MINES STATEMENT.

CONTENTS.

APPENDICES TO THE MINES STATEMENT—*continued.*

1932.

NEW ZEALAND.

MINES STATEMENT,

BY THE HON. C. E. MACMILLAN, MINISTER OF MINES.

MR. SPEAKER,—

I have the honour to present to Parliament the annual statement on the mining industry of the Dominion for the year ended 31st December, 1931.

GOLD-MINING.

It is pleasing to record that the estimated quantity of gold produced during the year increased from 120,931 oz., valued at £499,744, in the year 1930 to 129,861 oz., valued at £627,451, in the year 1931, or an increase in quantity of 8,930 oz., and in value of £127,707.

The bullion, consisting of gold and silver, produced during the year 1931 decreased in quantity by 74,924 oz., but the value shows an increase of £106,211 as compared with the previous year.

The decrease in production of bullion is due to the fact that the quantity of silver produced was 83,854 oz. less than for the previous year.

From the returns of gold sold since last year it is manifest that the production, if it continues, will be much greater at the end of this year than during the year 1931. Large numbers of men are actively engaged in many mining districts in the Dominion in prospecting for gold and working alluvial areas. Most of these men are working without any financial aid from either the Unemployment Board or from the Mines Department, and they are winning gold in sufficient quantity to keep themselves. It is quite evident that while the present conditions prevail in the Dominion the lure of gold will attract many more men who are now walking the streets in the several cities in the Dominion and who will if they work diligently make sufficient money to keep them off the unemployment-relief funds.

In the Thames, Coromandel, Nelson, West Coast, and Otago Mining Districts large numbers of men are prospecting for gold and working alluvial deposits with the aid of money found by the Unemployment Board. In four of the districts skilled mining engineers are employed by the Mines Department to supervise, control, and advise the men in carrying out their work. Many of the men have been engaged in carrying out development works prior to sluicing operations being begun. The returns won by some of the men are most encouraging, and accurate records are being kept so as to ensure that there will be a permanent and, as far as possible, a correct report of the work carried out.

It is difficult to separate the speculative element from mining, but I feel confident that if greater care and judgment were exercised in the prospecting and development of mining properties to ascertain reliably their value before undertaking the formation of companies to work them the industry would become more of an investment than a mere speculation. It cannot be too strongly emphasized that before companies are promoted and money is subscribed in large

amounts to develop mining-areas and provide plants for the treatment of the gold the areas should be thoroughly, systematically, efficiently, and reliably tested. From a perusal of several of the prospectuses issued during recent months it is manifest that practically no testing at all was carried out.

In view of the widely increased interest which has been taken in prospecting for gold throughout the Dominion, my Department has issued two leaflets recently, one describing in detail what should be done in fossicking and prospecting for gold, and the other what areas are worthy of prospecting.

In addition, two other leaflets are in type, one describing briefly the procedure to be followed in obtaining mining privileges under the provisions of the Mining Act, 1926, and the other leaflet containing comments on the taking of samples of mineral deposits and the valuation of mining prospects.

The publication of these leaflets will, it is believed, be of value to many men who are unaccustomed to mining or fossicking for gold.

MINERAL PRODUCTION.

The following statement shows the quantity and value of the production of metalliferous mines, stone-quarries under the Stone-quarries Act, and of coal-mines during 1931 and 1930:—

Mineral.	1931.		1930.	
	Quantity.	Value.	Quantity.	Value.
		£		£
Gold and silver*	564,871 oz.	657,189	639,795 oz.	550,978
Platinum	½ ,,	5	2½ ,,	16
Tungsten-ore	..	..	23 3/20 tons	1,207
Sulphur	..	..	849 ,,	13,261
Iron	3,460 tons	17,300	8,075 ,,	40,375
Stone	..	316,366	..	413,291
Pumice	2,321 tons	7,589	2,559 tons	8,472
Coal	2,157,756 ,,	2,157,756	2,542,092 ,,	2,542,092
Silica-sand	35 1/20 ,,	18	53 9/20 ,,	27
Quicksilver	15 5/20 ,,	7,296	1 6/20 ,,	1,080
Totals	..	£3,163,519	..	£3,570,799

* The gold-silver bullion is generally exported unseparated.

The value of minerals, including kauri-gum, exported and of the coal used in the Dominion, which is shown in Table No. 1 accompanying this Statement, amounted to £2,913,798, as compared with £3,339,285 during 1930. The total value of such minerals exported to the end of 1931 amounted to £179,056,349.

GOLD AND SILVER MINING.

The following statement shows the quantity and value of bullion-production, the dividends paid by registered companies, and the number of productive claims and gold-dredges during 1931 and 1930:—

Class of Gold-mining.	Production of Bullion.				Dividends paid by Registered Companies.		Number of Productive Claims and Dredges.	
	1931.		1930.		1931.	1930.	1931.	1930.
	Oz.	£	Oz.	£	£	£		
Quartz	538,070	532,152	620,303	472,841	106,087	100,908	32	26
Alluvial	15,306	70,110	8,954	35,067	470	805	726	306
Dredging	11,495	54,927	10,538	43,070	..	..	5	3
Totals	564,871	657,189	639,795	550,978	106,557	101,713	763	335

GOLDFIELDS REVENUE AND GOLD DUTY.

The amount of goldfields revenue received and payable to local bodies during the year ended 31st March, 1932, was £12,010 11s. 7d., and the amount received and payable to Native and European owners and special endowments was £194 14s. 3d.

During the same period the sum of £11,015 0s. 5d. was received by way of duty on gold exported, of which £2,831 10s. 5d. was credited to the Consolidated Fund to assist in the payment of miners' pensions, and the balance of £8,183 10s. was credited to the Local Bodies' Deposit Account for the benefit of the local bodies in whose districts the gold was won, so that during the year the total sum of £20,194 1s. 7d. was received on behalf of the local bodies from these sources.

MINING PRIVILEGES.

That increased interest is being maintained in the mining industry is shown by the fact that during the year ended 31st March, 1932, 1,276 licenses for mining privileges were granted under the provisions of the Mining Act, 1926, as compared with 544 for the previous year. Out of this number two hundred and eighty-one were licenses for claims authorizing the holders to mine for gold. For the same period 141 mining privileges, including fifteen licenses for claims, were struck off the registers under the provisions of section 188 of the said Act.

In view of the fact that greater interest is now being taken in gold-mining, and as there are, no doubt, many men prospecting who are not familiar with the procedure to be followed to obtain mining privileges, it is pointed out that the necessary forms of application for mining privileges are obtainable from all Wardens' Courts. These forms may be completed by the applicant himself and forwarded by post to the nearest Warden's Court, it being unnecessary for him to appear personally in support of his application unless requested by the Warden to do so. Where an applicant does not desire to attend the Court in support of his application, he should advise the Mining Registrar at the Warden's Court to this effect and request him to supply the necessary declaration form, which should be completed by the applicant and forwarded with his application. A mining privilege can thus be obtained in most cases at the amount of the fees prescribed by the regulations under the Mining Act, 1926.

PROSPECTING FOR OIL.

During the year seven companies were engaged in boring for oil in several parts of the Dominion, the aggregate footage bored being 11,228 ft. A total production of 111,568 gallons of oil was obtained from two wells at New Plymouth, of which quantity Moturoa No. 2 well produced 71,568 gallons of crude oil and Blenheim No. 2 well 40,000 gallons. The total production of crude petroleum oil to the 31st December, 1931, is estimated at 1,669,728 gallons.

COAL-MINING.

During the year 1931 2,157,756 tons of coal were produced from the mines operating in the Dominion, or a decrease of 384,336 tons when compared with the previous year's figures.

The cause of the decreased production may be attributed to lower consumption by railways, gasworks, steamers, and by the general public; also to the increased competition in consequence of the use of fuel oil and electricity for power, heating, and lighting purposes.

Recognizing that there are too many mines in operation, the Government has recently decided not to grant any more coal leases, but consideration will be given to any applications in respect of an area or areas which are isolated and which need coal to supply only local requirements.

