

1903.  
NEW ZEALAND.

# MINES STATEMENT.

BY THE HON. JAMES MCGOWAN, MINISTER OF MINES.

MR. SPEAKER,—

In presenting my annual Statement to Parliament it gives me much pleasure to be able to point to the continued growth of the mining industry of this colony, as evidenced by the returns of output and value. These show a decided increase—notably so in the case of the production of coal and of the precious metals. In comparison with the year 1901 the returns for last year show an advance in gross value of considerably over a quarter of a million pounds sterling.

It may be interesting at the outset to briefly review the progress of mining in New Zealand. In 1857 gold to the value of £40,422 was entered for exportation; in 1860 the value similarly entered was only £17,585. In 1861 an impetus was given to the industry by the discovery of alluvial gold in Otago, and gold to the value of £751,873 was obtained, the output being doubled in the following year. During 1863 the gold-export was £2,431,723, and for the following eight years the production was very large, the maximum being obtained in the year 1871, when it reached no less a sum than £2,787,520. From that time there was a general decline until 1890, when the value of gold entered for exportation was only £773,438, this being the lowest amount since 1861.

The year 1891 showed a decided advance, and for a further period of seven years the annual returns oscillated backwards and forwards, the approximate average production being of a value of about £900,000 per annum.

During the year 1899 an increase was experienced, the amount being returned at £1,513,173. This was followed by a falling-off in 1900 to the extent of £73,571 (a circumstance largely due to temporary suspensions for alterations in methods of treatment), but in 1901 a marked advance became again noticeable, the gold-production being returned at a value of £1,753,783. For last year (1902) a further increase is reported, and the value of gold produced was £1,951,433. An increase in the amount of silver produced has also taken place, and the total value of gold and silver produced for the year 1902 amounts to £2,023,408.

The production of coal and lignite may be reviewed for a period extending over a quarter of a century. In 1878 the tonnage returned was 162,218, and a gradual increase took place each year until the end of 1888, the returns for that year being 613,895 tons. In 1889 the output decreased to 586,445 tons, but during 1890 an increased output was produced, the returns showing 637,397 tons. Since that date the production has steadily increased, and in the year 1900 the returns showed that for the first time in the history of the colony the output had reached over a million tons. The production for last year (1902) was 1,365,040 tons.

## MINERAL PRODUCTION.

The annexed Table No. 1 shows the quantity of gold, silver, coal, and other minerals, including kauri-gum, produced during the year ending the 31st December, 1902. The total production of gold and silver was 1,182,241 oz., valued at £2,023,408, and shows an increase in value of £204,367 as compared with that of the preceding year.

The output of other minerals, including coal and lignite, has been 1,373,077 tons, representing a value of £1,198,214, being 124,913 tons in excess of the previous year. Kauri-gum to the amount of 7,430 tons, valued at £450,223, was obtained. Compared with the production of the previous year this shows a decrease of 111 tons, but an increase in value of £4,109.

The quantities and values of the chief mineral productions for the past two years are summarised for comparison as follow :—

Product.	Year ending 31st December, 1901.		Year ending 31st December, 1902.	
	Quantity.	Value.	Quantity.	Value.
Gold ... ..	455,561 oz.	1,753,783	508,045 oz.	1,951,433
Silver ... ..	571,134 "	65,258	674,196 "	71,975
Copper-ore ... ..	3 tons	105	...	...
Antimony... ..	30 "	136	...	...
Manganese-ore ... ..	208 "	614	...	...
Mixed minerals ... ..	696 "	7,775	415 tons	4,422
Chrome-ore ... ..	...	...	175 "	525
Colonial coal exported, including that used by Home steamers ... ..	159,643 "	142,176	188,677 "	154,747
Hæmatite... ..	...	...	17 "	116
Colonial coal consumed in New Zealand ... ..	1,067,995 "	533,998	1,174,025 "	587,012
Kauri-gum ... ..	7,541 "	446,114	7,430 "	450,223
Shale ... ..	12,048 "	6,024	2,338 "	1,169
Total value of production for 1902 ... ..				£3,221,622
" " " " 1901 ... ..				2,955,983
Total increase ... ..				£265,639

The total value of gold, silver, coal, and other minerals (including kauri-gum) produced up to the end of 1902 was £82,282,586.

During the first six months of this year a substantial increase in the value of gold and silver exported is shown by the following table of comparisons, which has been compiled from the returns of Customs :—

COMPARATIVE STATEMENT of GOLD and SILVER entered for EXPORT during the First Half of the Years 1902 and 1903.

	Half-year ending 30th June, 1902.		Half-year ending 30th June, 1903.		Increase for First Half of 1903.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold ... ..	Oz.	£	Oz.	£	Oz.	£
Silver ... ..	232,403	889,450	257,198	977,821	24,795	88,371
	323,073	36,707	495,268	48,891	172,195	12,184
	555,476	926,157	752,466	1,026,712	196,990	100,555

## GOLD EXPORT.

The quantity of gold entered for exportation through the Customs for the year 1902 was as follows:—Auckland, 201,583 oz.; Marlborough, 601 oz.; Nelson, 5,947 oz.; West Coast, 118,796 oz.; Canterbury, 2 oz.; Otago and Southland, 181,116 oz.

## GOLD-MINING.

## QUARTZ.

The working of gold-bearing quartz reefs continues to provide employment for a large number of men in both Islands, the principal centres and largest mines being in the Upper Thames portion of the North Island and in the locality of Reefton in the Middle Island.

In the Hauraki Mining District, it is to be noted that extensive additions have been made to the plant of the Waihi Gold-mining Company, by which the crushing-power of the mills has been increased to 330 stamps. The dry-crushing process formerly adopted by this company has now given place to wet crushing, with results satisfactory to the owners and highly beneficial to the health of the men employed in the batteries. It may be remarked that the process of dry crushing has disappeared altogether from battery practice in New Zealand. Extensive bodies of ore have been proved at the Waihi Gold-mining Company's mines, which will afford a large output for many years to come, and work is now being undertaken for further development of the property at an increased depth.

None of the mines at Waihi, other than those owned by the Waihi Gold-mining Company, have yet reached a productive stage, but appearances favour the opinion that more determined efforts will be made to prove the continuation of the reef-system beyond the boundaries of the Waihi Gold-mining Company's holding.

The New Zealand Crown Mines at Karangahake rank second in importance, and satisfactory results were obtained for the year. Development-work has been largely in evidence at the neighbouring properties owned by the Talisman Consolidated (Limited) and the Woodstock Gold-mining Company. The latter company's operations have, however, been intermittent, and boring operations have been undertaken to further prove the property.

At Waitekauri results have been disappointing, owing to large bodies of calcite in the reefs, in some instances practically displacing the quartz.

Payable returns have been obtained from the Komata Reefs and from the Tairua Broken Hills Mine. Prospecting-work at Neavesville has also turned out well, and the mine is to be developed and a battery erected. At Waiorongomai satisfactory returns were obtained, and extensions to battery plant are under consideration.

Nothing new in the shape of developments can be reported at the Lower Thames. Boring operations by the Victoria Gold-mining Company have been suspended, but a public movement is now on foot to prove by a series of bores the existence or otherwise of gold-bearing reefs at a depth beyond that which has already been reached. The Government has agreed to contribute towards the cost of the undertaking, which is one of vital importance to the district.

