

1899.  
NEW ZEALAND.

# MINES STATEMENT.

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

MR. SPEAKER,—

It affords me much pleasure to again bring under the notice of honourable members the continued advancement of the mining industry, and the steady progress made during the past year both in gold- and coal-mining. The confidence in our Northern mines, which had been somewhat shaken by the reckless speculation prevailing a few years ago, has been gradually restored; and, whilst the "wild-cat" promotions have to a great extent been weeded out, other mining areas are constantly being applied for, and a great deal of *bonâ fide* prospecting and development work is going on throughout the colony. In Otago large areas have been taken up for dredging, and the Wardens are still busily occupied in hearing applications for mining privileges in Central Otago and Southland. In this connection it may not be out of place if a warning is given to the investing public as to the necessity for a close scrutiny of the prospectuses of some of the companies placed on the market, for in all periods of undue excitement many worthless properties are floated by men who have little thought of working them. On more than one occasion during the mining excitement in the Northern goldfields I felt it my duty to warn investors, and there is danger just now of a repetition of the same undesirable methods being transferred from the Northern to the Southern goldfields. In mining, as in all other avocations, it is a case of the survival of the fittest; and companies whose mines were placed under the control of experienced and judicious management are now being rewarded for their forethought. In the North Island this is particularly noticeable.

In the quartz-mining centres in the Middle Island some very important work has been carried on in a successful manner; while in alluvial mining success has been still more marked, especially with respect to dredging operations.

As intimated in last year's Statement, I have endeavoured, as far as possible, to furnish the latest information procurable as to the position of the mining industry; and it will be found that the results set forth in the returns are in some instances supplemented by more recent information in the Statement itself.

## MINERAL PRODUCTION.

The quantity of gold, silver, coal, and other minerals, including kauri-gum, produced for the year ending the 31st December last will be found in Table No. 1, annexed. The total production of gold and silver was 574,026 oz., representing a value of £1,113,798, compared with a value of £1,001,076 for the preceding year. This shows an increase of £112,722.

Of other minerals, including coal, 918,994½ tons were produced, representing a value of £1,068,077, as against 849,105 tons, of a value of £856,517 for the previous year, being an increase of £189,346. The production of kauri-gum was 9,905 tons, valued at £586,767, as compared with 6,641 tons, valued at £398,010, for 1897.

The quantities and values of the chief mineral productions for the years ending the 31st December, 1898 and 1897 respectively, were as follow:—

Product.	1898. Quantity.	1898. Value. £	1897. Quantity.	1897. Value. £
Gold... ..	280,175 oz.	1,080,691	251,645 oz.	980,204
Silver ... ..	293,851 "	33,107	183,892 "	20,872
Antimony-ore ... ..	...	...	10 tons	157
Copper-ore ... ..	2¼ tons	70	...	2
Manganese-ore ... ..	217 "	703	180 "	541
Mixed minerals ... ..	1,828 "	4,792	1,561 "	5,892
Colonial coal exported, including that used by Home steamers	56,332 "	50,381	76,073 "	69,595
Coke exported ... ..	9 "	14	...	...
Colonial coal consumed in New Zealand ... ..	850,701 "	425,350	764,640 "	382,320
Kauri-gum ... ..	9,905 "	586,767	6,641 "	398,010
Total value of production for 1898	...	2,181,875	...	1,857,593
" " 1897	...	1,857,593	...	...
Total increase ... ..	...	£324,282	...	...

The total value of the gold, silver, coal, and other minerals, including kauri-gum, exported up to the end of 1898 was £70,767,494.

#### GOLD-MINING.

Many of the works that were in progress in connection with gold-mining have been completed, and operations of a permanent character undertaken and carried out; consequently the quantity of gold and silver recovered has increased. The returns in many instances from alluvial mining have been highly satisfactory. This is mainly due to a more copious rainfall throughout Otago and some parts of Westland, enabling sluicing operations to be more continuously carried on; dredging returns also show an increase, this being in a great measure due to the increased number of dredges and improvements in their construction.

Throughout the goldfields the people are now more settled, especially as the prospect of continuous employment in many of the mines is becoming assured.

The quantity of gold entered for exportation through the Customs for the year ending 31st March last, as shown in Table No. 2, annexed, was 303,525 oz., representing a value of £1,168,930; while the quantity exported for the same period of the preceding year was 251,492 oz., valued at £976,198. This shows an increase of 52,033 oz., principally due to the output in Ohinemuri County, which yielded 41,114 oz. more than the previous year. Of the quantity exported, Auckland contributed 148,183 oz., Marlborough 621 oz., Nelson and West Coast 76,420 oz., Canterbury 12 oz., and Otago 78,289 oz.

#### QUARTZ WORKINGS.

The gratifying increase in the gold returns from this source is due largely to the result of operations of the Waihi Mine, in the North Island, and of the Progress Mines, in the Reefton District. There has been a falling-off in the Lake County, Otago, owing to the cessation of production in the Achilles Mine, and in the Fiord County, chiefly due to the decrease in yield of the Morning Star Mine at Preservation Inlet.

In consequence of the increase in the number of quartz-reduction plants in which the cyanide process is to be used, and the introduction of wet-crushing with cyanide solution, whereby a larger quantity of quartz can be dealt with than was effected by the use of the stamps in dry-crushing, the future yield of gold should be largely augmented.

During last year 214,815 tons of quartz and tailings were treated in the Auckland District, yielding 498,074 oz. bullion, representing an estimated value of £575,642 as against bullion to the value of £405,745 for the former year, being an increase of £169,897. In the Nelson and West Coast Districts 66,116 tons of quartz were crushed for a return of 27,165 oz. of gold, valued approximately at £109,019, an increase of £81,988 on the previous year. In the Otago District 19,564 tons of quartz was treated for a yield of 9,870 oz. of gold, the estimated value being £38,493, a decrease of £29,407 on the previous year's return. The total for the colony was 300,495 tons treated for 535,109 oz. of gold, and bullion valued at £723,154.

As to the methods of extraction, it will be interesting to note that 465,176 oz., of the value of £489,767, were obtained by the cyanide process; 1,271 oz., of the value of £5,315, by chlorination; and 68,697 oz., of the value of £228,072, by amalgamation, showing that nearly 87 per cent. of the quantity was obtained by cyanide, 0.237 per cent. by chlorination, and 12.837 per cent. by amalgamation. The proportions of the values were: By cyanide, 67.726 per cent.; chlorination, 0.737 per cent.; and amalgamation, 31.538 per cent.

#### COROMANDEL COUNTY.

The Hauraki Mine still continues to furnish a fair quantity of gold; the Kapanga returns are of a substantial character; the Royal Oak has yielded profitable returns, with every prospect of their continuance; and the Hauraki Associated has given fair yields. As the Kauri Freehold Gold Estates has now started crushing, the returns from this property will, it is anticipated, materially add to next year's yield, as extensive blocks are opened up for stoping, and a large stack of quartz is in readiness to be treated.

The Kuaotunu District may be expected to furnish continued payable returns. The Mariposa is opening up ground at deeper levels. The Kapai-Vermont and Great Mercury Mines have changed owners, and this will probably lead to a better conduct of future mining operations.

The nature of the deposits throughout Coromandel District is such that hopes may be entertained that fresh finds will follow systematic prospecting in many of the mines. The total returns for the year from this district were 12,269 tons, yielding 20,138 oz., valued at £53,829, as against £73,337 for the previous year. Although the returns are considerably less than those of the preceding year, there are indications that next year's yield will show an increase.

The principal returns were: From the Hauraki Mine, 2,090 tons 0 qr. 72 lb., producing 5,645 oz. 11 dwt., valued at £16,545 7s. 4d.; Royal Oak, 270 tons 4 cwt. 35 lb., yielding 5,137 oz. 13 dwt., valued at £12,942 8s.; Kapanga, 311 tons 7 cwt. 76 lb., giving a yield of 2,600 oz. 3 dwt., valued at £7,632 5s. 10d.; Hauraki Associated, 506 tons 8 cwt. 7 lb., producing 1,352 oz., value £3,850 7s. 8d.; Mariposa, 2,812 tons, yielding 1,628 oz. 19 dwt., valued at £3,740 13s. 2d.; and Great Mercury, 1,202 tons crushed for 1,132 oz., of the value of £2,527 6s. 4d. Hauraki Gold-mining Company, Coromandel: the total amount of gold raised by this company up to the 30th of June last was £254,162 13s. 6d.

#### THAMES COUNTY.

The yield of gold for the year shows a considerable increase compared with the return for 1897-98, and the outlook for next year is of a hopeful character throughout the district. The Thames-Hauraki Company, in carrying on pumping operations at the southern end of the Thames Borough portion of the field, has unwatered a large block of ground in which reefs of a promising character, may now be developed. The Waiotahi Mine continues to maintain its character, and the company are still enabled to pay regular dividends; while the new blocks of ground opened at the lately-drained levels in the Cardigan and May Queen Mines show indications of profitable yields in the near future.