The output of the several classes of coal mined in each inspection district is summarized as follows :—

Class of Coal.	Output of Coal during 1931.				Total Output to the End of 1931.
	Northern District (North Island).	West Coast District (South Island).	Southern District (South Island).	Total.	
	Tons.	Tons.	Tons.	Tons.	Tons.
Bituminous and sub-bituminous	129,725	849,911	..	979,636	45,548,721
Brown	705,174	39,824	324,751	1,069,749	25,900,980
Lignite	..	759	107,612	108,371	4,548,846
Totals for 1931 ..	834,899	890,494	432,363	2,157,756	75,998,547
Totals for 1930 ..	766,312	1,286,071	489,709	2,542,092	73,840,791

The carbonizing and briquetting plant at Rotowaro, Waikato District, which is owned by Waikato Carbonization, Ltd., and which at present draws its supplies from the collieries owned by Taupiri Coal-mines, Ltd., and others, commenced operations in June, 1931, and has operated continuously, except for two or three months during last summer.

The capacity of the plant is 150 tons per day of eight hours, but so far it has not been required to work to its full capacity. The average daily quantity produced over the last six months was 55 tons per day (six days of eight hours each per week). The capacity of the carbonizing plant is 250 tons of raw coal per day (24 hours' continuous operation). The average daily (three shifts) throughput over the last six months was 95 tons per day.

The briquettes, being the main product, have, it is claimed, proved suitable for domestic purposes, central-heating plants, and industrial uses. By-products, such fuel-oil, creosote, and paint for steel and iron work, are items of production which, it is understood, have been tested with encouraging results.

The operations of the company are regarded as of national importance, as not only does it produce commodities which have to be imported, but it directly employs upwards of fifty men.

INVESTIGATIONS, NEW ZEALAND COALS.

The Under-Secretary has represented the Department on the Coal Research Association, and has assisted the staff of the association where possible in carrying out their work.

Space was afforded in one of the buildings on the State Coal premises, Herd Street, Wellington, for the erection of a small experimental briquetting plant purchased by the association. The plant, designed by Yeadon and Son, Leeds, allows quantities of from 30 lb. to several tons of any desired grade of briquette to be made, 1 oz. in weight and of ovoid shape. The maximum output per day of eight hours is $2\frac{1}{2}$ tons. Trials were made of Westport, Paparoa, and Reefton coals singly, and blends of Reefton and Waikato coals with varying quantities of bituminous coal. Briquettes of Westport and Paparoa coal proved excellent household fuel. Those from Reefton No. 4 coal alone were somewhat dull in an open fire, and were greatly improved when blended with 20 per cent. of Westport or Liverpool coal. Excellent though rather quick burning briquettes were made from blends of 80 per cent. Waikato coal and 20 per cent. strongly caking bituminous coal. Further experiments in blending swelling and non-swelling bituminous coals for utilization in gas-making were carried out at the Dominion Laboratory and the results circulated by the Department to all gas companies in New Zealand.

Progress abroad in treatment and utilization of coal, including hydrogenation for the production of oil, has been carefully followed, but during the year nothing outstanding has been put forward that would be applicable under New Zealand conditions.

It is to be regretted that owing to trade depression the coalowners have withdrawn from the Coal Research Association, and that in future coal research will be considerably curtailed.

PERSONS EMPLOYED IN OR ABOUT MINES AND STONE-QUARRIES.

The following table shows the number of persons employed in each inspection district during 1931 and 1930 :—

Classification.	Inspection District.			Totals.		
	Northern (North Island).	West Coast (of South Island).	Southern (rest of South Island).	1931.	1930.	Increase or Decrease.
Gold, silver, and tungsten ore	716	507	647	1,870	1,564	Inc. 306
Ironstone	..	25	..	25	120	Dec. 95
Cinnabar	58	..	..	58	54	Inc. 4
Sulphur	..	..	..	..	25	Dec. 25
Coal	2,061	2,747	937	5,745	5,867	,, 122
Stone-quarries under the Stone-quarries Act	1,441	180	374	1,995	1,958	Inc. 37
Oil	50	..	6	56	51	,, 5
Silica-sand	..	..	1	1	2	Dec. 1
Totals	4,326	3,459	1,965	9,750	9,641	Inc. 109

MINING AND QUARRY ACCIDENTS.

In metalliferous mines, at which 1,954 men were ordinarily employed, one person was killed and four persons seriously injured.

At stone-quarries under the Stone-quarries Act, employing 1,995 men, there was one fatal accident and five serious accidents.

In coal-mines, where 5,745 persons were ordinarily employed, four persons were killed and seventeen persons seriously injured.

CO-OPERATIVE MINING, STATE COAL RESERVE.

Seventeen co-operative parties working portions of the State Coal Reserve near Greymouth produced during the year 1931 108,220 tons, the number of men employed being 130. During the previous year the same number of parties produced 104,209 tons, there being an increase this year of 4,011 tons.

A comparison of the coal produced by these men shows that the average production per man employed is much greater than the average production at many of the large mines in the Dominion. Moreover, the men employed in the co-operative mines usually take more pains in preparing their places and so mine the coal as to produce a greater proportion of larger coal than is the case at many of the other mines.

STATE COAL-MINES.

Notwithstanding the intense competition and a smaller output from each of the two State coal-mines, the profit made for the year ended 31st March, 1932, was £16,032, after providing for interest and depreciation. Of that amount £7,886 was transferred to the Sinking Fund and £5,000 was transferred to the Consolidated Fund on account of past administrative services, leaving a balance of £3,146 in the Profit and Loss Account.

I am pleased to say that in spite of the decreased business the Department did not, so as to ensure less idle time, dismiss the excess number of men employed.

The operations of the State coal-mines and State coal-depots for the year are briefly reviewed hereunder.

Output and Sales.

The operations of the State coal-mines and State coal-depots for the year ended 31st March, 1932, are briefly reviewed hereunder.

Liverpool Colliery.—The gross output for the year was 120,561 tons, as compared with 131,103 tons for last year, a reduction of 10,542 tons.

James Colliery.—The gross output for the year was 38,018 tons, as compared with 42,391 tons for last year, a reduction of 4,373 tons.

A comparative statement for the two years is shown hereunder :—

Mine.	Output, in Tons, 1931-32.		Output, in Tons, 1930-31.	
	Gross.	Net.	Gross.	Net.
Liverpool	120,561	114,560	131,103	125,430
James	38,018	36,622	42,391	41,081

NOTE.—The difference between the gross and the net output is the allowance for mine consumption and waste. In addition to the above, 5,320 tons of coal were purchased for resale, of which 4,462 tons were purchased from co-operative parties on the West Coast.

The disposal, inclusive of stock on hand at the beginning of the year, was as follows: Supplied to—Depots, 41,237 tons; railways, 19,328 tons; other Government Departments, 6,376 tons; shipping, 11,687 tons; gasworks, 56,004 tons; other consumers, 9,280 tons: total, 143,912 tons.

The total sales of State coal from the Liverpool Mine for the year amounted to 107,944 tons, value £135,505,* as compared with 124,324 tons, value £172,639,* for last year—a decrease of 16,380 tons, with a decrease in value of £37,134.

The average price realized by the mine on the total sales for the year was £1 5s. 1·3d., a decrease of 2s. 8d. on last year's average.

The total sales of State coal from the James Mine for the year (inclusive of coal purchased—566 tons) amounted to 35,968 tons, value £43,785,* as compared with 41,161 tons, value £50,359,* for last year—a decrease of 5,193 tons, with a decrease in value of £6,574.

The average price realized by the mine on the total sales for the year was £1 4s. 4·2d. per ton, a decrease of 1·4d. on last year's average.

The sales of coal, &c., through the medium of the depots totalled 106,083 tons, value £190,818, as against 133,220 tons, value £246,870, for last year.

ITEMS FROM BALANCE-SHEET.