The question of further ore-bodies existing at Thames is one which should be definitely settled, and within recent years the enlargement and deepening of the Queen of Beauty shaft was undertaken by the Thames-Hauraki Goldfields (Limited) with the object of exploring the ground at depth. In consideration of the company undertaking to sink this shaft to a depth of 2,000 ft. the Government paid a substantial subsidy towards the cost of a very powerful pumping plant, which was intended eventually to drain the other mines in the locality. Owing to financial difficulties the company was unable to continue its operations, and all work was stopped. To satisfy the demands of creditors the properties of the company were recently put up to auction by order of the Court, and purchased by the Government to prevent the machinery being sold piecemeal, and so retarding the development of deep-level mining, and probably causing its abandonment for many years to come. The shaft and plant are now available for use on such terms and conditions as may be considered most desirable to further the objects for which they were intended.

At Coromandel an impetus has been given to gold-mining by the discovery of highly payable ore at the Hauraki and Bunker's Hill Mines. Some of the mines (on which large sums of money have been spent) have closed down, but operations are being steadily prosecuted at the Royal Oak Mine and at several small properties adjacent to the town. It is to be regretted that the value of the ore at the Kauri Freehold Gold Estates Company's Mines at Opitonui, and also at the Mariposa and Kapai-Vermont joint properties at Kuaotunu, is too poor to admit of working otherwise than at a loss, and these mines have had to close down for the present. The Waitaia Mine, in the

locality of Kuaotunu, has, however, been kept steadily at work, and there are indications that the scope of the company's operations will be extended. At Guntown a small amount of work is going on, but the developments on this field up to the present are only on a small scale. Work on Great Barrier Island has been very limited.

Quartz-mining is only carried on in a very small way in the Marlborough District, operations being practically confined to the locality of Top Valley.

In the Nelson and West Coast Districts the mines at Taitapu are being developed more fully, with very good results. Sinking has been undertaken at Lyell, and it is hoped that payable ore will be obtained. This is the first attempt that has been made to prove the reef-system below adit-level, and the result will be watched with much interest. The mines in the vicinity of Reefton, which include the Progress Mines and those of the Consolidated Goldfields Company and the Keep-it-Dark Company, continue to yield good returns, and development-work appears to be kept well in advance of the demands of the mills. After spending a large sum in opening up the New Inkerman Mine in a comprehensive manner, the owners are about to commence treatment with fifteen stamps, concentrators, and cyanide plant, in order to test the quality of the ore on a commercial scale before putting down large reduction-works. It is expected that this, together with developments now in progress at reefs on the Paparoa Range, will materially assist in augmenting the yield from quartz-mining on the West Coast.

The value of gold won from quartz-mining in the Southern District shows an increase as compared with the previous year. The Achilles Mine, at Bullendale, and the O.P.Q. Mine, at Waipori, have not been worked during the year, and operations have ceased for the time being at the Cromwell Mine, Bendigo. Quite a number of small properties are being worked in the locality of Nenthorn and Macrae's; and some payable returns have been obtained at Barewood, where properties were taken up by Home syndicates and abandoned without being fairly tested. Increased attention is being devoted to the reef-systems of Otago, especially near Skipper's Point and on the Carrick Range. It is understood that efforts are being made to form a strong company with the object of working several reefs in the neighbourhood of Macetown. Very little work is going on at Preservation Inlet.

#### HYDRAULIC AND ALLUVIAL MINING.

The work of winning free gold from alluvial deposits is practically confined to the Middle Island, although a little desultory digging is done at Stewart Island. Year by year the shallow and easily worked patches are becoming exhausted, and as the ground gets poorer and the overburden greater it is beyond the means of the individual digger to work claims so circumstanced with success. It is in such cases that hydraulic sluicing, and in many instances hydraulic elevating also, meets the demand, and under these conditions this method of mining is the most efficient and economical that can be adopted. Hydraulic mining has for several years past been conducted on a comprehensive scale, and, although in many cases there is ground which will take several years to work out, there is a probability that in some districts a falling-off is inevitable within the next decade. The water now used for mining purposes on some fields will be very valuable for irrigation in the future. This applies especially to Central Otago, where there are considerable areas of land which, with a plentiful water-supply, could be farmed to advantage.

The class of mining under notice continues to provide employment for a number of men in various parts of the Middle Island, the principal centres of operations being in the localities of Collingwood, Murchison, Westport, Grey Valley, Kumara, Hokitika, Ross, and Okarito on the West Coast; and Lawrence, Roxburgh, Alexandra, Matakanaui, St. Bathans, Naseby, Queenstown, Nokomai, Waikaia, and Orepuki in the south.

The siphons in connection with the Mountain Hut Water-race are now completed; this race will give additional life to the workings at Maerewhenua.

A storage dam has also been constructed near Naseby. The two works just named were undertaken by the Government, reference to their object being made in my Statement of last year.

#### DREDGE MINING.

The total number of dredges are returned to the 31st December last as follows: Working, 201; standing, 52; building, 23; under removal, 14; wrecked, 2: total, 292. This shows an increase of eighteen working dredges as compared with those actually employed at the end of 1901. The industry may be said to have fairly settled down after the excitement of the "boom" period of from two to four years ago, and steady returns can reasonably be expected from this branch of mining for a considerable time to come. In some instances dredges were placed on claims which were more suitable to the method of hydraulic mining, and have been superseded by the latter system. On the West Coast it was found that much stronger machinery was required to work the tight wash frequently met with than is necessary for the more free gravels of Otago, and the experience so gained should be of value in the design and construction of dredges intended for the West Coast District in the future.

The general design of dredges has been fairly well settled by experience, but improvements in the details of working-arrangements and in respect to the methods of saving fine gold continue to be made from time to time.

It is now necessary that the masters of dredges working on deep or swift-flowing streams should be the holders of certificates of service or competency. These certificates are issued by the Board of Examiners appointed under the provisions of "The Mining Act, 1898."

#### PROSPECTING.

The sum of £1,131 0s. 4d. was expended in subsidies for the year ending the 31st March, 1903, to prospecting associations and parties of miners actually engaged in prospecting.

#### THE CYANIDE PROCESS OF GOLD-EXTRACTION.

In 1897 the patent rights of this invention were purchased for New Zealand by the Government in order to place the process at the disposal of mine-owners in this colony. The results obtained from its adoption at quartz-mines have amply justified the action of the Government in this matter, and the amount of royalty received up to the 31st March, 1903, is £6,141, which is over three-fifths of the sum paid to acquire the rights for the colony.

#### WATERCOURSES FOR TAILINGS, ETC.

The sum of £3,215 has been paid during the year as compensation in respect to lands adjacent to five rivers and streams proclaimed as water-courses into which tailings and mining *débris* may be discharged. Channels for carrying off storm-water and tailings-water from the dredges working at Charlton Creek and Waimumu have also been put under construction.

#### SCHOOLS OF MINES.

During the past eighteen years the aggregate expenditure on schools of mines in the colony has been £36,114 11s. 5d. This amount includes the grants made to the Mining School in connection with the University of Otago at Dunedin.

The schools have proved of considerable value to a large number of students aspiring to become qualified to hold responsible positions in connection with mines and batteries.

#### COAL-MINING.

As already intimated, the returns from our coal-mines show a steady increase, the production for last year being 1,365,040 tons, or 125,354 tons in excess of the previous year's output.

The increases for the several districts are as follows: Northern District, 16,961 tons; West Coast District, 84,281 tons; Southern District, 24,112 tons: total, 125,354 tons. The total production for the colony during last year for the various classes of coals is as follows:—

	Tons.
Bituminous and semi-bituminous coal ... ..	845,046
Pitch coal ... ..	25,245
Brown coal ... ..	427,172
Lignite ... ..	65,239
Oil-shale ... ..	2,338
Total ... ..	1,365,040

The gross recorded output of coal and lignite (including oil-shale) now exceeds seventeen millions of tons.

In the North Island the production for last year from the principal mines was as follows: Taupiri Coal-mines (Limited), 89,263 tons; Hikurangi Coal Company (Limited), 39,119 tons; Ngunguru Mine, 18,017 tons; and Kiripaka Mine, 14,138 tons.