The prospecting operations in the New Alburnia, Moanataiari, Kuranui, and Kuranui-Caledonian Mines are carried on in localities where rich deposits were

worked in past years, and in which it is probable further bonanzas may be discovered.

Prospecting in the Waiotahi, Karaka, Una Hill, Hape and the out-districts is being continued, and the new battery at Whangamata, when completed, will be employed on quartz that is likely to prove remunerative. The Mahara Royal and other mines in the Tapu district in which the reefs are being worked should again give fair yields, and the mines in the Tararu district will also augment the Thames return. The return for the year was 31,338 tons 17 cwt. 97 lb. of quartz crushed for a yield of 18,003 oz. 17 dwt., valued at £47,580 6s. 3d. as against £32,177 14s. for the previous year, showing an increase of £15,402 12s. 3d.

#### OHINEMURI COUNTY.

There is every evidence that the returns from the various mines will next year be largely in excess of the amount of this year's yield, which considerably exceeds that of the preceding twelve months. Operations in the low levels in the Waihi Mine proved the existence of the different reefs at a greater depth, and show that they are not falling off in size nor diminishing in richness; while in the Waihi Grand Junction it has been clearly indicated that the line of the famous Martha Reef extends both to the eastward and westward, and that large quantities of payable quartz exist in the ground adjoining the Waihi Mine, which will no doubt give further encouragement to prospect along the line of reef in both directions. The returns from the Waihi-Silverton may still be expected to continue, and, as further prospecting is carried on, other lodes of payable quartz will most probably be discovered; while the developments in the Union-Waihi mine may also be expected to furnish large quantities of payable quartz.

Important works have been carried on in the Waihi Consols; in the Ohinemuri Claim prospecting is carried on by boring with a diamond drill; and the discoveries at Waihi Beach promise to be of some importance. The Waitekauri Company are carrying on operations in the Golden Cross, Te Ao Marama, and old Waitekauri sections of the property. In the Waitekauri Mine the operations indicate a continuance of profitable returns. Important works are also being carried on in the Waitekauri Cross and the Waitekauri Extended Mines.

The old mines at Maratoto are again being opened, and the result of operations has been sufficient to warrant the erection of a crushing mill, which will shortly be ready and be in a position for the treatment of the ore.

At Komata the Komata Reefs Mine is being energetically opened up, and large quantities of quartz are available. The Crown and the Talisman Mines at Karangahake are both developing valuable quartz at low levels, and producing excellent returns of bullion. The reef in the Crown Mine is now opened to a depth of 150 ft. below the bed of the Waitawheta River; it is of large size and of high value, giving an indication of future success at the deep levels. The total distance to which the No. 4 and No. 6 levels have been driven on the line of reef from their respective entrances is 2,847 ft. and 2,624 ft., showing that extensive blocks are being opened up. The Woodstock Mine also continues to be a steady producer, and as improvements are being made in the methods of treatment better extraction may in future be expected. Important developments are also being made in the Talisman Extended Mine.

In the Owharoa district, the Ohinemuri Syndicate are carrying on prospecting operations at a considerable depth below the old workings.

Ohinemuri is, without question, the premier quartz-mining field in the colony, and bids fair to maintain its position for some time to come. The total returns for the year were 170,881 tons 11 cwt. of quartz crushed for a yield of 459,652 oz. 14 dwt. of bullion, valued at £473,397 18s. 2d., as against £300,107 17s. 8d. for the previous year, and showing an increase of £173,290 0s. 6d.

The following are some of the principal returns :—

Waihi Mine.—The following are the returns from this famous mine since 1890 :—

	Tons.	£	s.	d.
1890	...	21,112	13	0
1891	...	23,935	5	11
1892	18,236	44,888	2	4
1893	19,805	61,900	10	11
1894	24,864	82,827	2	2
1895	33,670	120,334	2	2
1896	34,400	137,321	8	2
1897	40,764	144,040	9	7
1898	77,929	253,304	12	5
1899—				
Period ending 4th February	8,538	24,256	0	0
" 4th March	7,152	22,076	0	0
" 4th April	7,635	22,095	0	0
" 4th May	7,534	22,779	2	6
" 3rd June	7,890	25,723	5	3
" 1st July	7,715	24,444	0	0
	296,132	1,031,037	14	5

From the Waitekauri Mine the returns are :—

	£	s.	d.
To December, 1897	85,490	11	0
For the year to December, 1898	64,052	6	0
Period ended 28th January, 1899	8,731	0	0
" 25th February, 1899	6,018	0	0
" 25th March, 1899	5,629	0	0
	169,920	17	0

From the New Zealand Crown Mines the returns are :—

	Tons.	£	s.	d.
Prior to 1898	...	138,104	0	0
In the year 1898	25,563	52,024	0	0
January, 1899	2,664	5,592	0	0
February, 1899	2,524	4,889	0	0
March, 1899	2,730	5,652	0	0
	33,481	206,261	0	0

#### TAURANGA AND OTHER DISTRICTS.

There does not appear to be an immediate prospect of any great addition to the returns from the refractory ores in the Te Aroha district, nor from the Tauranga, Puhipuhi, or Great Barrier districts, until suitable quartz-mills are erected. A parcel of ore from the Great Barrier mines is, however, now being treated at the Woodstock battery at the Thames, to confirm tests of samples sent to San Francisco and Chicago. If the results from the crushing are satisfactory, a plant will be erected at Great Barrier, which it is expected will be completed not later than March next.

#### NELSON AND WEST COAST DISTRICTS.

The return of gold from the Progress Mines, near Reefton, has been most gratifying, showing that the resources of this district are by no means exhausted. The quantity of ore operated on since May, 1898, was 37,500 tons, which yielded gold to the value of £63,593 3s. 7d., and the further treatment of 344.5 tons of concentrates by the chlorination process yielded gold valued at £5,315 15s. 10d., or a total value of £68,908 19s. 5d. A fair proportion of the ore was obtained from the deepest workings of the mine, the reef at No. 7 level improving in appearance and in value as operations were extended. It is therefore apparent that deep mining in this district has, so far, proved successful; and this, with the recent discoveries made in the Keep-It-Dark, Big River, and other mines, give promise of a continuance of further profitable returns.

The yields from the Aorangi Mine, which forms part of the Taitapu Gold Estates freehold property, show that future satisfactory returns may be expected.

In the Lyell district the consolidation of the Alpine Extended Mine has led to more systematic development, which will probably have good results.

On the whole, it may be assumed that the large returns for the past year will be equalled, if not exceeded, by the product of next year's operations, especially as the prospects in other mines are of a favourable character. The returns from the quartz-mines in these districts amounted to £109,019 2s. 10d., showing an increase of £81,988 7s. 10d. over the previous year.

OTAGO AND SOUTHLAND.

The chief production for the year was from the Cromwell, Macetown, and Preservation Inlet districts.

The Achilles Mine at Bullendale, which has been one of the most regular gold-producers in the past, is now undergoing development, having been intrusted to Messrs. Taylor and Son, the eminent firm of mining engineers, London, and may again be expected to contribute to future returns.

In the other fields no very extensive operations are carried on, other than working out the most readily accessible parts of the reefs and veins that have been already opened, but the work now in course of development at the OPQ mine at Waipori is of a promising character.

The return from quartz-mines for the year was 9,870 oz. 0 dwt. 16 gr., valued at £38,493, as against 17,301 oz. 18 dwt. 16 gr., valued at £67,900, or a decrease of £29,407 on the previous year.

DIVIDENDS FROM QUARTZ-MINING.

The following dividends were paid by quartz-mining companies operating in New Zealand during the year ended 31st March, 1899:—

Waihi Company	...	...	...	...	...	£112,000
Waitekauri	...	...	...	...	...	9,620
Waiotahi	...	...	...	...	...	1,050
Big River	...	...	...	...	...	900

And since that date further dividends have been paid by the—

Waihi Company	...	...	...	...	...	£32,000
Waiotahi	...	...	...	...	...	300
Progress Mines	...	...	...	...	...	12,500

The total amount of dividends paid by the under-mentioned companies from the date of their commencing operations to the 30th of June, 1899, is as follows:—

Waihi Gold-mining Company	...	...	...	...	...	£404,500
Hauraki Gold-mining Company	...	...	...	...	...	144,000
Waiotahi	...	...	...	...	...	35,850
Waitekauri	...	...	...	...	...	42,180
Big River	...	...	...	...	...	40,500
Progress	...	...	...	...	...	12,500
Royal Oak	...	...	...	...	...	12,500
New Zealand Crown	...	...	...	...	...	10,000

ALLUVIAL MINING.