The following items taken from the balance-sheet, which has been audited, will prove of interest as indicating the more important items of expenditure and for reference in respect of the position of Capital Account, reserve funds, and other accounts shown therein :—

	£
The payments for interest totalled	5,922
The cost of sea carriage of coal amounted to	38,872
The cost of railway haulage amounted to	35,134
The total wages paid for coal-winning were	86,373
The amount paid for management and office salaries (Head Office and mines) totalled	3,618
The gross capital expenditure on the whole undertaking to the 31st March, 1932, was	672,946
The total depreciation written off to date (equal to 73·3 per cent. of the gross capital expenditure) amounts to	493,460
The amount written off for depreciation for the year (including £64,581 special depreciation written off Colliery Development Accounts) was	76,146
The present book value of permanent or fixed assets is	179,486
The loan capital stands at	141,683
The net profits of the State Coal-mines Account from inception to 31st March, 1932, after allowing for the special depreciation of Colliery Development Accounts, are	145,294
The net profit for the year ended 31st March, 1932, was ..	16,032
The Sinking Fund is in credit	7,990
The amount taken out of the Sinking Fund during the year and applied in reduction of loan capital was	7,700
General Reserve stands at	134,157
The amount at credit of Profit and Loss is	3,146
The cash in hand and in the Public Account as at 31st March, 1932, was (last year £1,503)	6,784

* These values include sales made c. and f. and f.o.b. as well as f.o.r.

Housing.

Thirty-five loans have been granted to miners and others, under the Department's housing scheme, to enable the workmen to erect and own their own houses. The loans, which range from £250 to £300, are repayable, together with interest, by fortnightly instalments over a term of twenty years.

SOCIAL AMENITIES AT MINING TOWNSHIPS.

During last year grants were authorized from the State Coal-mines Account to assist the Runanga Borough Council in maintaining streets and for street-lighting; also a grant was authorized for improvements to the croquet-lawn.

The Glen Afton Collieries, Ltd., provided the means for concreting a public tennis-court at Glen Afton, and the Renown Collieries, Ltd., provided ground and labour for the construction of a tennis-court near the mine at Renown Township.

The amenites previously provided are being well maintained and patronized, and are proving very popular in the communities adjacent to the mines.

GEOLOGICAL SURVEY.

During the 1931–32 field season the Geological Survey completed the detailed examination of the Te Kuiti district and continued the mapping of the Eketahuna Subdivision. Owing to shortage of funds, work in the Amuri Subdivision was suspended. Limestone occurs in very large amount in the Te Kuiti district, and is extensively quarried for agricultural purposes. There is some coal, but the deposits are small, scattered, and in some cases difficult of access; they have, however, a decided local value, which is likely to increase. The Eketahuna Subdivision is part of the petroliferous province that extends along the east coast of the North Island. The northern half of this region is now mapped in detail, but the Eketahuna Subdivision is the first area in the southern half to be examined.

The soil-mapping in the Rotorua district, begun in 1930, proved of such value that the time of the two officers engaged on this work has this season been fully occupied in the reconnaissance mapping of different areas for the Native and Lands Departments. Considerable areas still remain to be mapped in this region, a work that will occupy most of next season. It is hoped, however, to devote some time to the examination of the soils of other districts.

The present trade depression and the considerable increase in the value of gold have revived public interest in the goldfields of the Dominion. The Geological Survey receives innumerable inquiries as to the distribution of gold in both Islands and has sold many maps of auriferous areas. Since the beginning of 1932 an officer has been detailed to examine different alluvial goldfields, and in the course of this work has visited old diggings in the Collingwood, Takaka, Wangapeka, and Howard districts in Nelson, and several once-famous fields in Otago. His investigations go to show that a number of men, considerable in the aggregate, could maintain themselves in modest comfort. In several localities in Otago the limiting factor is the scarcity of water. Next season it is hoped to extend these examinations to the Wext Coast, and also to examine more closely the quartz-drifts in Otago that cover large areas in that province and have yielded a great quantity of gold in the past.

SCHOOLS OF MINES.

Ten candidates sat at the annual Schools of Mines examinations held in November, 1931, for the six scholarships offered annually by the Department to students attending the various Schools of Mines within the Dominion, and, of these candidates, three (one each from the Runanga, Reefton, and Thames Schools) were successful in gaining scholarships, which are tenable for four years at the University of Otago.

The expenditure on Schools of Mines for the year ended 31st March, 1932, was £3,641, as compared with £3,672 for the previous year.

MINERS' PENSIONS.

The Miner's Phthisis Act, 1915, as it stood at the time of its re-enactment in the Pensions Act, 1926, provided for payment of pensions to miners totally incapacitated by miner's phthisis contracted while mining in New Zealand, an unmarried man receiving £1 5s. a week and a married man or a widower with one or more children £1 15s. a week. By the Finance Act, 1929, the definition of miner's phthisis was widened to include cases of serious and permanent incapacity, and the scale of pensions was amended as follows: Miner, £1 5s. a week; wife, 10s. a week; each child under fifteen, 10s. a week. The pensions of children (only) were to be reduced at the rate of £1 per annum for every £1 of income of the miner in excess of £104 per annum, with a maximum pension of £4 5s. a week (£221 per annum). By the National Expenditure Adjustment Act, 1932, the scale was further amended as follows: Miner, £1 2s. 6d. a week; wife, 9s. a week; each child under fifteen, 9s. a week. At the same time the maximum family pension was reduced from £4 5s. to £3 16s. 6d. a week.

The following summary of operations for the year ended 31st March, 1932, has been supplied by the Commissioner of Pensions, whose Department administers the scheme:—

	£
Payments from 1st November, 1915, to 31st March, 1931	504,472
Payments, 1931–32	69,785
	£574,257
Number of new grants for year 1931–32	175
Annual value of new grants	£16,041 5s.
Number of pensions in force at 31st March, 1932 ..	991
Annual value of pensions in force at 31st March, 1932	£74,035
Average pension per annum	£74 14s. 2d.
Number of pensions granted to 31st March, 1932 ..	1,957
Dissection of pensions in force at 31st March, 1932:—	
Unmarried miners	171
Married miners	411
Miners' widows	409
	991

COAL-MINERS' RELIEF FUND.

The Miners' Sick and Accident Funds having been abolished as from the 1st April, 1926, and incorporated in the Coal-miners' Relief Fund, all accident relief payments are now made from the latter fund, which is administered by the Public Trustee.

The balance at the credit of the Relief Fund is still steadily decreasing, the decrease for the year ended 31st March, 1932, being £768 9s. 10d., as against £289 12s. 2d. for the previous year.

The rate of interest allowed on the fund was decreased from $5\frac{1}{4}$ per cent. to $4\frac{3}{4}$ per cent. as from the 18th December, 1931.

The interest earned for the twelve months ended 31st March, 1932, was £1,188 15s. 6d., as against £1,240 17s. 6d. for the previous year, while for the same periods the receipts from the $\frac{1}{2}$d. per ton contributions were £4,404 17s. 10d. and £5,579 12s. 1d. respectively.

The total expenditure for the year ended 31st March, 1932, amounted to £6,362 3s. 2d., as against £7,110 1s. 9d. for the previous year.

The amount standing to the credit of the fund as at the 31st March, 1932, was £23,122 4s. 7d., as against £23,890 14s. 5d. at the 31st March, 1931.

STATE AID TO MINING.

As in previous years, considerable use was made of the Government prospecting drills. They were hired by six parties, and a total of 5,645 ft. was drilled.

The sum of £7,000 was voted for expenditure by way of subsidies for prospecting. The balance of unexpended authorities at the 31st March, 1931, and those issued during the year, less cancellations, amounted to £8,073 14s. 10d. Of this amount the sum of £4,811 2s. 11d. was expended by way of actual subsidies during the year, leaving a balance of £3,262 11s. 11d. authorized but not spent at the 31st March, 1932. In addition, the sum of £116 17s. 10d. was expended by the Department in connection with the Unemployment Board's prospecting schemes. The number of men given employment through the subsidies granted by the Mines Department was 278.

In addition, between 500 and 600 men were assisted up to the 31st March, 1932, under the Unemployment Board's prospecting schemes, at an approximate cost of £6,000.

Provision totalling £4,888, including £4,498 in the Public Works Fund, was made for expenditure by way of direct grants and subsidies for roads and tracks.

The balance of the unexpended authorities at the 31st March, 1931, and those issued during the year amounted to £3,176 16s. 1d. Of this amount the sum of £2,871 16s. was expended.