The Middle Island is the chief source of the coal-output of the colony, the West Coast Mining District affording the supply of bituminous coal. Here the collieries of the Westport Coal Company (Limited) maintain their pre-eminence, and last year produced 520,086 tons. Brunner Colliery had an output of 116,714 tons, and Blackball Colliery 99,597 tons. The production at this latter place is limited to the capacity of the aerial tramway, by which the coal is transported to the railway; but when railway connection with the colliery is established there is every likelihood of an increased output.

In the southern part of the Middle Island the collieries at Kaitangata still hold first place in point of magnitude. The output for the year was 118,050 tons—the second largest in the colony—followed by Nightcaps Colliery with 39,934 tons; Allandale Colliery, 24,916 tons; Fortification Colliery, near Milton, 16,522 tons; Lovell's Flat Colliery, 15,662 tons; Saddle Hill Colliery, 11,955 tons; Jubilee Colliery, Fairfield, 11,587 tons; and Walton Park Colliery, Fairfield, 10,283 tons. A large number of small pits are worked for purely local requirements, with outputs varying from a settler's personal requirements to nearly 10,000 tons. The Shag Point Colliery, which for many years was one of the chief producers of coal in the South, has had very serious difficulties owing to an influx of water. The merchantable coal has also been practically exhausted, present operations being confined to the working of a limited area of coal above the water-level.

The output of oil-shale at Orepuki fell off very considerably during the year in consequence of suspension of operations at the oil-works.

The total number of mines returned as having been worked during the year is 180, employing 2,885 persons. Many of the pits are mere quarries, at which lignite is obtained for local use.

Boring-operations by the Greymouth Harbour Board, to prove the continuation of the Brunner coalfield in the direction of Greymouth, were referred to in my last Statement. I learn that in the first borehole at Dobson coal 4 ft. 9 in. in thickness was struck at a depth of 556 ft., and a second seam at 572 ft., which had a thickness of 12 ft. 6 in. A second borehole, 44 chains nearer Greymouth, and consequently further to the dip of the measures, struck coal at 1,140 ft. The seam was 2 ft. 6 in. thick, and is probably identical with the upper seam struck in the first borehole. Unfortunately the larger seam was not bored to, as loose material falling from the sides of the bore prevented further progress. A third borehole, 48 chains nearer Greymouth than the second hole, and still further to the dip of the measures, has been drilled to a depth of 2,165 ft. (the limit of the available boring-rods) without reaching the coal, but some crude petroleum and inflammable gas have come to the surface. These indications appear to point to coal below. Small pockets of petroleum sometimes occur above coal-seams at considerable depth.

## STATE COAL-MINES.

The preliminary works for the opening-up of the State collieries are being vigorously prosecuted both at Seddonville, near Westport, and at Point Elizabeth, near Greymouth. At the former place the main tunnel and surface haulage-road, together with an additional siding and necessary repairs to some of the plant formerly owned by the late Westport-Cardiff Coal Company (Limited), are approaching completion, and the work of opening-up in the coal will, it is anticipated, enable a supply (although small at first) to be forthcoming from the Seddonville Colliery probably within the next two months.

At Point Elizabeth Colliery the necessary tunnels are being driven to win the coal in different sections of the property, and the main seam, 16 ft. in thickness, has already been reached in No. 1 tunnel. The construction of haulage-roads, loading-bins, and other requirements are in progress. The railway to connect the colliery with the Port of Greymouth was partially constructed by the late lessees of the coal properties, and on the cancellation of the lease was purchased by the Government. It is now being completed under the charge of the Public Works Department. Further details as to these works will be found in the reports of the Manager of the State coal-mines.

## ACCIDENTS IN MINES.

Sixteen fatalities occurred in connection with the various branches of mining-work conducted throughout New Zealand during the year ended the 31st December last, and are summarised as follows :—

Class of Mining.	Number of Persons employed.	Fatalities.	Rate per 1,000.
Gold-mining—			
Quartz-mines ... ..	3,807	2	0·51
Hydraulic and alluvial mines ... ..	7,591	3	1·58
Dredges ... ..	2,885	9	0·69
Coal-mines ... ..		2	
	14,283	16	1·12

In all cases these accidents were inquired into by the Department. It is found that by far the greater proportion of fatal accidents at dredges is in connection with boating and the oiling of machinery while in motion, being mainly the result of carelessness on the part of the men. Apart from this, the figures show that mining, and underground mining especially, is conducted on safe and careful lines, and presents a lower death-rate than many trades carried on in broad daylight, where the risks are generally admitted to be infinitely less. It is evident that great care is exercised by the management of mines. At the same time, it must not be forgotten that underground work has special dangers and risks, and that, owing to the ever-changing conditions which prevail in mining, accidents are liable to occur in even the best-regulated mines.

## SULPHUR.

The exports of sulphur have fallen off during the past two years. For the year 1902 the returns show an export of only 100 tons, valued at £475.

## KAURI-GUM.

The output of kauri-gum appears to be steadily diminishing in quantity but increasing considerably in value. The export returns for last year show 7,430 tons, valued at £450,223, as compared with an export of 7,541 tons, valued at £446,114, for the year 1901.

There appears some probability that the peaty and swampy ground of old kauri forests will be treated for the extraction of the gum and its constituent oils, with which the ground is more or less permeated.

## SCHEELITE.

Messrs. Donaldson, of Macrae's (Otago), continue to prepare this mineral for market. It is found associated with gold-bearing quartz, and separated at the battery by concentrating-tables. Scheelite is also found at the Top Valley, Marlborough, in association with quartz-reefs.

## HÆMATITE PAINT.

This is manufactured at Thames and Parapara from ores found in these localities. There are no fresh developments to note.

## GALENA.

An effort is being made to work the deposits near Te Aroha. The ore contains gold, silver, and copper, in addition to lead. A trial shipment has been sent to Australia for treatment at a smelting-works.

## IRON.

Although the manufacture of iron has not yet been commenced in this colony, it is satisfactory to note that arrangements have been made which are likely to lead to the development of our iron-ore deposits at Parapara, and also the ironsands of Taranaki, it being intended to work both on a commercial scale. The manufacture of iron and steel from these ores will doubtless become an important industry.

## ROCK PHOSPHATE.

The discovery of this material at Clarendon (Otago), which was referred to in my Statement of last year, has been followed up in a practical manner, and the working of the rock, together with its chemical treatment, has become a recognised industry.

Excellent results from the use of these phosphates have been reported, and as phosphate fertilisers are in demand, and large quantities imported into the colony, the working of these deposits will naturally become a matter of practical interest to the farming community.

## PETROLEUM.

Boring is in progress at Kotuku, near Greymouth, but so far nothing of commercial importance has been met with.

## OTHER MINERALS.

The attempt to mine antimony-ore at Alexandra (Otago) has been abandoned in the meantime, owing to the expense of getting the ore to a port.

Prospecting operations have been continued in connection with the cinnabar lode at Waitahuna Heights, but no ore has yet been sent away.

Copper-ore is not being worked at present, but inquiries are being made as to the nature and extent of the deposits.

## ROADS AND TRACKS.

The expenditure for the year on roads and tracks amounted to £51,690 5s. 4d., this being an increase of £4,117 1s. 1d. as compared with that of the preceding twelve months. The subsidies granted to local bodies amounted to £1,493 12s. 2d., and the sum of £50,196 13s. 2d. has been expended in direct grants for roads and tracks in mining districts. The total expenditure by the Department under this heading during the past twenty-one years amounts to £420,159 11s. and £151,455 10s. 11d. respectively.