This class of gold-mining is confined to the Middle Island. The gold is derived from deposits of gravel found on the mountains at a height of 4,000 ft. above sea-level, and on horizons at various elevations, from the highest down to at least 300 ft. below sea-level. Many rivers and streams contain gold in the gravel of which their beds are composed, and it is also found in the later fluvial deposits in the lower lands. The gold from alluvial workings, including dredging operations, is about 40 per cent. of the total yield during the past year.

MARLBOROUGH.

The chief places from which gold is produced are Mahakipawa, Wakamarina, and some of the branches of the Wairau River.

NELSON.

In the Collingwood District the Parapara Hydraulic Sluicing and Mining

Company and several other sluicing claims have given fair returns of gold. The Collingwood Goldfields (Limited) have constructed extensive water-races, and will shortly be in a position to commence hydraulic sluicing operations.

#### WEST COAST.

Hydraulic sluicing has been commenced at Karamea, and some prospecting is also carried on in that district. A number of small parties are employed on the beach between Mokihinui and Westport, and several parties are at work in the Waimangaroa and Orawaiti. At Fairdown the General Exploration Company have for some time conducted hydraulic sluicing operations. At Bradshaw's Terrace several parties are profitably employed, and at Addison's Flat a number of claims are being worked, but very little has been done at the Bendigo Claim during the year. Prospecting has also been carried on at Brown's Terrace. At Charleston the usual number of parties are employed on the cement leads and on the black-sand beaches. Powell's hydraulic elevating claim is also at work on the black-sand deposits near the beach.

On the Buller River several parties are employed near Berlin's and at different points between Inangahua Junction and Lyell. Sluicing operations are also being carried on on the Matakītaki and Maruia Rivers. A number of parties are also employed on the branches of the Inangahua.

#### *Grey Valley.*

There is also alluvial mining at Antonio's, Blackwater, Noble's, and Orwell Creeks, and at Ahaura, Callaghan's, Nelson Creek, Healey's Gully, Blackball, and Moonlight, and at No Town, Bell Hill, and Sulky Gully.

#### *Greymouth Beaches.*

Between Cobden and Point Elizabeth a few parties are working, and there are several sluicing claims at the Fourteen Mile Beach, Seventeen Mile Beach, Canoe Creek, and Barrytown Flat, and on other beaches as far north as Brighton. Small parties are also engaged at some of the creeks and beaches between Greymouth and Hokitika.

#### *Marsden District.*

A number of parties, Chinese and Europeans, are engaged at Saltwater River, Dunganville, and Mosquito Flat.

#### *Greenstone District.*

Both ground and hydraulic sluicing is carried on at Maori Point, Greenstone, Blackwater, and Cape Terrace.

#### *Kumara District.*

A number of persons continue to find employment in hydraulic sluicing operations. Upwards of seventeen parties work their claims through the channels, taking the water from the Kumara Water-race. Several private channels are also used by the owners of claims who have a water-supply of their own in addition to what is furnished from the Government Race. No. 5 Channel, or Main Tail-race, has lately been completed, and the claim-owners are preparing to carry on sluicing through this channel. Prospecting for leads at deep levels is also being carried on.

#### *Waimea District.*

Several parties are engaged sluicing at Callaghan's and the Middle Branch, at which place a new main tail-race is nearly completed, and the claim-holders will shortly be able to use it. A tunnel is being driven from Flowery Creek towards Kelly's Terrace to drain the wet ground.

#### *Arahura.*

The Humphries' Gully hydraulic-sluicing claim continues to be worked, and water-races to convey an increased quantity of water are being constructed.

Dwyer's drainage-tunnel has been advanced to 4,085 ft. Boy's Claim continues to be profitably worked, and prospecting is being carried on at Blue Spur Creek.

#### *Hokitika.*

A number of miners are employed at Craig's Freehold and the University Reserve, and at Lake Mahinapua; also at the Houhou, Kanieri, and Kanieri Forks.

#### *Rimu.*

Several parties are engaged along the whole length of the terrace from Woodstock to Seddon's Terrace. Two sections of land, the property of Mr. P. O'Neill, have been resumed for mining purposes. The land being directly convenient to the terrace, and lying between it and the Hokitika River, it was in the way of sluicing operations.

#### *Ross.*

A considerable number of miners still find employment along the Totara River and Donnelly's Creek. The Ross United Company, Mont d'Or Sluicing Company, and the Prince of Wales Claim at Donoghue's are being profitably worked, and several parties are prospecting about the Mikonui River.

#### *Okarito.*

The Waiho Hydraulic Sluicing Company will shortly commence operations on their claim at Waiho. Several persons are engaged on the shores of Lake Mapourika, the Callery River, and on the beaches to the northward and southward of Okarito.

Throughout Nelson and the West Coast alluvial fields, during dry seasons, the water in the races in many instances is inadequate for sluicing operations, and better conservation must be adopted to keep up a continuous supply.

#### OTAGO AND SOUTHLAND.

Alluvial mining is carried on from Maerewhenua and Livingston on the north-east to Mount Buster, where the auriferous gravels are found at an elevation of upwards of 4,000 ft. above sea-level, and throughout Northern Otago, Central Otago, Southern Otago, and parts of Southland, including Waikaia, Colac Bay, Orepuki, Waiiau, and Preservation Inlet.

From this extensive field gold to the value of £21,231,704 has been won since the first discoveries were made. At Maerewhenua and Livingston a considerable number of men find employment in sluicing and mining operations. At Mount Buster work can only be carried on during the summer months. At Kyeburn considerable numbers are engaged mining and sluicing. At Naseby the chief works are hydraulic elevating by water from the Mount Ida Water-race. Hydraulic sluicing is carried on at Blackston Hill and in the St. Bathans district, at which place claims are also worked by hydraulic elevating. At Vinegar Hill, Welshman's, and Matakanui the elevating method of working is also in use.

In the Cardrona and Cromwell districts, on account of the scarcity of water, different methods of working are adopted. Hydraulic elevating and sluicing are the methods adopted on the Shotover River, and extensive elevating plants are in use at Nokomai.

At Bald Hill Flat, Roxburgh, Miller's Flat, Island Block, and Beaumont there is hydraulic elevating on some of the terraces on the banks of the Clutha.

One of the principal elevating plants is that of the Blue Spur and Gabriel's Gully Consolidated Gold Company at Lawrence. There are also operations of this kind at Munroe's Gully and Weatherston.

There are also extensive sluicing and hydraulic elevating works in the Waikaia district and at Round Hill, near Colac Bay, in Southland; and sluicing is carried on at Orepuki, Waiiau Beach, and in the Preservation Inlet.

Throughout Otago the rainfall was more abundant than usual, and consequently the quantity of material operated on has been greater than for several seasons past.



It may be said, and rightly so, that the alluvial fields are becoming exhausted, but if greater attention be paid to water-conservation and the maintenance of a more regular supply those fields should last for years to come.

#### DREDGING.

This method of recovering alluvial gold from the rivers, streams, and valleys containing accumulations of auriferous drifts, is being followed throughout the different goldfields in the Middle Island, and continues to be an important and profitable industry.

A large number of claims have been taken up in addition to those already occupied, and on which dredging operations are conducted. The continued improvement in the building of dredges and fitting them with the most suitable machinery, with buckets of greater capacity, has resulted in larger quantities being dealt with at lessened cost per cubic yard.

Material can now be dredged, washed, and the stones and tailings elevated and conveyed clear of the pontoons at a cost of from 1d. to 3d. per cubic yard.

The number of dredges now working in Otago, Southland, and the West Coast is about eighty, and others are in course of construction.

The value of the gold obtained by dredging for the twelve months ending the 31st March last amounted to £169,689, which was 61·4 per cent. of the value of the alluvial gold, and 14·5 per cent. of the value of the gold exported from the colony.

The gold obtained from thirty-six dredges, for the same period, was 21,173 oz. 12 dwt., which shows the highly profitable nature of dredging operations.

According to the published statement of affairs by dredging companies £65,218 were paid in dividends during the year 1898, but, as many of the dredges are owned by private companies, full information about their dividends is not available.

Dredging claims have been taken up in the Nelson and Collingwood District at Parapara and on the Aorere River; in Marlborough on the Mahakipawa and Wakamarina; on the West Coast on the Buller River and the Matakita branch; on the Nile and Totara Rivers at Charleston; on the Grey River, Teremakau, Greenstone, Arahura, Waimea (the Totara River near Ross); and on some of the beaches south-west from Okarito. Dredging claims have also been taken up on the following rivers in Otago: Taieri, the Hogburn and Kyeburn branches, Waipori, Tokomairiro, the Clutha and its branches, Waitahuna, Tuapeka, Manuherikia, Lindis, the Kawarau and its branches, Shotover, and Nevis. In Southland, the Mataura and its branches Waikaia, Waikaka, and Waimumu, Lake George and the Waiiau River; and it is probable that, in addition to the number already built and working, further dredges will be provided to work claims.