As usual, all applications for assistance in this direction were carefully investigated, and, having regard to the necessity for curtailing expenditure as far as possible, assistance was granted in those cases where the results of the investigations warranted it.

The expenditure on Schools of Mines amounted to £3,641.

LATE CHIEF INSPECTOR OF COAL-MINES.

It is with extreme regret that I have to record the passing-away of Mr. John Archibald Campbell Bayne on the 1st January, 1932, during an official visit to the Auckland District.

The deceased held the position of Inspecting Engineer of Mines and Chief Inspector of Coal-mines as from the 30th January, 1923, and during the whole of his official career in the Mines Department he carried out his work with conspicuous ability, and largely as the result of his efforts better mining methods in many of the coal-mines in the Dominion were brought about, which will result in a greater extraction of coal, with added safety to those engaged in the industry, and with, it is believed, consequential financial benefits to all concerned.

TABLES TO ACCOMPANY MINES STATEMENT.

No. 1.

TABLE SHOWING THE QUANTITY AND VALUE OF GOLD AND OTHER MINERALS AND ALLIED SUBSTANCES EXPORTED DURING THE YEARS ENDED THE 31ST DECEMBER, 1931 AND 1930, AND THE TOTAL VALUE SINCE THE 1ST JANUARY, 1853. THE COAL-OUTPUT IS ALSO INCLUDED.

Name of Metal or Mineral.	For Year ended the 31st December, 1931.		For Year ended the 31st December, 1930.		Total from the 1st January, 1853, to the 31st December, 1931.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Precious metals—	Oz.	£	Oz.	£	Oz.	£
Gold*	139,974	577,612	133,749	550,678	24,056,028	95,036,124
Silver	551,259	34,424	566,063	44,534	27,960,216	3,224,098
Total gold and silver ..	691,233	612,036	699,812	595,212	52,016,244	98,260,222
Mineral produce, including kauri-gum—	Tons.	£	Tons.	£	Tons.	£
Copper-ore	..	..	..	..	1,504	19,390
Chrome-ore	..	..	..	..	5,869	38,002
Antimony-ore	$4\frac{9}{20}$	36	..	..	$3,785\frac{9}{20}$	55,081
Manganese-ore	..	..	2	5	$19,386\frac{11}{20}$	62,011
Hæmatite-ore	..	..	..	..	77	469
Tungsten-ore	$5\frac{1}{20}$	320	$17\frac{8}{20}$	1,469	$2,458\frac{3}{20}$	311,529
Quicksilver	$15\frac{3}{20}$	7,760	$1\frac{16}{20}$	1,188	$33\frac{11}{20}$	17,284
Sulphur (crude)	..	..	..	..	4,927	13,241
Mixed minerals†	$2,380\frac{19}{20}$	7,780	$2,838\frac{4}{20}$	9,437	$88,870\frac{15}{20}$	366,722
Coal (New Zealand) exported	48,334	83,393	126,118	186,210	6,439,817	7,155,125
Coke exported	3	15	60	218	17,740	28,099
Coal, output of mines in Dominion (less exports)	2,109,422	2,074,363	2,415,974	2,355,882	69,558,730	49,755,461
Oil-shale	..	..	..	..	14,444	7,236
Kauri-gum	3,058	128,095	3,818	189,635	420,180	22,959,862
Pig iron	..	..	4	29	1,614	6,615
Total quantity and value of minerals	$2,163,222\frac{12}{20}$	2,301,762	$2,548,833\frac{8}{20}$	2,744,073	$76,579,436\frac{9}{20}$	80,796,127
Value of gold and silver, as above	..	612,036	..	595,212	..	98,260,222
Total value of minerals, including gold and silver	..	2,913,798	..	3,339,285	..	179,056,349

* In respect of gold, ounces of the fineness of 20 carats and upwards.

† Including pumice-sand, 2,321 tons.

No. 2.

TABLE SHOWING THE QUANTITY AND VALUE OF GOLD EXPORTED FROM NEW ZEALAND FOR THE YEARS ENDED THE 31ST DECEMBER, 1931 AND 1930, AND THE TOTAL QUANTITY AND VALUE FROM 1857 TO THE 31ST DECEMBER, 1931.

District and County or Borough.	Year ended 31st December, 1931.		Year ended 31st December, 1930.		Total Quantity and Value from January, 1857, to 31st December, 1931.	
	Quantity.	Value.	Quantity.	Value.		
AUCKLAND—	Oz.	£	Oz.	£	Oz.	£
County of Ohinemuri ..	48	190	249	1,061		
County of Coromandel ..	304	1,243	284	1,231		
County of Thames	19	72	311	1,406		
Borough of Waihi	81,999	343,724	82,319	344,893		
Borough of Thames ..	884	3,610	..	..		
	83,254	348,839	83,163	348,591	7,716,222	30,084,254
WELLINGTON	..	..	..	..	188	706
MARLBOROUGH—						
County of Marlborough ..	1,591	6,431	145	543		
County of Sounds	52	199	..	..		
	1,643	6,630	145	543	110,338	429,759
NELSON—						
County of Collingwood ..	195	724	100	376		
County of Murchison ..	835	3,318	74	272		
County of Waimea	8	32	..	..		
County of Takaka	..	1	..	..		
	1,038	4,075	174	648	1,743,800	6,913,902
WEST COAST—						
County of Grey	616	2,457	345	1,343		
County of Buller	1,169	4,652	..	..		
County of Inangahua ..	26,477	103,896	21,196	82,494		
County of Westland ..	12,511	51,581	11,152	44,983		
	40,773	162,586	32,693	128,820	6,664,308	26,453,887
CANTERBURY	..	..	..	..	157	620
OTAGO—						
County of Tuapeka ..	1,536	6,212	8,031	33,230		
County of Vincent	1,180	5,100	981	3,833		
County of Maniototo ..	3,157	13,914	4,885	20,179		
County of Waitaki	226	1,041	674	2,767		
County of Lake	1,066	4,335	863	3,529		
County of Wallace	587	2,308	70	282		
County of Southland ..	4,158	16,889	1,477	5,919		
County of Waihemo ..	318	1,406	18	70		
	12,228	51,205	16,999	69,809	7,808,159	31,101,286
Unknown	1,038	4,277	575	2,267	12,856	51,710
Totals	139,974	577,612	133,749	550,678	24,056,028	95,036,124

No. 3.

TABLE SHOWING THE OUTPUT OF COAL FROM THE VARIOUS COALFIELDS, AND THE COMPARATIVE INCREASE AND DECREASE, FOR THE YEARS 1931 AND 1930, TOGETHER WITH THE TOTAL APPROXIMATE QUANTITY OF COAL PRODUCED SINCE THE MINES WERE OPENED.

Name of Coalfield.	Output.		Increase.	Decrease.	Approximate Total Output up to 31st December, 1931.
	1931.	1930.			
	Tons.	Tons.	Tons.	Tons.	Tons.
North Auckland	129,725	140,911	..	11,186	5,368,450
Waikato (including Taranaki) ..	705,174	625,401	79,773	..	12,253,098
Nelson	18,578	17,384	1,194	..	506,740
Buller	380,629	616,681	..	236,052	23,005,116
Reefton	39,003	42,795	..	3,792	757,253
Grey	452,284	609,211	..	156,927	14,654,474
Canterbury	12,088	9,204	2,884	..	985,160
Otago	178,420	195,802	..	17,382	12,400,631
Southland	241,855	284,703	..	42,848	6,067,625
Totals	2,157,756*	2,542,092	..	..	75,998,547

* Decrease, 384,336 tons.

No. 4.

TABLE SHOWING THE OUTPUT OF DIFFERENT CLASSES OF COAL.

Class of Coal.	Output.		Increase.	Decrease.	Approximate Total Output to the 31st December, 1931.
	1931.	1930.			
	Tons.	Tons.	Tons.	Tons.	Tons.
Bituminous and sub-bituminous ..	979,636	1,382,875	..	403,239	45,548,721
Brown	1,069,749	1,046,677	23,072	..	25,900,980
Lignite	108,371	112,540	..	4,169	4,548,846
Totals	2,157,756	2,542,092	..	..	75,998,547

No. 5.