## GEOLOGICAL.

The work of the Government Geologist has included the collection of data which it is intended to incorporate in a projected work on "The Geology of New Zealand," and also of preparing for the press descriptions and illustrations of rock-specimens from the Hauraki Goldfields, which have been classified and reported on by Professor Sollas (Oxford), together with an account of the geology of the district from which the specimens referred to were obtained.

As the result of these labours a work on "The Petrology of the Hauraki Goldfields" will be published, which should prove valuable to students and the mining community.



## THE MINING BUREAU.

The publication of the *New Zealand Mines Record* has been continued since August, 1897, by the Secretary of the Mining Bureau. Valuable information in reference to improved mining processes and machinery is collected from the principal centres of mining activity in Great Britain, South Africa, the United States, and the Australian Commonwealth, and disseminated through the pages of the *Record*. This is a distinct advantage to those engaged in the industry in this colony; while the reports in reference to the metalliferous and coal deposits of New Zealand that appear from time to time are frequently copied into the mining journals and technical magazines in the countries referred to, and the varied mineral resources of the colony are thus brought into prominent notice.

## DEPARTMENTAL.

Throughout the year the work of the Department has been efficiently carried out by the respective officers at the various centres. The inspection of mines is, I have reason to believe, faithfully carried out, and the visits of Inspectors are as frequent as is really necessary. Experience goes to prove that over-inspection on the part of Government officers is as much to be deprecated as under-inspection; and that where inspections are more frequent than circumstances demand there is a tendency on the part of some persons in charge of mining operations to endeavour to transfer their responsibilities to the Inspectors of Mines, and, through them, to the Government. This is a condition totally foreign to the objects for which inspection was instituted, and I would emphasize the fact that our mining legislation has given power to the men employed in mines to have independent inspections made by suitable persons on their behalf. By this means the interests of workers are amply safeguarded without unduly interfering with mine management and development.

## CONCLUSION.

So far as present evidences go, there appears every prospect that the value of minerals produced during this year will exceed that of the period which has been reviewed in this Statement.

In regard to quartz-mining, the present position of several mines is such that good returns may be confidently expected, and there are indications that a considerable degree of permanence is assured. On the other hand, there are places where this class of mining is at present under a cloud, but it is to be hoped that prospecting-work may prove sufficiently encouraging to warrant developments on a large scale.

Hydraulic and alluvial mining keeps fairly steady, and is, I think, likely to continue so for some time yet, although, as already pointed out, it must not be forgotten that the shallow and easily worked ground which could be operated without the expenditure of much capital is gradually becoming exhausted. The method of gold-mining by means of dredges will continue for several years, and it is from dredge mining and the hydraulic methods that the output of alluvial gold will be obtained in the future.

The coal-mines of the colony are year by year showing an increase in their aggregate production, and, with the advance of population and the growth of other industries in our leading centres, the demands on the mines are likely to become greater, and the requirements will be increased if the negotiations for the manufacture of iron and steel in the colony are carried to a practical issue.

Other minerals, at present unworked, will, no doubt, yet contribute to the progress of New Zealand.

---

## 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 ended the 31st December, 1902 and 1901, as well as the TOTAL VALUE since January, 1853.

Name of Metal or Mineral.	For Year ending the 31st December, 1902.		For Year ending the 31st December, 1901.		Total from the 1st January, 1853, to the 31st December, 1902.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Precious metals—	Oz.	£	Oz.	£	Oz.	£
Gold .. .. .	508,045	1,951,433	455,561	1,753,783	15,572,507	61,111,316
Silver .. .. .	674,196	71,975	571,134	65,258	3,300,138	452,781
Total gold and silver .. .. .	1,182,241	2,023,408	1,026,695	1,819,041	18,872,645	61,564,097
Mineral produce, including kauri-gum—	Tons.	£	Tons.	£	Tons.	£
Copper-ore .. .. .	..	..	3	105	1,411½	18,088
Chrome-ore .. .. .	175	525	..	..	5,869	38,002
Antimony-ore .. .. .	..	..	30	136	3,643	52,598
Manganese-ore .. .. .	..	..	208	614	19,011½	60,846
Hæmatite-ore .. .. .	17	116	..	..	69½	342
Mixed minerals .. .. .	415	4,422	696	7,775	22,248	115,113
Coal (New Zealand) exported .. .. .	188,677	154,747	159,643	142,176	1,581,838	1,486,766
Coke exported .. .. .	..	..	..	..	16,370	24,804
Coal, output of mines in colony (less exports)	1,174,025	587,012	1,067,995	533,998	15,561,372	7,688,569
Kauri-gum .. .. .	7,430	450,223	7,541	446,114	236,722	11,226,168
Shale .. .. .	2,338	1,169	12,048	6,024	14,386	7,193
Total quantity and value of minerals .. .. .	1,373,077	1,198,214	1,248,164	1,136,942	17,462,940½	20,718,489
Value of gold and silver, as above .. .. .	..	2,023,408	..	1,819,041	..	61,564,097
Total value of minerals produced, including gold and silver .. .. .	..	3,221,622	..	2,955,983	..	82,282,586

## No. 2.

TABLE showing the QUANTITY and VALUE of GOLD entered for EXPORTATION from NEW ZEALAND for the Years ended the 31st December, 1902 and 1901, and the TOTAL QUANTITY and VALUE from 1857 to the 31st December, 1902.

District and County or Borough.	Year ending 31st December, 1902.		Year ending 31st December, 1901.		Increase or Decrease for Year ending 31st December, 1902.		Total Quantity and Value from January, 1857, to 31st December, 1902.	
	Quantity.	Value.	Quantity.	Value.	Increase.	Decrease.		
<b>AUCKLAND—</b>	Oz.	£	Oz.	£	Oz.	Oz.	Oz.	£
County of Coromandel ..	11,075	46,608	10,543	44,521	532	..	..	..
County of Thames ..	13,805	53,179	8,853	36,948	4,952	..	..	..
County of Ohinemuri ..	59,293	211,413	160,696	567,806	..	101,403	..	..
County of Piako ..	249	1,046	661	2,795	..	412	..	..
County of Manukau ..	..	..	..	..	..	..	..	..
County of Marsden ..	..	..	..	..	..	..	..	..
County of Whangarei ..	..	..	..	..	..	..	..	..
Borough of Thames ..	4,389	18,097	4,953	20,774	..	564	..	..
Te Aroha Town District ..	..	..	..	..	..	..	..	..
Great Barrier Island ..	82	347	6,240	22,613	..	6,158	..	..
County of Tauranga ..	22	90	22	94	..	..	..	..
Borough of Waihi ..	112,668	391,197	..	..	112,668	..	..	..
	201,583	721,977	191,968	695,551	9,615	..	3,009,015	11,234,843
<b>WELLINGTON ..</b>	..	..	..	..	..	..	188	706
<b>MARLBOROUGH—</b>								
County of Marlborough ..	601	2,404	133	513	468	..	87,654	341,479
<b>NELSON—</b>								
County of Waimea ..	5,947	23,649	168	661	..	1,265	..	..
County of Collingwood ..	..	..	7,044	27,477	..	..	..	..
	5,947	23,649	7,212	28,138	..	1,265	1,692,155	6,708,008
<b>WEST COAST—</b>								
County of Buller ..	11,036	44,239	8,967	35,937	2,069	..	..	..
County of Inangahua ..	56,245	224,981	58,633	235,046	..	2,888	..	..
County of Grey ..	33,942	135,765	25,648	102,896	8,294	..	..	..
County of Westland ..	15,341	61,361	17,930	71,697	..	2,589	..	..
Kumara Borough ..	..	..	..	..	..	..	..	..
Hokitika Borough ..	142	566	613	2,455	..	471	..	..
Ross Borough ..	2,090	8,360	1,495	5,975	595	..	..	..
	118,796	475,272	113,286	454,006	5,510	..	4,775,674	19,003,554
<b>CANTERBURY—</b>								
County of Ashburton ..	2	7	22	83	..	20	99	387
<b>OTAGO—</b>								
County of Taieri ..	2,812	11,355	1,602	6,484	1,210	..	..	..
County of Tuapeka ..	46,212	186,760	38,314	154,798	7,898	..	..	..
County of Vincent ..	74,789	298,887	55,594	222,646	19,195	..	..	..
County of Maniototo ..	9,526	38,237	10,870	44,083	..	1,344	..	..
County of Waihemo ..	3,426	13,868	2,450	9,824	976	..	..	..
County of Waikouaiti ..	83	337	80	320	3	..	..	..
County of Waitaki ..	2,079	8,323	1,954	7,935	125	..	..	..
County of Bruce ..	1,193	4,813	1,779	7,135	..	586	..	..
County of Lake ..	7,734	31,364	5,814	23,553	1,920	..	..	..
County of Wallace ..	7,129	28,744	9,570	38,434	..	2,441	..	..
County of Fiord ..	164	658	515	2,063	..	351	..	..
County of Southland ..	24,928	100,614	13,488	54,377	11,490	..	..	..
County of Clutha ..	4	16	410	1,640	..	406	..	..
Borough of Alexandra ..	..	..	..	..	..	..	..	..
Dunedin ..	..	..	..	..	..	..	..	..
Borough of Maitaia ..	1,037	4,148	550	2,200	487	..	..	..
	181,116	728,124	142,940	575,492	38,176	..	6,007,515	23,821,515
<b>Unknown ..</b>	..	..	..	..	..	..	207	824
<b>Totals ..</b>	508,045	1,951,433	455,561	1,753,783	52,484	..	15,572,507	61,111,316