#### DIVIDENDS PAID BY REGISTERED COMPANIES.

The total amount paid in dividends, according to the statutory returns published by registered mining companies in the *Government Gazette*, up to the 31st December, 1898, was as follows:—

Gold-dredging companies	...	...	...	...	£ 65,218
Alluvial and hydraulic sluicing companies	...	...	...	...	104,064
Quartz-mining companies	..	...	...	...	205,631
					<hr/> 374,913
Dividends paid by English companies,—amounts not shown in statutory returns	...	...	...	...	617,330
Total	...	...	...	...	<hr/> £992,243

Of the above, £214,025 was paid by companies which were in existence prior to 1888; the balance, £778,218, was paid by companies that have been registered within the last ten years.

COMPARATIVE VALUE OF EXPORT OF GOLD AND SILVER FOR THE FIRST SIX MONTHS OF THE YEARS 1898-99.

The latest Customs returns show that the export of gold for the first six months of the present year was valued at £752,643, the return for the corresponding period of 1898 being valued at £527,516, an increase of £225,127. The value of silver exported shows an increase of £4,997 for the same period.

SCHOOLS OF MINES.

The various schools for classes have been carried on at the Thames, Waihi, Coromandel, Reefton, Nelson, and the Otago University, the instructors at the Thames being officers of the department, subsidies being also granted for part payment of instructors and maintenance of schools at Waihi, Coromandel, and Westport. The school at Reefton is at present closed, but proposals are now under consideration for reopening it. The Otago University was also granted the usual annual amount towards the cost of maintaining its School of Mines.

During the year 170 students attended the schools of mines—namely, sixty-four at the Thames, forty-seven at Coromandel, forty-four at Waihi, forty-seven at Dunedin, and twelve at Reefton. During the previous year 342 attended. This shows a great falling-off for the past year, the decrease in the attendance being about 50 per cent.

At the last examination only four students went up for the three scholarships at the Otago University offered annually by the Government for competition by students attending schools of mines, but Mr. William Donovan, of the Thames School, was the only successful candidate. He is thus entitled to a £50-per-annum scholarship, tenable for three years. It is to be regretted that so few of the Schools of Mines students have hitherto availed themselves of the offer of these scholarships.

The expenditure on Schools of Mines during the year was £1,450 15s. 2d., exclusive of teachers' salaries.

SUNDAY LABOUR IN MINES.

Permits to the number of fifty-two, giving permission for the employment of 304 men, were issued by the Inspectors of Mines in all parts of the colony.

TRIBUTING.

This method of working quartz-mines, which had become almost a dead letter during the boom period, is again being adopted by many of the mining companies. The percentage paid by tributers in most of the mines is from 2½ to 15 per cent., no tribute being paid if the miner's earnings do not exceed £1 10s. per week. In the Kuranui-Caledonian Mine, at the Thames, no tribute is paid until the miner's earnings exceed £2 per week, after which the percentage rises in a ratio from 5 per cent., proportionate to the earnings of the miner, until a maximum of 50 per cent. is reached, should the earnings amount to £20 per week.

“THE MINING ACT, 1898.”

“The Mining Act, 1898,” which came into operation on the 1st February last, appears to have given general satisfaction. Some detailed objections were however raised to certain of the regulations as first issued, but it is believed that the amendments made in the additional regulations have overcome most, if not all, the defects which practical experience of the working of the original regulations brought under notice from time to time.

In conformity with the requirements of the Act, the regulations have been referred to the Goldfields and Mines Committees of both Houses, and it is hoped that the members of these Committees will submit such further amendments and additions as they may consider desirable, to make the regulations as fully applicable as possible to the varied requirements of the mining industry in the several goldfields districts of the colony.

After the Committees have dealt with the matter, fresh regulations will be prepared consolidating the present regulations and incorporating such

additions and amendments thereto made by the Committees as may be considered desirable.

#### THE CYANIDE PROCESS.

The acquisition of the patent rights under the provisions of "The Cyanide Process Gold-extraction Act, 1897," for which £10,000 was paid to the Cassel Gold-extracting Company, has proved to be satisfactory. Nineteen licenses have been issued to different companies and persons using the process, and royalties amounting to £1,774 18s. 7d. have been paid from 20th August, 1897, to 31st March last, so that even on this basis the royalties would in about six years recoup the amount paid for the patent rights.

The plants at which the process will be used are on the increase, and it is anticipated that the cyanide process will be free for use in New Zealand before the expiration of the period mentioned.

#### PROVISIONAL WARRANTS.

The warrants issued under "The Mining Act Amendment Act, 1896," expired on the 31st December, 1898. Forty-four first-class and eighteen second-class mine-managers' certificates were granted by the Board of Examiners to those persons whose management of mines under provisional warrant had been satisfactory.

#### PROSPECTING.

In the prosecution of prospecting for gold and minerals assistance was, during the year, extended to the miners chiefly through the medium of the County Councils and Miners' Associations. The following amounts were paid as subsidies towards prospecting in the different counties—viz., Bay of Islands, £83 7s. 3d.; Manukau, £10 10s.; Coromandel, £101 10s.; Tauranga, £6; Grey, £120 5s. 6d.; Inangahua, £114 9s. 9d.; Westland, £1,550 15s. 7d.; Selwyn, £13 10s.; Tuapeka, £106 19s.; Southland, £36 7s.

#### AID TO DEEP-LEVEL MINING.

No new works towards deep-level prospecting have been undertaken during the year. The balance amounting to £1,135 13s. 11d. has been paid to the Thames-Hauraki Company, which completes the payment of the full grant of £25,000 to the company on the conditions referred to in previous statements. All works in connection with the pumping plant have been completed, the shaft has been stripped, and the water-level reduced to a depth of 614 ft. from the surface.

#### *Ross Flat.*

With a view to giving encouragement to drain and work the alluvial leads at deep-levels, the Government has received a report on the subject from Mr. C. Napier Bell, and, in pursuance of his recommendations, a survey of the Mikonui River has been made and data obtained whereon to base a scheme for the drainage of the flat by the use of electricity. The estimated cost of this scheme, including construction of race, electrical plant for transmission, &c., together with equipment of mine, is £50,155. It is proposed to withhold an area of 100 acres on Ross Flat for any company that can satisfy the Government of their ability to raise sufficient capital to drain the flat to a depth of 400 ft. below the adit. In the event of this being done, the Government will be prepared to subsidise the undertaking in accordance with the provisions of "The Mining Act, 1898," and the regulations thereunder.

#### BATTERY FOR PROSPECTING PURPOSES.

The erection of a battery at Mahakirau, Mercury Bay, in accordance with a decision of the Government to further aid the prospectors and afford facilities for crushing and testing parcels of quartz in new districts, is being proceeded with. Arrangements have been made for the construction and erection of a movable three-stamp testing plant and all necessary fittings.

## WATER CONSERVATION.

The collection and storage of the rainfall, and of water resulting from the melting of snow on the mountains, has received attention during the year.

The officer appointed to examine the most favourable sites where dams and reservoirs for water storage could be constructed, has reported on a reservoir at Gimmerburn, both for irrigation and for the use of miners on the Garibaldi Diggings; two dam sites at Wedderburn for irrigation purposes only; a reservoir site in the North Ida Valley, and also the works in progress for the Eweburn Reservoir. The whole of the foundations of the dam at Eweburn are completed, and the construction of the embankment, which is to be 65 ft. in height at the byewash and 70 ft. at the crest is in progress; but in consequence of it being impossible to continue full working-time throughout the winter, the work may not be finished until towards the end of the year. This reservoir is intended to hold 500,000,000 gallons of water, and the cost of the work to the 30th of June last was £9,410. Further examination has also been made of the works for domestic water supply for the townships of Karangahake, Waitekauri, and Waihi, in the County of Ohinemuri; at the two first-named places the Government has undertaken to assist by contributing half the cost of the works.

## GEOLOGICAL EXPLORATIONS.

The large collection of rock specimens collected during the previous year by Mr. Alexander McKay, the Government Geologist, and the mineral specimens in possession of the Mines Department, were prepared and shown at the Auckland Industrial and Mining Exhibition, where they elicited great attention from the mining men who visited the Exhibition. First-class awards were obtained for gold specimens, specimens of ore, and geological specimens.

A report was furnished by the Geologist, after an examination at Moturoa, on the prospects of finding petroleum at that place. The report was not, however, of a favourable character.

A report was also made on the occurrence of gold, silver, and copper, at Patua Range on the west flanks of Mount Egmont. The metals, however, were not found in payable quantities.

The presence of rhodochrosite at Paraparaumu was also reported on, but, although considerable quantities exist, the price obtained at the present time for carbonate of manganese does not admit of the ore being mined for export.