TABLE SHOWING THE INCREASE OR DECREASE IN THE ANNUAL PRODUCTION OF COAL AND OIL-SHALE IN THE DOMINION, AND THE QUANTITY OF COAL IMPORTED SINCE 1878.

Year.	Coal and Shale raised in the Dominion.		Coal imported.		
	Tons.	Yearly Increase or Decrease.	Tons.	Increase over Preceding Year.	Decrease below Preceding Year.
Prior to 1878 ..	709,931	..	..	..	..
1878	162,218	..	174,148	..	..
1879	231,218	Inc. 69,000	158,076	..	16,072
1880	299,923	,, 68,705	123,298	..	34,778
1881	337,262	,, 37,339	129,962	6,664	..
1882	378,272	,, 41,010	129,582	..	380
1883	421,764	,, 43,492	123,540	..	6,042
1884	480,831	,, 59,069	148,444	24,904	..
1885	511,063	,, 30,232	130,202	..	18,242
1886	534,353	,, 23,290	119,873	..	10,329
1887	558,620	,, 24,267	107,230	..	12,643
1888	613,895	,, 55,275	101,341	..	5,889
1889	586,445	Dec. 27,450	128,063	26,722	..
1890	637,397	Inc. 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	726,654	,, 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	..
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
1903	1,420,229	,, 55,189	163,923	36,070	..
1904	1,537,838	,, 117,609	147,196	..	16,727
1905	1,585,756	,, 47,918	169,046	21,850	..
1906	1,729,536	,, 143,780	207,567	38,521	..
1907	1,831,009	,, 101,473	220,749	13,182	..
1908	1,860,975	,, 29,966	287,808	67,059	..
1909	1,911,247	,, 50,272	258,185	..	29,623
1910	2,197,362	,, 286,115	232,378	..	25,807
1911	2,066,073	Dec. 131,289	188,068	..	44,310
1912	2,177,615	Inc. 111,542	364,359	176,291	..
1913	1,888,005	Dec. 289,610	468,940	104,581	..
1914	2,275,614	Inc. 387,609	518,070	49,130	..
1915	2,208,624	Dec. 66,990	353,471	..	164,599
1916	2,257,135	Inc. 48,511	293,956	..	59,515
1917	2,068,419	Dec. 188,716	291,597	..	2,359
1918	2,034,250	,, 34,169	255,332	..	36,265
1919	1,847,848	,, 186,402	391,434	136,102	..
1920	1,843,705	,, 4,143	476,343	84,909	..
1921	1,809,095	,, 34,610	822,459	346,116	..
1922	1,857,819	Inc. 48,724	501,478	..	320,981
1923	1,969,834	,, 112,015	445,792	..	55,686
1924	2,083,207	,, 113,373	674,483	228,691	..
1925	2,114,995	,, 31,788	572,573	..	101,910
1926	2,239,999	,, 125,004	483,918	..	88,655
1927	2,366,740	,, 126,741	378,090	..	105,828
1928	2,436,753	,, 70,013	247,861	..	130,229
1929	2,535,864	,, 99,111	215,656	..	32,205
1930	2,542,092	,, 6,228	157,943	..	57,713
1931	2,157,756	Dec. 384,336	179,060	21,117	..

No. 6.

TABLE SHOWING THE TOTAL QUANTITY AND VALUE OF COAL IMPORTED INTO AND EXPORTED FROM NEW ZEALAND FROM AND TO EACH COUNTRY DURING THE CALENDAR YEAR 1931.

Imports.

Country whence imported.	Tons.	Value.
		£
United Kingdom	420	739
Australia	178,640	193,398
Totals	179,060	194,137

The values shown are the current domestic values in countries of export plus 10 per cent.

Exports : Bunkers.

Country to which exported.	Produce of New Zealand.		Produce of other Countries.	
	Tons.	Value.	Tons.	Value.
		£		£
United Kingdom	14,913	31,880	..	..
Australia	13,628	20,423	..	..
Fiji	5,158	10,669	..	..
Nauru Island	1,652	1,652	..	..
New Caledonia	357	357	..	..
Tuamotu Archipelago	4,771	4,771	..	..
Gilbert and Ellice Islands.. ..	1,182	1,182	..	..
Norfolk Island	429	649	..	..
Solomon Islands	660	1,584	..	..
Uruguay	450	923	..	..
Totals	43,200	74,090	..	..

Exports : Cargo.

Country to which exported.	Produce of New Zealand.		Produce of other Countries.	
	Tons.	Value.	Tons.	Value.
		£		£
United Kingdom	..	2	..	..
Fiji	253	329	..	..
Western Samoa	1	4	..	..
Tonga	1	3	..	..
Nauru Island	1,009	1,009	..	..
Tutuila..	2,002	2,102	..	..
Australia	1,866	5,846	..	..
Norfolk Island	2	8	..	..
Totals ..	5,134	9,303	..	..

No. 7.

NUMBER OF PERSONS ORDINARILY EMPLOYED AT OR ABOUT MINES OTHER THAN COAL-MINES DURING THE YEAR ENDED 31ST DECEMBER, 1931.

County or Borough.	Number of Persons ordinarily employed at				Total.	
	Gold-quartz Mines.	Gold Alluvial Mines.	Gold-dredges.	Mines other than Gold and Coal.	1931.	1930.
NORTHERN INSPECTION DISTRICT.						
County of Whangarei	..	..	..	5	5	2
,, Piako	1	..	..	..	1	1
,, Thames	12	..	..	..	12	41
,, Ohinemuri	33	..	..	..	33	33
,, Coromandel	27	..	..	..	27	26
Borough of Thames	30	..	..	..	30	38
,, Waihi	613	..	..	..	613	590
County of Wairoa	..	..	..	..	..	7
,, Taranaki	..	..	..	30	30	32
,, Waikohu	..	..	..	18	18	8
,, Whangamomona	..	..	..	2	2	4
,, Bay of Islands	..	..	..	53	53	52
White Island	..	..	..	..	..	25
WEST COAST INSPECTION DISTRICT.						
County of Marlborough	..	27	..	..	27	10
,, Takaka	..	..	..	25	25	120
,, Collingwood	..	20	..	..	20	7
,, Murchison	..	46	..	..	46	12
,, Buller	..	27	..	..	27	4
,, Inangahua	195	11	..	..	206	313
,, Grey	..	41	..	..	41	2
,, Westland	4	58	78	..	140	88
Borough of Kumara	..	..	..	..	..	15
,, Hokitika	..	..	..	..	..	19
SOUTHERN INSPECTION DISTRICT.						
County of Ashburton	..	..	..	1	1	2
,, Tuapeka	..	84	..	..	84	48
,, Vincent	..	117	7	..	124	69
,, Maniototo	28	75	..	..	103	61
,, Waihemo	24	11	..	..	35	12
,, Waitaki	..	23	..	..	23	5
,, Lake	1	64	12	..	77	83
,, Wallace	..	73	..	..	73	23
,, Southland	..	128	..	6	134	64
Totals	968	805	97	140*	2,010	1,816

* Includes 56 persons employed in oil-boring operations.

Summary of Persons ordinarily employed in or about New Zealand Mines during 1931 and 1930.

——	1931.	1930.	Increase or Decrease.
Gold, silver, and tungsten mines	1,870	1,564	Inc. 306
Other metalliferous mines	140*	252	Dec. 112
Coal-mines	5,745	5,867	,, 122
Totals	7,755	7,683	Inc. 72

* Includes 56 persons employed in oil-boring operations.

APPENDICES TO THE MINES STATEMENT.

APPENDIX A.

REPORTS RELATING TO METALLIFEROUS MINES AND STONE-QUARRIES.

The Inspecting Engineer of Mines to the Under-Secretary of Mines.

Sir,— Wellington, 12th September, 1932.

I have the honour to present my report on metalliferous mines and stone-quarries, together with statistical information, for the year ended 31st December, 1931.

In accordance with the usual practice, the tables showing expenditure on roads, bridges, tracks, prospecting operations, &c., are for the period covered by the financial year—viz., from the 1st April, 1931, to the 31st March, 1932.