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, 1902. (This Return shows the Output 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.		Grand Totals.	
	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	..	1,192	13,226	51,272	..	..	..	..	..	..	..	..	..	..	13,534	52,464
1859	..	..	7,336	28,427	..	..	..	..	..	..	..	..	..	..	7,336	28,427
1860	..	..	4,538	17,585	..	..	..	..	..	..	..	..	..	..	4,538	17,585
1861	..	..	6,335	24,552	..	..	..	..	..	..	..	..	..	..	17,585	65,170
1862	..	4,098	10,422	40,386	..	..	..	..	..	..	..	..	..	..	194,031	751,873
1863	..	13,853	9,580	37,120	..	..	..	..	..	..	..	..	..	..	410,862	1,591,389
1864	..	3,448	10,552	55,841	24,838	95,231	1,463	5,560	..	..	..	..	..	..	2,431,723	2,431,723
1865	..	5,449	17,096	64,000	7,952	30,814	289,897	1,127,370	187,696	727,321	..	..	..	..	480,171	1,856,837
1866	..	5,814	17,463	64,000	7,952	30,814	289,897	1,127,370	187,696	727,321	..	..	..	..	574,574	2,226,474
1867	..	6,637	18,277	68,874	501	1,978	511,974	2,018,874	158,670	628,815	..	..	..	..	735,376	2,844,517
1868	..	53,660	168,874	38,396	404	1,616	405,762	1,608,844	171,649	686,596	..	..	..	..	686,905	2,698,862
1869	..	132,451	434,687	10,631	42,524	666	317,169	1,269,664	153,364	613,456	..	..	..	..	614,281	2,362,995
1870	..	85,534	319,146	12,244	48,692	1,852	7,408	280,068	165,152	660,694	..	..	..	..	544,880	2,157,585
1871	..	380,326	1,188,708	10,014	40,056	1,867	7,468	232,882	154,940	619,760	..	..	..	..	730,029	2,787,520
1872	..	104,890	369,341	8,175	32,700	2,057	8,228	690,296	157,674	630,696	..	..	..	..	445,370	1,731,261
1873	..	119,449	437,193	13,697	54,786	1,274	5,050	188,501	756,432	734,024	..	..	..	..	505,337	1,987,425
1874	..	76,910	305,088	5,642	22,158	1,198	4,748	157,531	135,107	542,154	..	..	..	..	376,388	1,505,331
1875	..	69,485	262,156	4,577	17,866	1,159	4,636	158,678	121,423	487,632	..	..	..	..	355,322	1,407,770
1876	..	56,057	221,905	14,018	55,862	450	1,796	133,014	118,477	473,491	..	..	..	..	322,016	1,284,328
1877	..	99,081	403,627	5,367	21,092	870	3,197	153,198	113,169	455,341	..	..	..	..	371,685	1,496,080
1878	..	55,982	220,454	4,463	17,223	404	1,617	144,634	105,003	422,277	..	..	..	..	310,486	1,240,079
1879	..	97,901	154,295	2,993	11,424	879	3,460	142,822	102,869	407,868	..	..	..	..	287,464	1,148,108
1880	..	42,720	176,416	3,222	12,223	1,550	5,650	144,090	113,666	457,705	..	..	..	..	305,248	1,227,252
1881	..	35,516	141,326	3,453	13,039	1,378	4,531	127,544	102,670	411,923	..	..	..	..	270,561	1,080,790
1882	..	33,059	131,007	3,289	12,494	1,952	5,400	130,048	83,446	338,804	..	..	..	..	251,204	1,002,720
1883	..	41,291	163,618	2,064	7,724	636	2,524	116,905	87,478	352,334	..	..	..	..	248,374	993,352
1884	..	36,087	143,564	2,159	8,002	1,079	4,306	111,686	78,810	318,932	..	..	..	..	229,946	921,797
1885	..	42,989	170,416	2,798	10,337	540	2,160	117,861	73,183	294,378	..	..	..	..	237,371	948,615
1886	..	32,271	128,140	2,582	9,979	404	1,451	112,671	79,104	317,543	..	..	..	..	227,079	903,569
1887	..	30,697	121,564	2,914	10,829	1,041	3,759	98,774	70,443	279,518	..	..	..	..	203,869	811,100
1888	..	35,223	139,556	3,027	11,320	699	2,547	100,139	62,107	247,142	..	..	..	..	201,219	801,066
1889	..	28,655	113,191	3,252	12,310	5,189	20,167	101,696	64,419	256,480	..	..	..	..	203,211	808,549
1890	..	31,745	125,760	2,856	11,049	6,073	24,285	89,096	63,423	255,376	..	..	..	..	193,198	773,438
1891	..	45,392	181,185	4,445	16,896	5,649	22,576	109,268	87,209	349,573	..	..	..	..	251,996	1,007,488
1892	..	45,555	183,655	2,535	9,604	3,898	15,429	103,106	82,933	338,467	..	..	..	..	238,079	954,744
1893	..	45,714	186,553	2,145	8,187	2,165	8,644	99,127	77,660	313,238	..	..	..	..	226,811	913,138
1894	..	221,974	911,974	2,860	10,634	2,536	10,723	86,950	76,353	307,644	..	..	..	..	221,615	887,839
1895	..	111,213	430,862	2,460	9,016	2,695	10,771	89,429	87,694	353,796	..	..	..	..	293,491	1,162,164
1896	..	92,346	350,355	2,753	10,333	916	3,588	79,317	88,362	359,931	..	..	..	..	263,694	1,041,428
1897	..	105,477	392,337	1,892	7,055	810	3,195	78,948	84,649	342,187	..	..	..	..	251,645	980,204
1898	..	142,383	527,786	1,720	6,882	781	3,003	79,948	55,343	223,231	..	..	..	..	280,175	1,080,691
1899	..	168,769	624,737	3,419	1,571	..	..	90,031	130,311	526,605	..	..	..	..	389,558	1,513,173
1900	..	166,342	605,398	3,718	14,605	535	2,147	73,923	129,075	521,629	..	..	..	..	373,616	1,439,602
1901	..	191,968	695,551	7,212	28,138	133	513	113,286	142,940	575,492	..	..	..	..	455,561	1,753,783
1902	..	201,583	721,977	5,947	23,649	601	2,404	118,796	181,116	728,124	..	..	..	..	508,045	1,951,433
Totals	3,009,015	11,234,843	272,736	1,076,851	87,500	340,902	6,195,247	24,635,288	6,007,613	23,821,905	273	1,044	123	483	15,572,507	61,111,316

## No. 4.

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, 1902.