Special examinations for gold were made in the district east of Lake Taupo. Alluvial gold was found on the banks of the Hinemaiaia and some of its tributaries by Mr. McKay, but the prospects obtained by him were not payable.

Examination was also made of the cement deposit at Te Puke. The cement is gold-bearing, but the Geologist holds out very little hope of its being found payable. The same description of gravels, under similar conditions, are found over a large area between Rotorua and the shores of the Bay of Plenty.

Examination for gold was made at the Wade and Dairy Flat, but the formation was not of a promising character, and no gold was seen.

A special examination was made of the beds around Riverhead, Auckland, for gem stones, diamonds and other stones of value being reported found near Henderson and Riverhead. Despite persistent reports of their presence in the district, no stones of value were seen.

A report was also furnished on the carbonaceous deposits in the hills to the south-west of the Waihi Plain. The locality was examined, and two seams of workable lignite were noted. The material will yet prove a valuable fuel, and local tests show that its steam-raising power is as two to one compared with good rata firewood.

During the season an examination was made of the east shore of Pelorus Sound near the entrance from Cook Strait; also a survey of the Trooper Range and the district on the coast between the Whareama and Pahau Rivers, on the east coast of Wellington.

## COAL MINING.

The demand for coal continued to increase during the past year, consequently the output from the mines was greater than that of the year 1897.

The Kaitangata and Castle Hill collieries are now the property of an English company, and it is intended to increase the output by extending the workings and the introduction of coal-cutting machinery. This company, which is known as the Kaitangata Collieries Shale and Oil Syndicate, has also acquired a right to the Orepuki shale-deposits, and intends to open up the mine and erect the necessary machinery for the extraction of oil.

The collieries in Grey and Westport districts are in a position to largely increase their output, if necessary. As an indication of the expansion of the export of coal from Westport, there were 32,519 tons 14 cwt. of coal shipped during the month of May, this being 4,167 tons above the monthly average for last year. Of the above quantity 29,023½ tons was from the Westport Coal Company, and 3,496 tons 4 cwt. from the Westport Cardiff Company. There were 900 tons shipped for Samoa, and 403 tons for the Caroline Islands.

In the Auckland District the consolidation of the different colliery companies in the Waikato should lead to a more energetic, economical, and profitable manner of working their mines. The extension of the railway to the Thames promises to afford another important market for the coals.

Notwithstanding the exhaustion of coal in the Kawakawa District, the increase in the general output of semi-bituminous coal was maintained from Kiripaka and Hikurangi Districts.

## ACCIDENTS IN MINES.

The total number of persons employed in the different classes of mining, and the number of fatal accidents that occurred in each division, was as follows:—

Class of Mining.	Number of Persons Employed.	Fatal Accidents.	Rate per 1,000.
Coal .. .. .	2,003	1	0.5
Quartz .. .. .	4,721	9	1.9
Alluvial, hydraulic, sluicing, and dredging .. .. .	8,951	12	1.34
	15,675	22	1.6

Other accidents occurred, in which twenty-four men were injured, a few more or less seriously, in the North Island. On the West Coast, one in quartz and three in alluvial mining, none of which were of a serious character. In Otago a few accidents were reported, all being of a slight nature. Full inquiries were made into the cause of all the accidents, and in each case the officials in charge of the mine were exonerated from blame.

## TARANAKI IRONSAND.

A number of experiments have from time to time been made by different people for the production of steel from the sand found along the seashore at the Taranaki District.

In May, 1898, a parcel of 20 tons was forwarded to the Agent-General by the s.s. "Gothic," at the request of the Esteve Steel Company. The sand duly arrived in London, and on the 12th July last the Agent-General notified the Government that it had been received and handed over to the company, who paid all costs for packing and shipment.

From a report since received from the Agent-General it appears that the company are able to produce high-class tool-steel in the crucible. It is also stated that by experimenting further the sand could be agglomerated and made into pig-iron available for making steel in a Siemen-Martin furnace, as well as making steel of all qualities direct from the sand in such a furnace.

## METALLIFEROUS MINES.

Some attention is still being directed to the search for lodes containing deposits of copper, but no production of any importance has been recorded.

## MANGANESE.

The production of this metal is unimportant, 217 tons only having been exported.

## SULPHUR.

At Tikitere, in the Rotorua District, 2,043 tons 12 cwt., of the value of £5,367, were mined and exported; the ore contained about 75 per cent. of sulphur. It is said a larger quantity could be produced if a better tenure to the land was obtained, so that refining works could be erected on the ground.

## OPAL-MINING.

Although opals of a valuable kind occur at Tairua, in the Auckland District, there is no record of any production for the year.

## PETROLEUM.

The boring operations carried on in the Taranaki District have so far been unsuccessful.

## KAURI-GUM.

There has been an increase of 3,264 tons in the production during the year, the quantity being 9,905 tons, valued at £586,767, as against 6,641 tons for the previous year, valued at £398,010. The total quantity of kauri-gum exported since 1853 is 200,475 tons, valued at £9,099,619. This industry affords a livelihood to a large number of both Europeans and Natives; but the average earnings of persons employed in digging gum cannot be ascertained. No doubt the time is approaching when the gum will be exhausted, but a considerable period will yet elapse before this takes place.

## MOLYBDENITE.

The discovery of this metal was lately made in the Iron Cap Mine at Tararu, Thames. It occurs as loose fragments in nests and small stringers alongside 12 in. ironstone vein. Some small fragments run about 40 per cent., but further prospecting must be done before the value of the discovery can be estimated.

Thirty years ago molybdenite was found as fine flakes in subcrystalline limestone for the west coast of Otago; and more recently in some auriferous quartz taken from a reef in the Moonlight Claim, Paparoa Range, but not in paying quantity.

## SCHEELITE.

A parcel of 40 tons of this mineral was obtained by Messrs. Donaldson Brothers from their claim at Macrae's, Otago, where it is found associated with the quartz in an auriferous lode. The material is obtained by crushing the quartz, and recovering the scheelite by concentration. It is said to contain 67 per cent. tungstic acid.

## ROADS AND TRACKS.

The expenditure on roads and tracks during the year shows a decrease compared with that of last year. The total expenditure by the department during the last seventeen years on roads and tracks for the development of the mining industry amounts to £285,322 8s. 2d. in direct grants, and £92,266 8s. 1d. in subsidies to local bodies; out of which £42,358 8s. 6d. and £4,191 7s. 9d. respectively were expended during the year.

## HÆMATITE PAINT.

In the Collingwood District 100 tons of paint were manufactured from hæmatite by Washbourne Brothers. The New Zealand Paint Manufacturing Company also produced 106 tons of the paint at their hæmatite works at the Thames Goldfield.

## CINNABAR.

Some prospecting work has been carried on on a lode containing cinnabar which had been discovered at Mangakirikiri, in the Thames District, but no appreciable quantity has yet been recovered.

## THE MINING BUREAU.

The publication of "The New Zealand Mines Record" has been continued since August, 1897, by the Secretary of the Mining Bureau. A great deal of valuable information, more particularly with regard to improved mining processes and machinery, is collected both inside and outside the colony, the publication of which in the "Record" should tend to the advantage of the mining industry, and give investors a better idea of the varied mineral resources of New Zealand.

## CONCLUSION.

It is satisfactory to state that the mining industry continues on a sound basis. There has been an increased gold production, and capital is being judiciously expended in the development of mines, erection of new machinery, construction of dams and water-races, and especially in the building of new dredges.

Towards the further development and the extension of the industry it is imperative to continue the construction of roads and tracks, water-conservation, and aid to deep-level prospecting, and substantial votes for these purposes are necessary.

That mining in this colony has entered upon a new era of prosperity, I have little doubt, for the latest records of gold and coal production afford a clear indication of the continued progress and the more stable basis on which the industry now rests, but I would again direct attention to the injury done to legitimate mining by rash speculation.

## No. 1.

TABLE showing the COMPARISON in QUANTITY and VALUE of GOLD entered for EXPORTATION, and also the QUANTITY and VALUE of other MINERALS produced, for the Years ending the 31st December, 1897 and 1898, as well as the TOTAL VALUE since January, 1853.