The reports, &c., are divided into the following sections: I. Minerals produced and exported. II. Persons employed. III. Accidents. IV. Gold-mining—(1) Quartz-mining; (2) Dredge Mining; (3) Alluvial Mining. V. Minerals other than Gold. VI. Stone-quarry Inspection and Statistics. VII. State Aid to Mining—(1) Subsidized Prospecting; (2) Government Prospecting-drills; (3) Subsidized Roads on Goldfields.

Annexures: (A) Summary of Reports by Inspectors of Mines. (B) Summary of Report by Inspector of Quarries. (C) Mining Statistics.

I. MINERALS PRODUCED AND EXPORTED.

The following statement shows the quantity and value of the production of metal-mines and of the value of the production from stone-quarries under the Stone-quarries Act during 1931 and 1930:—

Mineral.	1931.		1930.	
	Quantity.	Value.	Quantity.	Value.
	Oz. dwt.	£	Oz. dwt.	£
Gold and silver (estimated)	564,871 0	657,189	639,795 0	550,978
Platinum	0 10	5	2 10	16
	Tons cwt.		Tons cwt.	
Tungsten-ore	..	..	23 13	1,207
Pig-iron	3,460 0	17,300	8,075 0	40,375
Stone	..	316,366	..	413,291
Pumice	2,321 0	7,589	2,559 0	8,472
Sulphur	..	..	849 0	13,261
Silica-sand	35 11	18	53 19	27
Quicksilver	15 5	7,296	1 16	1,080
Totals	..	1,005,763	..	1,028,707

The following statement shows the value of New Zealand minerals (other than coal and coke) and allied substances exported during 1931 and 1930, and since 1st January, 1853:—

—	1931.	1930.	Increase or Decrease.	Total from the 1st January, 1853, to the 31st December, 1931.
	£	£	£	£
Gold	577,612	550,678	Inc. 26,934	95,036,124
Silver	34,424	44,534	Dec. 10,110	3,224,098
Tungsten-ore	320	1,469	,, 1,149	311,529
Antimony-ore	36	..	Inc. 36	55,081
Kauri-gum	128,095	189,635	Dec. 61,540	22,959,862
Pig iron	..	29	,, 29	6,615
Quicksilver	7,760	1,188	Inc. 6,572	17,284
Manganese-ore	..	5	Dec. 5	62,011
Sand, lime, and building-stone	7,752	9,265	,, 1,513	445,060
Other minerals	28	172	,, 144	
Totals	756,027	796,975	Dec. 40,948	122,117,664

II. PERSONS EMPLOYED.

The following statement shows the number of persons ordinarily employed in or about the metalliferous mines* of the Dominion during the year :—

Classification.	Inspection District.			Total, 1931.
	Northern.	West Coast.	Southern.	
Gold, silver, and tungsten	716	507	647	1,870
Ironstone	..	25	..	25
Cinnabar	58	..	..	58
Silica-sand	..	..	1	1
Totals for 1931	774	532	648	1,954
Totals for 1930	783	590	367	1,740

* In addition, 56 persons were employed in oil-boring operations.

III. ACCIDENTS.

During 1931 one fatal and four serious but non-fatal accidents occurred in or about metalliferous mines, at which 1,954 persons were ordinarily employed.

Cause.	Fatal Accidents.		Serious Non-fatal Accidents.	
	Number of Separate Accidents.	Number of Deaths.	Number of Separate Accidents.	Number of Persons injured.
Falls of ground	..	..	..	..
Explosives	1	1	..	..
Miscellaneous, on surface	..	..	4	4
Miscellaneous, underground	..	..	..	..
Totals	1	1	4	4

An account of these accidents is contained in the District Inspectors' reports attached hereto.

IV. GOLD-MINING.

The following statement shows the value of the bullion-production, also the dividends declared, number of persons employed, and the number of gold-mines and dredges :—

—	Production of Bullion, 1931.* (All Mines.)		Dividends paid, 1931 (By Registered Companies only.)†	Number of Persons ordinarily employed at Productive and Unproductive Mines.	Number of Productive Quartz-mines, Alluvial Mines, and Dredges, 1931.
	Quantity.	Value.			
	Oz.	£	£		
Quartz-mining ..	538,070	532,152	106,087	968	32
Alluvial mining‡ ..	15,306	70,110	470	805	726
Dredge mining ..	11,495	54,927	..	97	5
Totals, 1931 ..	564,871	657,189	106,557	1,870	763
Totals, 1930 ..	639,795	550,978	101,713	1,539	335

* In addition to the gold produced from the gold-mines, silver was obtained from them, hence the word "bullion" is used in preference to "gold."

† The profits of privately-owned dredges and mines are unobtainable, which renders this statement incomplete.

‡ The bullion-production is from 726 alluvial claims, but the dividends are only obtainable from those few that are the property of registered companies.

The total value of the bullion produced in 1931 was greater by £106,211 than that produced in 1930. Bullion from quartz-mining increased by £59,311, from alluvial mining by £34,250, and from dredge mining by £12,650.

(1) QUARTZ-MINING.

Inspection District.	Statute Tons of Ore treated.		Value of Bullion.		Dividends paid (by Registered Companies only).	
	1931.	1930.	1931.	1930.	1931.	1930.
			£	£	£	£
Northern	200,033	201,770	401,623	386,611	106,087	100,908
West Coast	49,619	46,663	118,567	86,205	..	..
Southern	1,931	12	11,962	25	..	..
Totals	251,583	248,445	532,152	472,841	106,087	100,908

The average value per ton of ore treated during 1931 amounted to £2 2s. 4d., as compared with £1 18s. 1d. during 1930.

At the Waihi Mine 175,786 long tons of ore was mined, from which 64,105 oz. of gold was recovered, valued at £314,120. 323,475 oz. of silver, valued at £22,104, was also obtained. A similar amount to that disbursed in 1930 (£99,181) was paid in dividends, making the total dividends paid to date £5,941,464.

Development-work was confined to following branch lodes and loops.

The Waihi Grand Junction area, also worked by the Waihi Gold-mining Co., produced 11,014 oz. of gold, valued at £53,964, and 110,626 oz. of silver, valued at £7,559.

At the Blackwater Mine 43,815 tons of ore was treated, yielding 21,188 oz. of gold, valued at £99,792. The total yield of gold to date is 440,080 oz., valued at £1,760,328.

At the Alexander Mine 3,754 tons of ore was crushed for a yield of 3,018 oz. of gold, valued at £16,053.

At the Golden Progress Mine, Central Otago, crushing operations commenced in May, and since then 1,228 tons have been treated, yielding 1,990 oz. of gold, valued at £10,132.

(2) DREDGE MINING.

The following is a statement showing the capacity, production, and dividends declared of bucket gold-dredges during 1931. (NOTE.—The dividends declared by privately-owned dredges are not obtainable for publication.)

Name of Dredge.	Locality.	Capacity of Dredge-buckets, in Cubic Feet.	Number of Buckets discharged per Minute.	Nominal Horse-power of Engines.	S = Steam. E = Electrical. H = Hydraulic.	Average Depth of Ground dredged.	Value of Bullion obtained during 1931.	Dividends declared.	
								During 1931.	Total to End of 1931.
Otago and Southland.						Ft.	£	£	£
Golden Terrace Extended..	Shotover River ..	8	18	305	E	20	4,785	..	..
Upper Nevis	Nevis River ..	7	10	205	E	20	1,515	..	..
West Coast.									
Rimu	Rimu Flat ..	10	19	325	E	42	37,890	..	24,622
Five-mile Beach ..	Okarito	5	10	..	H	20	10,054	..	..
Awatuna	Awatuna Beach ..	7	10	250	E	22	683	..	..
Totals, 1931 ..	..	..	..	..	..	..	54,927	..	Unknown
Totals, 1930 ..	..	..	..	..	..	..	43,070	.	Unknown

The Rimu dredge was worked for only eight months of the year, being stopped from the 10th June to the 5th October for the transference of machinery to the new all-steel pontoon, and, in consequence, there was a return of £2,317 less than the previous year. In 1931 the average value of the 1,417,925 cubic yards dredged showed an increase of 0·9d. per cubic yard over that of 1930, while the operating-costs increased by 0·29d. per cubic yard, the latter increase being due to the cost of parts placed on the new dredge and charged to maintenance. The new dredge is fulfilling all expectations.