Year.	Silver.		Copper-ore.		Chrome-ore.		Antimony-ore.		Manganese-ore.		Hæmatite-ore.		Mixed Mineral Ores.		Coal.*		Coke.		Kauri-gum.		Total.		
	Oz.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	
1853 ..	..	£	..	£	..	£	..	£	..	£	..	£	..	£	..	£	..	£	830	£	830	£	
1854 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,661	15,972	1,661	15,972	
1855 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	355	28,864	355	28,864	
1856 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,440	4,514	1,440	4,514	
1857 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,440	18,591	1,440	18,591	
1858 ..	..	..	351	5,000	3	25	..	..	..	..	..	..	..	..	..	..	..	..	2,522	35,251	2,522	35,251	
1859 ..	..	..	245	2,605	8	120	..	..	..	..	..	..	..	..	..	..	..	..	1,811	20,037	1,811	20,037	
1860 ..	..	..	137	1,590	116	1,440	..	..	..	..	..	..	..	..	..	..	..	..	2,010	20,776	2,010	20,776	
1861 ..	..	..	110	1,300	52	520	..	..	..	..	..	..	..	..	..	..	..	..	1,046	9,851	1,046	9,851	
1862 ..	..	..	51	1,024	3,843	24,719	..	..	..	..	..	..	..	..	..	..	..	..	856	9,888	856	9,888	
1863 ..	..	..	..	..	595	4,318	..	..	..	..	..	..	..	..	..	..	..	..	1,103	11,107	1,103	11,107	
1864 ..	..	..	..	..	768	4,910	..	..	..	..	..	..	..	..	..	..	..	..	1,400	27,026	1,400	27,026	
1865 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,228	60,590	2,228	60,590	
1866 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,867	46,060	1,867	46,060	
1867 ..	..	..	246	2,700	281	1,315	..	..	..	..	..	..	..	..	..	..	..	..	2,535	70,572	2,535	70,572	
1868 ..	..	..	84	977	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,685	77,491	2,685	77,491	
1869 ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,690	72,493	2,690	72,493	
1870 ..	11,063	2,993	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,850	111,307	2,850	111,307	
1871 ..	37,123	11,380	7	120	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,391	175,074	4,391	175,074	
1872 ..	80,272	23,145	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,054	167,958	5,054	167,958	
1873 ..	37,064	9,910	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,811	154,167	4,811	154,167	
1874 ..	36,187	9,850	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,834	85,816	2,834	85,816	
1875 ..	40,566	10,380	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,569	79,986	2,569	79,986	
1876 ..	29,085	7,569	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,231	138,523	3,231	138,523	
1877 ..	12,683	3,171	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,888	109,234	2,888	109,234	
1878 ..	33,893	7,556	6	115	..	..	..	..	..	..	..	..	..	..	..	..	..	..	72	3,633	72	3,633	
1879 ..	23,019	5,755	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,445	132,975	3,445	132,975	
1880 ..	20,645	4,512	55	1,105	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,229	147,535	3,229	147,535	
1881 ..	20,005	4,500	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,725	242,817	4,725	242,817	
1882 ..	18,885	4,286	5	36	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,461	253,778	5,461	253,778	
1883 ..	5,634	1,286	9	41	..	..	..	..	..	..	..	..	..	..	..	..	..	..	480	5,533	480	5,533	
1884 ..	16,826	3,785	46	678	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,057	6,518	2,057	6,518	
1885 ..	24,914	5,125	20	106	..	..	..	..	..	..	..	..	..	..	..	..	..	..	372	6,393	372	6,393	
1886 ..	16,624	3,169	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	385	5,875	385	5,875	
1887 ..	12,108	2,946	20	390	..	..	..	..	..	..	..	..	..	..	..	..	..	..	715	4,920	715	4,920	
1888 ..	20,809	3,453	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	266	6,791	266	6,791	
1889 ..	403	71	2	75	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,646	8,482	1,646	8,482	
1890 ..	24,105	4,043	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,407	7,519	3,407	7,519	
1891 ..	32,637	6,162	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,334	7,438	3,334	7,438	
1892 ..	28,023	5,151	0½	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,658	8,888	3,658	8,888	
1893 ..	22,053	3,966	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,691	8,705	5,691	8,705	
1894 ..	63,076	9,743	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	517	678	517	678	
1895 ..	54,177	6,697	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	510	775	510	775	
1896 ..	85,024	10,679	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8,317	53	8,317	53	
1897 ..	94,307	10,589	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	160	8,338	160	8,338	
1898 ..	183,892	20,872	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	715	425	715	425	
1899 ..	293,851	33,107	2½	70	..	..	..	..	..	..	..	..	..	..	..	..	..	..	84	338	84	338	
1900 ..	349,338	40,838	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11,116	607,919	11,116	607,919	
1901 ..	326,457	38,879	12	45	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10,159	622,293	10,159	622,293	
1902 ..	571,134	65,258	3	105	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7,541	444,114	7,541	444,114	
1902 ..	674,196	71,975	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7,430	450,223	7,430	450,223	
Totals	3,900,198	452,731	1,411½	18,088	5,869	38,002	3,643	52,598	19,011½	60,846	69½	342	22,248	115,113	1,581,838	1,486,766	16,370	24,804	236,722	11,226	168,330	11,226	168,330

\* Total output of coal in colony (including exports) approximately estimated at 17,157,596 tons, valued at £3,378,798.  
 NOTE.—“Mixed mineral ores” include sulphur, &c. Last year 2,338 tons of shale was mined at Orepuki.

No. 5.

RETURN showing the QUANTITY and VALUE of COALS IMPORTED into NEW ZEALAND during the Quarter ended the 31st March, 1903.

Country whence imported.						Quantity.	Value.
						Tons.	£
New South Wales	..	..	..	..	..	37,657	35,727
Tasmania	..	..	..	..	..	Nil	Nil
Totals	..	..	..	..	..	37,657	35,727

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-five Years.

Year.						Coal raised in the Colony.		Coal imported.		
						Tons.	Yearly Increase or Decrease.	Tons.	Plus or Minus.	Increase and Decrease.
1878	..	..	..	..	..	162,218	..	174,148	..	..
1879	..	..	..	..	..	231,218	69,000	158,076	—	16,072
1880	..	..	..	..	..	299,923	68,705	123,298	—	33,778
1881	..	..	..	..	..	337,262	37,339	129,962	+	6,664
1882	..	..	..	..	..	378,272	41,010	129,582	—	380
1883	..	..	..	..	..	421,764	43,492	123,540	—	6,042
1884	..	..	..	..	..	480,831	59,069	148,444	+	24,904
1885	..	..	..	..	..	511,063	30,232	130,202	—	18,242
1886	..	..	..	..	..	534,353	23,290	119,873	—	10,329
1887	..	..	..	..	..	558,620	24,267	107,230	—	12,643
1888	..	..	..	..	..	613,895	55,275	101,341	—	5,889
1889	..	..	..	..	..	586,445	27,450	128,063	+	26,722
1890	..	..	..	..	..	637,397	50,952	110,939	—	17,124
1891	..	..	..	..	..	668,794	31,397	125,318	+	14,379
1892	..	..	..	..	..	673,315	4,521	125,453	+	135
1893	..	..	..	..	..	691,548	18,233	117,444	—	8,009
1894	..	..	..	..	..	719,546	27,998	112,961	—	4,483
1895	..	..	..	..	..	726,634	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
1899	..	..	..	..	..	975,234	68,201	99,655	—	15,772
1900	..	..	..	..	..	1,093,990	118,756	124,033	+	24,378
1901	..	..	..	..	..	1,239,686	145,696	149,764	+	25,731
1902	..	..	..	..	..	1,365,040	125,354	127,853	—	21,911

No. 7.