Name of Metal or Mineral.	For Year ending the 31st December, 1897.		For Year ending the 31st December, 1898.		Total from the 1st January, 1853, to the 31st December, 1898.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Precious metals—	Oz.	£	Oz.	£	Oz.	£
Gold .. .. .	251,645	980,204	280,175	1,080,691	13,845,727	54,453,325
Silver .. .. .	183,892	20,872	293,851	33,107	1,379,013	235,831
Total gold and silver .. .. .	435,537	1,001,076	574,026	1,113,798	15,224,740	54,689,156
Mineral produce, including kauri-gum—	Tons.	£	Tons.	£	Tons.	£
Copper-ore .. .. .	..	2	2½	70	1,396½	17,938
Chrome-ore .. .. .	..	..	..	..	5,666	37,367
Antimony-ore .. .. .	10	157	..	..	3,610	52,361
Manganese-ore .. .. .	180	541	217	703	18,502½	59,237
Haematite-ore .. .. .	..	..	..	..	52½	226
Mixed minerals .. .. .	1,561	5,892	1,823	4,792	17,702	83,574
Coal exported .. .. .	76,073	69,595	56,332	50,381	1,031,331	1,008,622
Coke exported .. .. .	..	..	9	14	16,352	24,795
Coal, output of mines in colony .. .. .	764,640	382,320	850,701	425,350	11,452,315	5,726,157
Kauri-gum .. .. .	6,641	398,010	9,905	586,767	200,475	9,099,619
Total quantity and value of minerals	849,105	856,517	918,994½	1,068,077	12,747,402½	16,078,338
Value of gold and silver, as above .. .. .	..	1,001,076	..	1,113,798	..	54,689,156
Total value of minerals produced, including gold and silver .. .. .	..	1,857,593	..	2,181,875	..	70,767,494

## No. 2.

TABLE showing the QUANTITY and VALUE of GOLD entered for EXPORTATION from NEW ZEALAND for the Years ending the 31st March, 1898 and 1899, and the TOTAL QUANTITY and VALUE from 1857 to the 31st March, 1899.

District and County or Borough.	Year ending 31st March, 1898.		Year ending 31st March, 1899.		Increase or Decrease for Year ending 31st March, 1899.		Total Quantity and Value from January, 1857, to 31st March, 1899.	
	Quantity.	Value.	Quantity.	Value.	Increase.	Decrease.		
<b>AUCKLAND—</b>	Oz.	£	Oz.	£	Oz.	Oz.	Oz.	£
County of Coromandel ..	16,712	70,544	13,259	55,404	..	3,453	..	..
County of Thames ..	4,014	16,656	6,367	26,803	2,353	..	..	..
County of Ohinemuri ..	83,732	297,704	124,846	447,680	41,114	..	..	..
County of Piako ..	90	357	89	363	..	1	..	..
County of Manukau ..	..	..	..	..	..	..	..	..
County of Marsden ..	..	..	..	..	..	..	..	..
County of Whangarei ..	..	..	..	..	..	..	..	..
Borough of Thames ..	3,942	16,841	3,622	15,213	..	320	..	..
Te Aroha Town District ..	..	..	..	..	..	..	..	..
	108,490	401,602	148,183	545,463	39,693	..	2,315,558	8,715,729
<b>WELLINGTON ..</b>	..	..	..	..	..	..	188	706
<b>MARLBOROUGH—</b>								
County of Marlborough ..	619	2,400	621	2,406	2	..	..	..
Blenheim Borough ..	..	..	..	..	..	..	..	..
Picton Borough ..	..	..	..	..	..	..	..	..
	619	2,400	621	2,406	2	..	86,385	336,415
<b>NELSON—</b>								
County of Waimea ..	33	124	356	1,424	323	..	..	..
County of Collingwood ..	725	2,729	1,364	5,458	639	..	..	..
	758	2,853	1,720	6,882	962	..	1,674,859	6,640,045
<b>WEST COAST—</b>								
County of Buller ..	8,480	33,918	13,386	53,576	4,906	..	..	..
County of Inangahua ..	9,727	38,913	19,588	78,350	9,861	..	..	..
County of Grey ..	23,754	95,014	19,773	79,090	..	3,981	..	..
County of Westland ..	21,078	84,312	19,069	76,277	..	2,009	..	..
Brunnerton Borough ..	..	..	..	..	..	..	..	..
Kumara Borough ..	295	1,182	242	966	..	53	..	..
Hokitika Borough ..	808	3,227	358	1,429	..	450	..	..
Ross Borough ..	1,979	7,915	2,284	9,136	305	..	..	..
Reefton Borough ..	..	..	..	..	..	..	..	..
	66,121	264,481	74,700	298,824	8,579	..	4,399,597	17,498,258
<b>CANTERBURY ..</b>	..	..	12	49	12	..	36	145
<b>OTAGO—</b>								
County of Taieri ..	1,462	5,597	3,121	12,251	1,659	..	..	..
County of Tuapeka ..	17,568	70,976	19,361	78,325	1,793	..	..	..
County of Vincent ..	20,523	83,008	24,185	97,349	3,662	..	..	..
County of Maniototo ..	7,213	29,166	9,387	37,785	2,174	..	..	..
County of Waihemo ..	497	2,031	578	2,356	81	..	..	..
County of Waikouaiti ..	144	589	24	95	..	120	..	..
County of Waitaki ..	1,621	6,516	2,000	8,039	379	..	..	..
County of Bruce ..	978	3,939	1,717	6,886	739	..	..	..
County of Lake ..	10,043	41,021	4,883	19,879	..	5,160	..	..
County of Wallace ..	6,699	26,920	7,262	29,168	563	..	..	..
County of Fiord ..	5,292	21,179	2,591	10,373	..	2,701	..	..
County of Southland ..	3,413	13,713	3,123	12,592	..	285	..	..
County of Stewart Island ..	..	..	52	208	52	..	..	..
County of Clutha ..	51	207	..	..	..	51	..	..
Borough of Alexandra ..	..	..	..	..	..	..	..	..
Dunedin ..	..	..	..	..	..	..	..	..
	75,504	304,862	78,289	315,306	2,785	..	5,461,800	21,621,592
Unknown ..	..	..	..	..	..	..	122	484
Totals ..	251,492	976,198	303,525	1,168,930	52,033	..	13,988,545	54,813,374



No. 3.

TABLE showing the TOTAL QUANTITY and VALUE of GOLD entered for DUTY for EXPORTATION from the 1st January, 1857, to the 31st December, 1898. (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 gold from Invercargill and Riverton under the head of "Otago.")

Year.	Auckland.		Nelson.		Marlborough.		West Coast.		Otago.		Wellington.		Canterbury.		Total.	
	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.
1857	..	£	10,437	40,422	..	£	..	£	..	£	..	£	..	£	10,437	40,422
1858	..	..	13,226	51,272	..	..	..	..	..	..	..	..	..	..	13,584	52,464
1859	..	1,192	7,386	28,427	..	..	..	..	..	..	..	..	..	..	7,386	28,427
1860	..	..	4,538	17,585	..	..	..	..	..	..	..	..	..	..	4,538	17,585
1861	..	..	6,335	24,552	..	..	..	..	..	..	..	..	..	..	194,031	751,373
1862	..	4,098	10,422	40,386	..	..	..	5,560	21,273	187,696	727,321	..	..	..	410,862	1,591,389
1863	..	13,858	9,580	37,120	..	..	..	1,127,370	399,201	399,201	1,546,905	..	..	..	628,450	2,431,723
1864	..	3,448	14,410	55,841	..	..	..	2,140,946	614,387	614,387	2,380,750	..	..	..	480,171	1,856,837
1865	..	17,096	12,137	47,030	..	..	..	2,018,874	436,012	436,012	1,689,653	..	..	..	574,574	2,226,474
1866	..	17,463	7,650	29,643	..	..	..	1,608,844	259,139	259,139	1,004,163	..	..	..	735,376	2,844,517
1867	..	18,277	9,123	35,918	1,463	289,897	..	2,140,946	168,871	168,871	654,647	..	..	..	686,905	2,698,862
1868	..	168,874	5,999	38,396	..	..	..	1,608,844	171,649	171,649	686,596	..	..	..	637,474	2,504,326
1869	..	434,687	10,631	42,524	..	..	..	1,269,664	153,364	153,364	1,456,456	..	..	..	614,281	2,362,995
1870	..	319,146	12,244	48,692	..	..	..	1,121,525	165,152	165,152	660,694	..	..	..	730,029	2,157,585
1871	..	1,188,708	10,014	40,056	..	..	..	831,528	154,940	154,940	1,760,760	..	..	..	445,370	1,731,261
1872	..	369,341	8,175	32,700	..	..	..	690,296	137,674	137,674	630,696	..	..	..	376,337	1,505,331
1873	..	437,123	13,697	54,786	..	..	..	756,442	182,416	182,416	734,024	..	..	..	322,016	1,284,328
1874	..	305,068	5,642	22,158	..	..	..	631,203	135,107	135,107	542,154	..	..	..	355,322	1,407,770
1875	..	262,156	4,577	17,866	..	..	..	635,480	121,423	121,423	487,632	..	..	..	371,685	1,496,080
1876	..	221,905	14,018	55,862	..	..	..	612,823	113,169	113,169	473,491	..	..	..	310,486	1,148,108
1877	..	403,627	5,367	21,092	..	..	..	578,508	105,003	105,003	422,277	..	..	..	287,464	1,148,108
1878	..	220,454	4,463	17,223	..	..	..	571,061	102,869	102,869	407,868	..	..	..	270,561	1,080,790
1879	..	154,295	37,901	154,295	..	..	..	571,061	142,522	142,522	457,705	..	..	..	305,248	1,227,252
1880	..	176,416	42,720	176,416	..	..	..	571,061	113,666	113,666	457,705	..	..	..	251,304	1,002,720
1881	..	141,326	35,516	141,326	..	..	..	509,971	102,670	102,670	411,923	..	..	..	248,374	993,352
1882	..	131,007	33,059	131,007	..	..	..	519,978	83,446	83,446	333,804	..	..	..	248,374	993,352
1883	..	163,618	41,291	163,618	..	..	..	467,152	87,478	87,478	352,334	..	..	..	229,946	921,797
1884	..	143,564	36,087	143,564	..	..	..	446,517	78,810	78,810	318,932	..	..	..	229,946	921,797
1885	..	170,416	42,989	170,416	..	..	..	471,325	73,183	73,183	294,378	..	..	..	227,071	908,569
1886	..	128,140	32,271	128,140	..	..	..	446,287	79,104	79,104	317,548	..	..	..	237,371	948,615
1887	..	131,564	30,697	131,564	..	..	..	395,430	70,443	70,443	279,518	..	..	..	203,869	811,100
1888	..	139,556	35,223	139,556	..	..	..	400,405	62,107	62,107	247,142	..	..	..	201,219	801,066
1889	..	113,191	28,655	113,191	..	..	..	406,451	64,419	64,419	256,430	..	..	..	203,211	808,549
1890	..	125,760	31,745	125,760	..	..	..	356,368	63,423	63,423	255,976	..	..	..	198,198	773,438
1891	..	181,185	45,392	181,185	..	..	..	437,126	87,209	87,209	333,467	..	..	..	251,996	1,007,488
1892	..	183,655	45,555	183,655	..	..	..	396,516	77,660	77,660	313,238	..	..	..	238,079	954,744
1893	..	186,553	45,714	186,553	..	..	..	357,719	86,353	86,353	307,644	..	..	..	221,615	887,839
1894	..	211,974	52,916	211,974	..	..	..	347,464	76,353	76,353	307,644	..	..	..	221,615	887,839
1895	..	430,862	111,213	430,862	..	..	..	357,719	87,634	87,634	353,796	..	..	..	293,491	1,162,164
1896	..	350,355	92,346	350,355	..	..	..	317,161	88,362	88,362	359,991	..	..	..	263,694	1,041,423
1897	..	392,337	105,477	392,337	..	..	..	235,430	34,849	34,849	342,187	..	..	..	251,645	980,204
1898	..	527,786	142,383	527,786	..	..	..	319,789	55,343	55,343	223,231	..	..	..	280,175	1,080,691
Totals	2,280,353	8,537,180	255,440	1,008,888	86,231	335,838	5,799,211	23,050,128	5,424,171	21,470,055	273	1,044	48	192	13,845,727	54,453,325