The Okarito dredge commenced producing on the 22nd August, and by the end of the year 119,412 cubic yards had been treated and 1,968 oz. of gold obtained, valued at £10,054. Prior to dredging, 166 oz. of gold, valued at £793, was recovered from sluicing operations.

The Awatuna dredge was worked for ten months, but owing to the small return, 171 oz., valued at £683, work ceased in November.

Boring at Gillespies Beach and at German Gully has proved what are stated to be workable areas, and dredges are being installed at these places.

Boring operations on the Haast or Okura Beach are also promising.

The Upper Nevis dredge was working early in the year, but operations were not resumed in the spring. 295 oz. of gold was recovered, valued at £1,515. Boreholes have been put down ahead of the dredge.

Except for a period in April and May, the Golden Terrace dredge was operating throughout the year and 930 oz. of gold, valued at £4,785, was won.

(3) Alluvial Mining.

The following is a statement showing the value of production of, and dividends declared by, alluvial gold-mines during 1931 :—

Name of Owner.	Estimated Value of Gold produced.	Dividends declared.	
		During 1931.	Total to End of 1931
	£	£	£
Mahakipawa Goldfields, Ltd.	7,631	..	..
Hohonu Sluicing Co.	1,419	..	..
Callaghan's Sluicing Co.	637	..	..
Stubbs and Steel	428	..	..
King Solomon Deep Lead, Ltd.	7,748	..	..
Kildare Gold-mining Co., Ltd.	1,720	..	..
A. and G. Brown	1,063	..	..
Gabriel's Gully Sluicing Co.	1,581	..	..
W. R. Smyth	824	..	..
Sailor's Gully Sluicing Co.	2,214	420	9,935
Graham and party	1,290	..	..
Paddy's Point Gold-mining Co.	1,713	..	..
Big Beach Gold-mining Co.	1,787	..	..
Moonlight Mining Syndicate	868	..	660
Nokomai Sluicing Co.	1,788	..	..
A. E. Smith	2,954	..	..
Tallaburn Sluicing Co.	510	..	..
J. A. Roche and W. George	836	50	..
M. and J. H. D. Brown	686	..	..
Carr Bros. and J. T. Wilson	500	..	..
F. McLean	435	..	..
A. Copeland	462	..	..
H. Nelson	864	..	..
Mutch Bros.	690	..	..
J. Armstead	939	..	..
All other mines	28,523	..	..
	70,110	470	Unknown.

V. MINERALS OTHER THAN GOLD.

Iron.

The Onakaka Ironworks were stopped early in the year. After being leased from the company, work was resumed on behalf of the debenture-holders. The furnace produced 3,460 tons of pig iron, valued at £5 per ton. 1,400 tons of cast-iron pipes from 4 in. to 24 in. in diameter was produced from the recently installed pipemaking plant.

Sulphur.

No sulphur deposits were worked during the past year.

Quicksilver.

The output of quicksilver up to September from the Kaikohe Development, Ltd.'s works at Ngawha Springs was over 15 tons, valued at £7,296 ; but the fall in the value of mercury caused a cessation of work. This was the only producing mine, although a little development-work was done at two others.

Petroleum.

The drilling at the Waitangi No. 1 well of the Taranaki Oilfields, Ltd., was continued to 1,682 ft. Trouble was experienced through soft ground being met below 900 ft., and, after being reamed out several times, the hole was abandoned and the plant shifted a mile to the north where the Waitangi No. 2 well was drilled to 2,172 ft. Below 1,960 ft. it was found impossible to keep the hole open, so work ceased.

The Blenheim Oil-well Reclamation Co.'s No. 2 well was deepened, after serious difficulty, to 2,200 ft. Between 2,170 ft. and 2,177 ft. the oil horizon was reached, and yielded about 40,000 gallons. For a while there was a good flow of oil to the surface and then pumping was resorted to, but falls in the hole prevented the successful operating of the pump.

The Omata No. 1 well put down by Coal Oil (New Zealand), Ltd., was deepened to 3,505 ft. Only light shows of oil were met at 3,424 ft. and 3,438 ft.

The casing in the No. 1 well of the Moturoa Oilfields, Ltd., was left in that hole and work during the past year was confined to the No. 2 well, which was continued to 2,127 ft. Within 50 ft. of that depth oil commenced to flow freely, and the average daily production is estimated at 875 gallons. 71,568 gallons of crude oil valued at £1,192 16s. was produced to the end of 1931. A serious set-back occurred in November owing to a fire in the rig and derrick.

The New Plymouth (N.Z.) Oil-wells, Ltd., No. 1 well was continued to 3,036 ft., but, owing to lack of finance, operations were then suspended. Light traces of oil were met below 2,600 ft.

The New Zealand Oil Syndicate made further efforts to deepen the No. 2 well at Whangamomona in the early part of the year and succeeded in reaching 1,396 ft., but no further boring has been done.

At Kuana, in the Hokonui district of Southland, boring operations were commenced in February and by the end of July a depth of 586 ft. had been reached in the No. 1 well. Work then ceased, and No. 2 well was commenced near Centre Bush at a distance of about 3½ miles from the No. 1 well. A depth of 1,552 ft. has been reached and at 1,449 ft. petroliferous gas was met with slight shows of oil.

VI. STONE-QUARRY INSPECTION AND STATISTICS.

By section 2 of the Stone-quarries Amendment Act, 1920, the application of the Stone-quarries Act, 1910, was extended to include every place, not being a mine, in which persons work in quarrying stone and any part of which has a face more than 15 ft. deep. The Act also applies to any tunnel in the construction of which explosives are used, but it does not apply to any Government operations, or any road or railway cutting, or excavations for buildings.

The following is a table showing the number of quarries under the Stone-quarries Act, also the number of persons ordinarily employed thereat, and the annual output and value of crude stone during 1931 :—

Provincial District.	Name and Address of Government Inspector of Stone-quarries.	Number of Working Quarries under the Act.	Number of Persons ordinarily employed.	Output of Stone.							
				Stone or Gravel for Macadamizing or Ballast.	Stone for Harbour-works.	Building or Monumental Stone.	Limestone for Agriculture.	Limestone for Cement or Mortar.	Phosphate for Agriculture.	Miscellaneous.	Value at Quarry.
				Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	£
Auckland ..	James Newton, Mines Dept., Auckland	162	942	436,015	..	10,988	56,049	148,961	..	..	131,902
	J. F. Downey, Mines Dept., Waihi (Hauraki Mining District only)	16	89	72,309	..	..	..	..	..	..	22,405
Hawke's Bay	James Newton, Mines Dept., Auckland	34	141	30,975	..	..	15,831	..	..	..	9,877
Taranaki ..	Ditto	10	50	24,366	..	..	2,900	..	..	..	10,757
Wellington	„	39	219	81,084	..	..	8,847	..	..	2,848	26,279
Nelson .. Westland .. Marlborough	E. J. Scoble, Mines Dept., Reefton	18	180	16,017	22,167	62	6,066	36,879	..	1,730	17,547
Canterbury Otago .. Southland ..	T. McMillan, Mines Dept., Dunedin	39	374	210,915	98,325	1,082	81,466	40,407	..	..	97,599
Totals, 1931	..	318	1,995	871,681	120,492	12,132	171,159	226,247	..	4,578	316,366
Totals, 1930	..	318	1,958	1,107,033	126,649	3,696	204,811	299,848	..	31,204	413,291

There were 37 more men employed than during the previous year, but a decrease in the value of the stone produced of £96,925.

Quarry Accidents.

The following is a summary of serious accidents during 1931 at quarries under the Stone-quarries Act :—

Cause.	Number of Accidents.		Number of Sufferers.	
	Fatal.	Serious.	Killed.	Seriously injured.
Haulage	..	..	..	..
Machinery	..	..	..	..
Explosives	1	2	1	2
Falls of ground	..	2	..	2
Miscellaneous	..	1	..	1
Totals	1	5	1	5

Accounts of the accidents are given in the District Inspectors' reports attached hereto.