TABLE showing the OUTPUT of COAL from the various Mining Districts, and the Comparative INCREASE and DECREASE, for the Years 1902 and 1901, 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, 1902.
						1902.	1901.			
						Tons.	Tons.			Tons.
Kawakawa and Hikurangi	..	..	..	..	..	60,606	53,298	+	7,308	1,250,424
Whangarei, Kamo, Ngunguru, and Whauwhau	..	..	..	..	..	32,155	33,757	—	1,602	499,774
Waikato	..	..	..	..	..	91,541	84,086	+	7,455	1,342,795
Mokau	..	..	..	..	..	4,250	3,513	+	737	33,784
Miranda	..	..	..	..	..	3,493	430	+	3,063	3,923
Pelorus	..	..	..	..	..	..	..	..	..	711
West Wanganui	..	..	..	..	..	..	2,208	—	2,208	55,183
Westport	..	..	..	..	..	528,462	455,057	+	73,405	4,710,012
Reefton	..	..	..	..	..	8,760	6,102	+	2,658	99,006
Greymouth	..	..	..	..	..	216,594	206,168	+	10,426	3,299,882
Canterbury	Malvern	..	..	..	..	19,445	16,098	+	3,347	418,929
	Timaru	..	..	..	..	..	..	..	..	10,657
Otago	..	..	..	..	..	308,310	289,322	+	18,988	4,670,969
Southland	..	..	..	..	..	91,424	89,647	+	1,777	761,547
Totals	..	..	..	..	..	1,365,040	1,239,686	+	125,354	17,157,596

## 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, 1902.
	1902.	1901.		
	Tons.	Tons.	Tons.	Tons.
Bituminous and semi-bituminous ..	845,046	754,953	+ 90,093	9,546,823
Pitch .. .. .	25,245	14,584	+ 10,661	1,837,956
Brown .. .. .	427,172	405,152	+ 22,020	5,151,271
Lignite .. .. .	65,239	52,949	+ 12,290	607,160
Shale .. .. .	2,338	12,048	- 9,710	14,386
Totals .. .. .	1,365,040	1,239,686	+ 125,354	17,157,596

## 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 Men employed at each Mine.		Total Number of Men employed.	Output of Coal during 1902.	Average Output per Man.
				Tons.	Tons.
110	1 to 4 in each	.. ..	161	39,075	242.70
32	5 to 10 "	.. ..	204	94,403	462.76
16	11 to 20 "	.. ..	221	93,213	421.77
22	21 and upwards	.. ..	2,299	1,138,349	495.15
180			2,885	1,365,040	473.15

## No. 10.

RETURN showing the QUANTITY and VALUE of COAL IMPORTED INTO and EXPORTED FROM NEW ZEALAND during the Year ended the 31st December, 1902.

Imported.			Exported.		
Countries whence imported.	Quantity.	Value.	Countries to which exported.	Quantity.	Value.
	Tons.	£		Tons.	£
United Kingdom .. ..	5	2	United Kingdom .. ..	82,399	76,698
New South Wales .. ..	126,548	124,430	Victoria .. ..	..	..
Victoria .. ..	1,300	1,300	New South Wales .. ..	10,400	12,352
			Cape Colony .. ..	130	127
			Natal .. ..	2,023	2,023
			United States of America—		
			On the West Coast .. ..	1,699	2,247
			Fiji Islands .. ..	9,711	7,823
			South Sea Islands .. ..	3,706	2,717
			Hongkong .. ..	81,366	53,952
			Western Australia .. ..	..	..
			Tasmania .. ..	..	..
			Norfolk Island .. ..	670	703
			Antarctic Regions .. ..	..	..
Totals .. ..	127,853	125,732	Totals .. ..	192,104	158,642

## No. 11.

NUMBER of MINERS EMPLOYED during the Years ended 31st December, 1901 and 1902.

District.	Alluvial Miners.		Quartz-miners.		Totals.		Grand Totals.	
	European.	Chinese.	European.	Chinese.	European.	Chinese.	1901.	1902.
<b>AUCKLAND—</b>								
Coromandel .. .. .	..	..	314	..	314	..	400	314
Thames .. .. .	..	..	478	..	478	..	758	478
Paeroa .. .. .	..	..	735	..	735	..	2,320	735
Te Aroha .. .. .	..	..	18	..	18	..	25	18
Tauranga .. .. .	..	..	12	..	12	..	5	12
Waihi .. .. .	..	..	1,195	..	1,195	..	..	1,195
	..	..	2,752	..	2,752	..	3,508	2,752
<b>MARLBOROUGH—</b>								
Havelock .. .. .	63	..	11	..	74	..	72	74
Blenheim .. .. .	23	..	18	..	41	..	55	41
Cullensville .. .. .	20	..	..	..	20	..	62	20
	106	..	29	..	135	..	189	135
<b>NELSON—</b>								
Wangapeka and Sherry .. ..	7	..	..	..	7	..	8	7
Takaka .. .. .	24	..	..	..	24	..	24	24
Collingwood .. .. .	96	..	60	..	156	..	143	156
Motueka .. .. .	7	..	..	..	7	..	10	7
Inangahua .. .. .	232	150	650	..	882	150	1,011	1,032
Ahaura .. .. .	350	94	35	..	385	94	1,139	479
Charleston .. .. .	130	..	..	..	130	..	130	130
Westport, including Addison's, Northern Terraces, Waimangaroa, North Beach, Mokihinui, Karamea, and Lower Buller Valley	225	..	15	..	240	..	250	240
Lyell .. .. .	20	15	35	..	55	15	70	70
Murchison .. .. .	75	25	..	..	75	25	120	100
Owen .. .. .	..	..	..	..	..	..	..	..
	1,166	284	795	..	1,961	284	2,905	2,245
<b>WESTLAND—</b>								
Ross .. .. .	79	2	..	..	79	2	102	81
Stafford and Goldsborough .. ..	190	40	..	..	190	40	250	230
Hokitika and Kanieri .. ..	380	40	..	..	380	40	180	420
Kumara .. .. .	364	39	..	..	364	39	120	403
Greymouth .. .. .	781	183	..	..	781	183	958	964
Arnold .. .. .	..	..	..	..	..	..	..	..
Okarito .. .. .	46	1	..	..	46	1	71	47
	1,840	305	..	..	1,840	305	1,681	2,145
<b>OTAGO—</b>								
Hindon .. .. .	20	2	21	..	41	2	28	43
Tuapeka .. .. .	425	150	25	..	450	150	600	600
Clyde, Roxburgh, Black's, and Alexandra	890	105	8	..	898	105	1,058	1,003
Cromwell .. .. .	360	50	15	..	375	50	528	425
Tapanui .. .. .	10	2	..	..	10	2	22	12
Waikaia .. .. .	140	30	..	..	140	30	200	170
Wyndham .. .. .	8	..	..	..	8	..	15	8
Waiau .. .. .	20	..	..	..	20	..	20	20
Orepuki and Preservation .. ..	420	65	30	..	450	65	545	515
Roundhill .. .. .	90	40	..	..	90	40	135	130
Wakatipu Goldfields—Arrow, Macetown, Cardrona, Kawarau, Bracken's, and Motatapu	119	12	30	..	149	12	190	161
Queenstown .. .. .	140	25	15	..	155	25	329	180
Naseby .. .. .	..	..	..	..	..	..	..	..
St. Bathans .. .. .	274	113	87	..	361	113	400	474
Hyde .. .. .	..	..	..	..	..	..	..	..
Macrae's .. .. .	..	..	..	..	..	..	..	..
Maerewhenua and Kurow .. ..	90	..	..	..	90	..	90	90
Pembroke .. .. .	30	12	..	..	30	12	42	42
Gore .. .. .	233	15	..	..	233	15	247	248
	3,269	621	231	..	3,500	621	4,449	4,121
<b>SUMMARY.</b>								
AUCKLAND .. .. .	..	..	2,752	..	2,752	..	3,508	2,752
MARLBOROUGH .. .. .	106	..	29	..	135	..	189	135
NELSON .. .. .	1,166	284	795	..	1,961	284	2,905	2,245
WESTLAND .. .. .	1,840	305	..	..	1,840	305	1,681	2,145
OTAGO .. .. .	3,269	621	231	..	3,500	621	4,449	4,121
Totals .. .. .	6,381	1,210	3,807	..	10,188	1,210	12,732	11,398