TABLE showing the TOTAL QUANTITY and VALUE of MINERAL ORES other than Gold (the Product of New Zealand Mines), COAL, COKE, and KAURI GUM, EXPORTED from the Colony up to the 31st December, 1898.

Year.	Silver.		Copper-ore.		Chrome-ore.		Antimony-ore.		Manganese-ore.		Haematite-ore.		Mixed Mineral Ore.		Coal.		Coke.		Kauri-gum.		Total.		
	Oz.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Oz.	Tons.	Value.	Tons.	Value.
1853	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	880	15,972	880	15,972
1854	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,661	28,864	1,661	28,864
1855	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	355	4,514	355	4,514
1856	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,440	18,591	1,440	18,591
1857	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,522	35,251	2,522	35,251
1858	..	5,000	351	5,000	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,811	20,037	1,811	20,037
1859	..	2,605	245	2,605	8	130	..	..	..	..	..	..	..	..	..	..	..	..	..	2,010	20,776	2,010	20,776
1860	..	1,590	137	1,590	116	1,440	..	..	..	..	..	..	..	..	..	..	..	..	..	1,046	9,851	1,046	9,851
1861	..	1,900	110	1,900	52	520	..	..	..	..	..	..	..	..	..	..	..	..	..	1,856	9,888	1,856	9,888
1862	..	1,024	51	3,843	24,719	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,103	11,107	1,103	11,107
1863	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,400	27,026	1,400	27,026
1864	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,228	60,590	2,228	60,590
1865	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,535	70,572	2,535	70,572
1866	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,685	46,060	2,685	46,060
1867	..	2,700	246	2,700	281	1,315	..	..	..	..	..	..	..	..	..	..	..	..	..	2,690	77,491	2,690	77,491
1868	..	977	84	977	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,850	72,493	2,850	72,493
1869	..	2,993	..	2,993	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,391	111,307	4,391	111,307
1870	..	11,380	7	11,380	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,054	175,074	5,054	175,074
1871	..	23,145	..	23,145	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,811	167,958	4,811	167,958
1872	..	9,910	..	9,910	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,834	154,167	2,834	154,167
1873	..	9,850	..	9,850	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,834	85,816	2,834	85,816
1874	..	10,380	..	10,380	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,834	79,986	2,834	79,986
1875	..	7,569	..	7,569	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,231	138,523	3,231	138,523
1876	..	3,171	..	3,171	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,888	109,234	2,888	109,234
1877	..	7,556	..	7,556	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,638	118,348	3,638	118,348
1878	..	5,755	..	5,755	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,777	132,975	1,777	132,975
1879	..	4,512	..	4,512	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,229	147,535	3,229	147,535
1880	..	4,500	..	4,500	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,725	242,817	4,725	242,817
1881	..	4,236	..	4,236	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,461	253,778	3,461	253,778
1882	..	1,286	..	1,286	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	480	260,369	480	260,369
1883	..	3,785	..	3,785	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,057	336,606	2,057	336,606
1884	..	5,125	..	5,125	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,372	342,151	3,372	342,151
1885	..	3,169	..	3,169	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,353	299,762	3,353	299,762
1886	..	2,946	..	2,946	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,461	563,778	5,461	563,778
1887	..	3,453	..	3,453	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,407	329,590	3,407	329,590
1888	..	71	..	71	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6,791	362,449	6,791	362,449
1889	..	4,043	..	4,043	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7,519	438,983	7,519	438,983
1890	..	6,162	..	6,162	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,334	437,056	3,334	437,056
1891	..	3,996	..	3,996	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,691	517,678	5,691	517,678
1892	..	9,743	..	9,743	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	53	504,567	53	504,567
1893	..	6,697	..	6,697	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	160	410,177	160	410,177
1894	..	10,679	..	10,679	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7,157	481,766	7,157	481,766
1895	..	10,589	..	10,589	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	268	431,323	268	431,323
1896	..	20,872	..	20,872	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6,641	398,010	6,641	398,010
1897	..	33,107	..	33,107	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	14	586,767	14	586,767
1898	..	33,107	..	33,107	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9,905	9,099,619	9,905	9,099,619
Totals	1,379,013	285,831	1,386	17,988	5,666	37,967	3,610	52,361	18,502	59,237	52	226	17,702	88,754	1,031,331	1,008,622	16,352	24,795	200,476	9,099,619	1,579,013	1,295,088	10,619,570

\* Including 1,765 tons of sulphur, value £4,097.

† Silver-ore, 46½ tons, £1,497.

## No. 5.

RETURN showing the QUANTITY and VALUE of COALS IMPORTED into NEW ZEALAND during the Quarter ended the 31st March, 1899.

Country whence imported.	Quantity.	Value.
Victoria .. .. .	Tons. 363	£ 281
New South Wales .. .. .	30,610	28,699
Totals .. .. .	30,973	28,980

## No. 6.

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

Year.	Coal raised in the Colony.		Coal imported.		
	Tons.	Yearly Increase.	Tons.	Plus or Minus.	Increase and Decrease.
1878 .. .. .	162,218	..	174,148	..	..
1879 .. .. .	231,218	69,000	158,076	-	16,072
1880 .. .. .	299,923	68,705	123,298	-	33,778
1881 .. .. .	337,262	37,339	129,962	+	6,664
1882 .. .. .	378,272	41,010	129,582	-	380
1883 .. .. .	421,764	43,492	123,540	-	6,042
1884 .. .. .	480,831	59,069	148,444	+	24,904
1885 .. .. .	511,063	30,232	130,202	-	18,242
1886 .. .. .	534,353	23,290	119,873	-	10,329
1887 .. .. .	558,620	24,267	107,230	-	12,643
1888 .. .. .	613,895	55,275	101,341	-	5,889
1889 .. .. .	586,445	27,450	128,063	+	26,722
1890 .. .. .	637,397	50,952	110,989	-	17,124
1891 .. .. .	668,794	31,397	125,318	+	14,379
1892 .. .. .	673,315	4,521	125,453	+	135
1893 .. .. .	691,548	18,233	117,444	-	8,009
1894 .. .. .	719,546	27,998	112,961	-	4,483
1895 .. .. .	726,654	7,108	108,198	-	4,763
1896 .. .. .	792,851	66,197	101,756	-	6,442
1897 .. .. .	840,713	47,862	110,907	+	9,151
1898 .. .. .	907,033	66,320	115,427	+	4,520

