naseby, Kyeburn, Clarke's, and Mount Burster	200	145	..	..	200	145	..	345
Hamilton, Sowburn, &c. ..	52	10	..	..	52	10	55	62
Hyde and Fullerton's	65	20	..	..	65	20	91	85
Serpentine .. ..	..	..	..	..	..	..	..	..
Macrae's, Strath-Taieri, Shag Valley, and Nenthorn	58	75	31	..	89	75	236	164
Maerewhenua	75	..	..	..	75	..	60	75
St. Bathans and Ida Valley ..	130	20	..	..	130	20	148	150
Wyndham	150	..	..	..	150	..	120	150
	3,294	1,663	342	..	3,636	1,663	5,337	5,299
SUMMARY.								
AUCKLAND .. ..	..	..	1,387	..	1,387	..	1,686	1,387
MARLBOROUGH	343	..	24	..	367	..	404	367
NELSON	1,502	486	547	..	2,049	486	2,680	2,535
WESTLAND	2,590	846	8	..	2,598	846	3,680	3,444
OTAGO	3,294	1,663	342	..	3,636	1,663	5,337	5,299
Totals	7,729	2,995	2,308	..	10,037	2,995	13,787	13,032

No. 11.

Place from where Gold was sent.	Weight of Gold as taken at Colonial Laboratory.	Weight of Gold received at Sydney Mint.	Weight of Gold after Melting.	Loss of Gold in Melting.	Assay Report: Decimal.		Fineness of Gold.
					Gold.	Silver.	
Kumara	Oz. dwt. gr. 11 19 21	Oz. 11·99	Oz. 11·84	Oz. 0·15	·9570	·035	Carats. 22·968
Island Block	12 0 14	12·04	11·50	0·54	·9605	·030	23·052
St. Bathans	11 19 21	11·99	11·72	0·27	·9730	·020	23·332
Alexandra	12 0 5	12·01	11·79	0·22	·9525	·040	22·860
Reefton	12 0 20	12·04	11·77	0·27	·9760	·015	23·424
Totals	60 1 9	60·07	58·62	1·45	..	..	..

Place from where Gold was sent.	Standard Gold.	Mint Value per Oz.	Value at Sydney Mint.	Mint Charges.	Net Value after deducting Mint Charges.	Purchase- money.
Kumara	Oz. 12·361	£ s. d. 4 1 4 ³ / ₈	£ s. d. 48 3 2	£ s. d. 0 5 2	£ s. d. 47 18 0	£ s. d. 46 17 0
Island Block	12·050	4 1 7 ⁵ / ₈	46 18 10	0 5 0	46 13 10	46 8 6
St. Bathans	12·440	4 2 7 ¹ / ₄	48 8 9	0 5 2	48 3 7	48 0 0
Alexandra	12·251	4 0 11 ¹ / ₈	47 14 11	0 5 1	47 9 10	46 4 0
Reefton	12·532	4 2 10 ³ / ₄	48 15 1	0 5 3	48 9 10	47 6 9
Totals	61·634	..	240 0 9	1 5 8	238 15 1	234 16 3

NOTE.—Expenses: Freight, £2 2s.; insurance, 18s. 3d.; incidental, 2s.; purchase-money, £234 16s. 3d.: total, £237 18s. 6d.

Approximate Cost of Paper.—Cost of preparation, not given; printing (2,300 copies), £23.]

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