Approximate Cost of Paper.—Preparation, not given; printing (2,200 copies), £14 0s. 6d.

By Authority: JOHN MACKAY, Government Printer, Wellington.—1903.

Price 6d.



DIAGRAM showing TOTAL QUANTITY & VALUE of GOLD exported from N.Z.  
for the years 1857 to 1902.

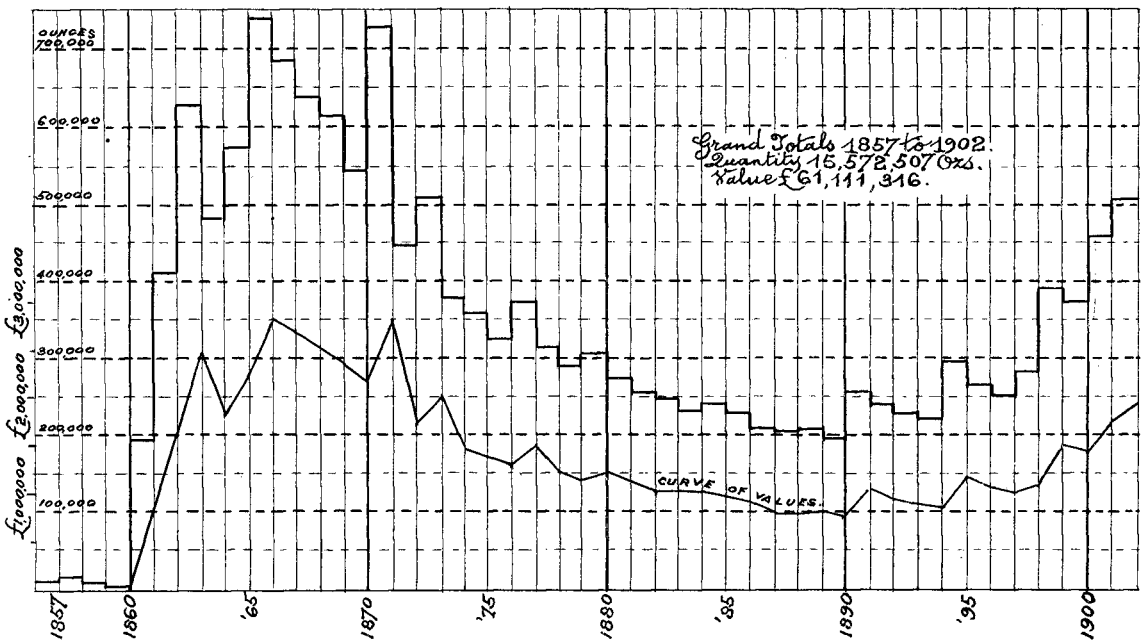


DIAGRAM showing TOTAL QUANTITY & VALUE of KAURI GUM exported from N.Z.  
for the years 1853 to 1902.

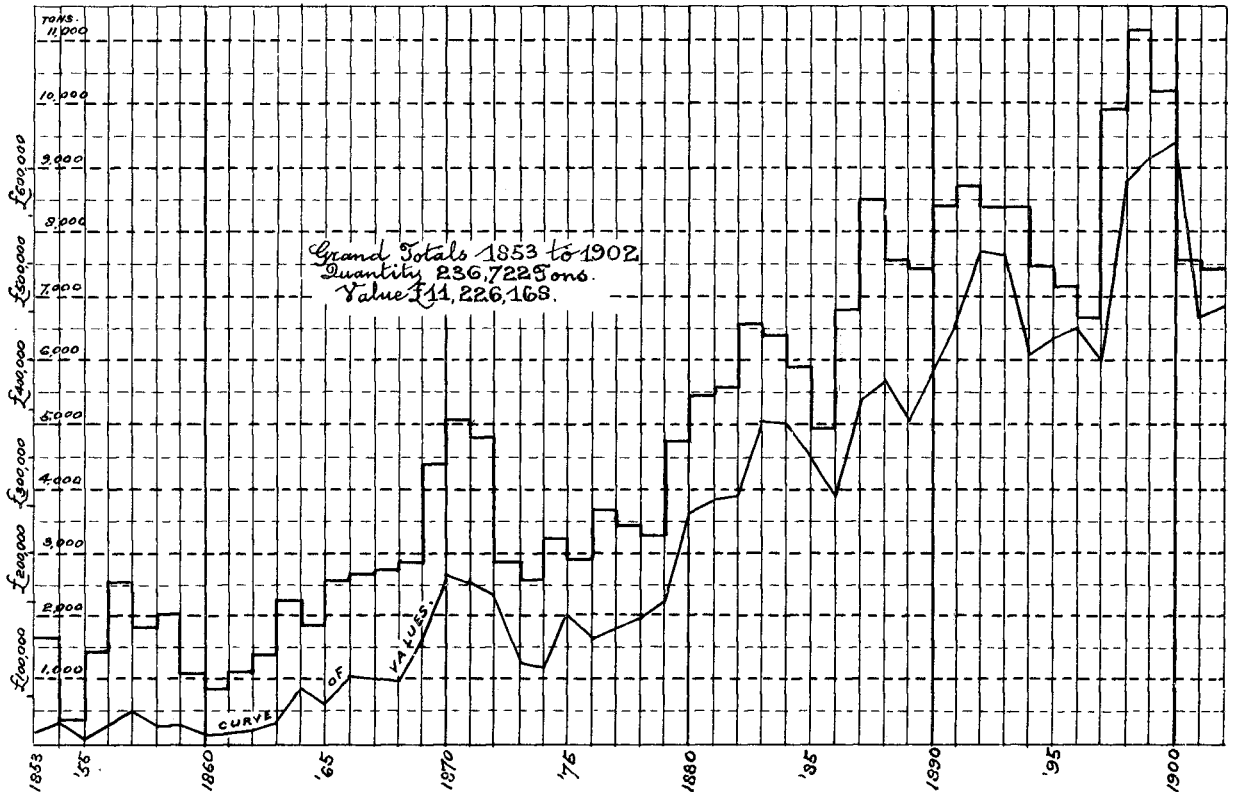


DIAGRAM showing TOTAL OUTPUT of COAL from N.Z. MINES.  
for the years 1872 to 1902.