## No. 7.

TABLE showing the OUTPUT of COAL from the various Mining Districts, and the Comparative INCREASE and DECREASE, for the Years 1897 and 1898, 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 1st December, 1898.
	1897.	1898.			
Kawakawa and Hikurangi .. .. .	Tons. 53,449	Tons. 57,332	+	Tons. 3,883	Tons. 1,031,519
Whangarei, Kamo, Ngunguru, and Whau-whau .. .. .	17,285	16,808	-	477	391,861
Waikato .. .. .	66,125	70,191	+	4,066	1,021,048
Mokau .. .. .	3,148	4,059	+	911	17,712
Pelorus .. .. .	..	..	..	..	711
West Wanganui .. .. .	908	1,230	+	322	50,996
Westport .. .. .	298,551	340,321	+	41,770	2,983,304
Reefton .. .. .	2,865	5,076	+	2,211	75,748
Greymouth .. .. .	128,676	118,626	-	10,050	2,514,554
Malvern .. .. .	13,710	13,347	-	363	355,032
Timaru .. .. .	..	..	..	..	10,657
Otago .. .. .	212,292	233,003	+	20,711	3,557,300
Southland .. .. .	43,704	47,040	+	3,336	473,204
Totals .. .. .	840,713	907,033	+	66,320	12,483,646

## No. 8.

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

Name of Coal.	Output of Coal.		Increase or Decrease.	Approximate Total Output of Coal up to the 31st December, 1898.
	1897.	1898.		
	Tons.	Tons.	Tons.	Tons.
Bituminous .. .. .	504,764	538,477	+33,713	6,684,926
Pitch .. .. .	34,969	36,432	+1,463	1,722,488
Brown .. .. .	268,020	298,365	+30,345	3,664,619
Lignite .. .. .	32,960	33,759	+799	411,613
Totals .. .. .	840,713	907,033	66,320	12,483,646

## No. 9.

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

Number of Mines working.	Number of Miners employed in each Mine.	Total Number of Men employed.	Output of Coal during 1898.	Average Output per Man.
132	1 to 4 men in each .. ..	205	Tons. 58,322	Tons. 284.49
23	5 to 10 " .. ..	163	51,792	317.74
2	11 to 20 " .. ..	33	14,909	451.78
20	21 men and upwards .. ..	1,602	782,010	488.14
177		2,003	907,033	452.83

## No. 10.

RETURN showing the QUANTITY and VALUE of COAL IMPORTED INTO and EXPORTED FROM NEW ZEALAND during the Year ended the 31st December, 1898.

Imported.			Exported.		
Countries whence imported.	Quantity.	Value.	Countries to which exported.	Quantity.	Value.
	Tons.	£		Tons.	£
United Kingdom .. .. .	.. .. .	.. .. .	United Kingdom .. .. .	32,728	31,746
New South Wales .. .. .	115,418	105,203	Victoria .. .. .	.. .. .	.. .. .
Victoria .. .. .	4	15	New South Wales .. .. .	9,492	7,054
United States of America, East Coast	5	5	Queensland .. .. .	395	281
			British Columbia .. .. .	1,863	1,595
			United States of America— On the West Coast .. .. .	1,740	1,431
			Fiji Islands .. .. .	6,758	5,500
			South Sea Islands .. .. .	12,123	9,925
			Norfolk Island .. .. .	90	107
Totals .. .. .	115,427	105,223	Totals .. .. .	65,189	57,639

## No. 11.

NUMBER of MINERS EMPLOYED during the Years ending 31st March, 1898 and 1899.

Mining District.	Alluvial Miners.		Quartz-miners.		Totals.		Grand Total.	
	European.	Chinese.	European.	Chinese.	European.	Chinese.	1898.	1899.
<b>AUCKLAND—</b>								
North Hauraki and Coromandel ..	..	..	888	..	888	..	888	1,101
Thames .. .. .	..	..	820	..	820	..	820	756
Ohinemuri .. .. .	..	..	1,852	..	1,852	..	1,852	1,895
Te Aroha .. .. .	..	..	15	..	15	..	15	184
Puhipuhi .. .. .	..	..	8	..	8	..	8	10
Tauranga .. .. .	..	..	10	..	10	..	10	10
Great Barrier .. .. .	..	..	6	..	6	..	6	6
	..	..	3,599	..	3,599	..	3,599	3,962
<b>MARLBOROUGH—</b>								
Pelorus, Queen Charlotte Sound ..	..	..	1	..	1	..	1	1
Wairau .. .. .	36	..	7	..	43	..	43	43
Cullen's Creek .. .. .	19	..	..	..	19	..	19	19
Waikakaho .. .. .	3	..	..	..	3	..	3	3
Wakamarina .. .. .	59	..	2	..	61	..	61	61
	117	..	10	..	127	..	127	127
<b>NELSON—</b>								
Wangapeka, Baton, and Sherry ..	24	..	..	..	24	..	24	..
Takaka .. .. .	27	..	..	..	27	..	27	42
Collingwood .. .. .	76	..	20	..	96	..	96	146
Motueka .. .. .	20	..	..	..	20	..	20	20
Inangahua .. .. .	140	199	468	..	608	199	807	803
Ahaura .. .. .	600	220	58	..	658	220	878	779
Charleston .. .. .	161	..	..	..	161	..	161	149
Westport, including Addison's, Northern Terraces, Waimanga- roa, North Beach, Mokihinui, Karamea, and Lower Buller Valley	310	..	10	..	320	..	320	400
Lyell .. .. .	35	30	63	..	98	30	128	103
Murchison .. .. .	180	115	..	..	180	115	295	320
Owen .. .. .	..	..	..	..	..	..	..	..
	1,573	564	619	..	2,192	564	2,756	2,762
<b>WESTLAND—</b>								
Ross .. .. .	90	2	4	..	94	2	96	101
Stafford and Goldsborough .. .. .	300	100	..	..	300	100	400	520
Hokitika and Kanieri .. .. .	425	30	..	..	425	30	455	480
Kumara .. .. .	340	100	..	..	340	100	440	450
Greymouth .. .. .	690	208	23	..	713	208	921	880
Arnold .. .. .	..	..	..	..	..	..	..	..
Okarito .. .. .	64	1	..	..	64	1	65	86
	1,909	441	27	..	1,936	441	2,377	2,517
<b>OTAGO—</b>								
Hindon .. .. .	40	5	2	..	42	5	47	115
Tuapeka .. .. .	460	200	55	..	515	200	715	690
Clyde, Roxburgh, Black's, and Alexandra	915	198	30	..	945	198	1,143	1,168
Cromwell .. .. .	395	150	40	..	435	150	585	522
Tapanui .. .. .	20	20	..	..	20	20	40	40
Wakaia .. .. .	226	70	4	..	230	70	300	315
Wyndham .. .. .	18	..	..	..	18	..	18	12
Longwood .. .. .	..	..	..	..	..	..	..	..
Orepuki .. .. .	390	130	80	..	470	130	600	490
Roundhill and Wilson's River	..	..	..	..	..	..	..	..
Wakatipu Goldfields—Arrow, Macetown, Cardrona, Kawarau, Bracken's, and Motatapu	200	20	100	..	300	20	320	320
Queenstown .. .. .	300	25	100	..	400	25	425	500
Naseby .. .. .	161	90	..	..	161	90	251	..
St. Bathans .. .. .	92	2	..	..	92	2	94	..
Hyde .. .. .	20	12	10	..	30	12	42	501
Macrae's .. .. .	26	30	45	..	71	30	101	..
Maerewhenua and Kurow	90	..	..	..	90	..	90	105
Pembroke .. .. .	30	12	..	..	30	12	42	52
	3,883	964	466	..	3,849	964	4,813	4,830
<b>SUMMARY.</b>								
AUCKLAND .. .. .	..	..	3,599	..	3,599	..	3,599	3,962
MARLBOROUGH .. .. .	117	..	10	..	127	..	127	127
NELSON .. .. .	1,573	564	619	..	2,192	564	2,756	2,762
WESTLAND .. .. .	1,909	441	27	..	1,936	441	2,377	2,517
OTAGO .. .. .	3,883	964	466	..	3,849	964	4,813	4,830
Totals .. .. .	6,982	1,969	4,721	..	11,703	1,969	13,672	14,198

Approximate Cost of Paper.—Preparation not given; printing (2,350 copies), £16 14s.

Price 9d.]

By Authority: JOHN MACKAY, Government Printer, Wellington.—1899.

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..