VII. STATE AID TO MINING.

(1) Subsidized Prospecting.

Upon subsidized prospecting operations 278 persons were intermittently employed during the year.

The following is a statement showing the results of prospecting operations as reported by the Inspectors of Mines :—

Name of Prospecting Party.	Number of Prospectors.	Locality of Operations.	Amount of Subsidy granted.*	Amount of Subsidy expended.	Distance driven or sunk.	Nature of Claim.	Character of Operations.	Remarks.
Northern Inspection District.			£ s. d.	£ s. d.	Ft.			
H. and J. McKenzie	2	Eclipse Mine, Mahakirau	42 0 0	42 0 0	80	Quartz	Driving	Nothing of value found.
Turner and Evans	2	Port Charles, Coromandel	29 5 0	29 5 0	..	Quartz	Prospecting	Nothing of value found.
J. McNeil and Son	2	Long Trail Claim, Tokatea	172 10 0	167 5 0	310	Quartz	Driving	Gold-bearing reef located.
Boswell and Todd	2	Four-in-hand Claim, Waikoromiko	40 8 6	40 8 6	77	Quartz	Driving	Nothing of value found.
McNeil Bros.	3	Three Brothers Claim, Driving Creek, Coromandel	146 1 0	146 1 0	262	Quartz	Driving	Nothing of value found.
Talisman-Dubbo Co.	2	Talisman-Dubbo Claim, Karangahake	138 6 0	96 19 2	214	Quartz	Driving	Gold-bearing reef driven on.
A. J. Joyce	2	North Star Mine, Thames	26 10 0	19 17 6	30	Quartz	Sinking	Work on small gold-bearing reef.
H. A. Plummer	2	Claim, Karaka Creek, Thames	7 1 9	7 1 9	13½	Quartz	Driving	Nothing of value found.
A. J. Whiteside	2	McIsaac Claim, Karaka Creek, Thames	47 5 0	47 5 0	90	Quartz	Driving	Nothing of value found.
G. H. Keene	2	Hauraki Claim, Coromandel	26 11 0	26 11 0	46	Quartz	Driving	Nothing of value found.
Waihi Prospecting and Mining Association	2	Prospecting licenses, Owharoa	60 0 0	44 9 2	..	Quartz	Prospecting	Nothing of value found.
Patterson and Boyce	2	Huruhuru No. 1 Block, Coromandel	7 16 0	7 16 0	..	Quartz	Prospecting	Nothing of value found.
Patterson and Gold	2	Huruhuru No. 1 Block, Coromandel	42 18 0	42 18 0	..	Quartz	Prospecting	Nothing of value found.
W. Gibb and party	2	Te Aroha Mountain	31 4 0	31 4 0	..	Quartz	Prospecting	Nothing of value found.
J. W. Evans and mate	2	Surprise (White Star) Claim, Colville	54 12 0	42 18 0	116	Quartz	Driving	Nothing of value found.
T. A. Black	2	Great British Mercury Mine, Puhipuhi	350 0 0	124 12 0	156	Cinnabar	Driving	Nothing of value found.
Secretary, School of Mines	..	Thames	25 0 0	5 0 0	..	Quartz	Crushing	..
West Coast Inspection District.								
Alexander Mines, Ltd.	8	McVicar Reef, Alexander River, Block XV, Waitahu Survey District	47 18 4	47 18 4	..	Quartz	Prospecting	Payable reef found.
Boyd and party	3	Wainui, Go-ahead, and Hancock Valleys, Anatoki	111 3 0	111 3 0	..	Alluvial	Prospecting	Small results.
A. T. Blair and Son	2	Italian Creek, Block VI, Reefton Survey District	19 11 8	19 11 8	68	Alluvial	Prospecting	Payable ground proved.
McQuilkin and party	2	Blue Spur (Hokitika), Block I, Kanieri Survey District	68 10 10	68 10 10	350	Alluvial	Prospecting	Values proved, but insufficient.
Bell Hill Gold Sluicing Co.	..	Bell Hill (Grey), Block I, Kopara Survey District	100 0 0	..	..	Alluvial	Development	Not taken up.
Collins and Hayward	2	Flax-mill, Bluff, and Top Valley Creeks, Pine Valley Survey District	101 8 0	101 8 0	..	Alluvial	Prospecting	Nothing to report.
Chaffey and party	3	Roaring Lion River, Anatoki Survey District	46 16 0	31 4 0	..	Alluvial	Prospecting	Nothing to report.
Cain and Gilchrist	2	Duncan's Creek, Mahakipawa	31 4 0	31 4 0	..	Quartz	Prospecting	Nothing to report.
David and Hedwig	2	Bayley's Creek (Ross), Block II, Totara Survey Creek	25 0 0	11 0 0	22	Quartz	Prospecting	Nothing to report.
Diamanti and Boon	2	Devil's Creek, Wakamarina, Block V, Onamalutu Survey District	24 0 0	24 0 0	..	Quartz	Prospecting	Nothing to report.
Moutapu Gold-mining Co., Ltd.	3	Moutapu, Havelock, Block VI, Linkwater Survey District	90 0 0	73 0 0	180	Quartz	Prospecting	Nothing to report.
A. Donnellan	3	German Gully, Nelson Creek, Block VIII, Ahaura Survey District	159 2 0	59 2 0	..	Dredging	Boring	Satisfactory.
Eyre and Mate	2	Ironstone Creek (Parapara), Collingwood	30 0 0	15 0 0	..	Alluvial	Development	Satisfactory.
Fitzgerald and Hollingsworth	2	Cullen's Creek, Mahakipawa	32 10 0	32 10 0	..	Quartz	Prospecting	Small reef found, but not proved.
Ferguson and Son	2	Snow's River, Collingwood	50 14 0	50 14 0	..	Alluvial	Prospecting	Nothing to report.
Forrester and mate	2	Upper Maruia River, Maruia	101 8 0	101 8 0	..	Alluvial	Prospecting	Nothing to report.
Gill and Seymour	2	Okuru Beach, South Westland, Block X, Okuru Survey District	50 14 0	50 14 0	134	Dredging	Boring	Satisfactory.
Guy Bros.	2	Gold Creek, Taipo River, Block III, Browning Pass Survey District	119 17 6	119 17 6	..	Quartz	Prospecting	Nothing to report.
Haines and Son	2	Upper Baton River, Wangapeka Survey District	47 2 0	47 2 0	..	Alluvial	Prospecting	Nothing to report.
R. G. Honey and party	4	German Gully (Grey), Block III, Hohonu Survey District	40 0 0	40 0 0	..	Alluvial	Development	Nothing to report.

* Includes authorizations in previous years. The total of the subsidies granted during the year ended 31st March, 1932, amounted to £5,410 17s.

Name of Prospecting Party.	Number of Prospectors.	Locality of Operations.	Amount of Subsidy granted.*	Amount of Subsidy expended.	Distance driven or sunk.	Nature of Claim.	Character of Operations.	Remarks.
West Coast Inspection District—continued.			£ s. d.	£ s. d.	Ft.			
Hart and McKay	2	New Creek, Lyell, Blocks IX and XII, Orikaka Survey District	50 14 0	50 14 0	..	Quartz	Prospecting	Nothing found.
Hyndman and party	2	Garibaldi Gully (Rimu), Block V, Mahinapua Survey District	40 0 0	40 0 0	..	Alluvial	Prospecting	Small values proved.
Jones and Henderson	2	Orlando Creek, Reefton, Block XI, Reefton Survey District	46 16 0	46 16 0	..	Quartz	Prospecting	Nothing of value found.
Horton and Henderson	2	Burnett's Face, Mount Rochfort, Mackley district	39 0 0	39 0 0	..	Alluvial	Prospecting	Nothing found.
Jones and Son	2	Cedar Creek, Ross, Block II, Totara Survey District	54 12 0	54 12 0	..	Alluvial	Prospecting	Satisfactory.
Littlewood and party	4	Rocky River, Collingwood	65 0 0	65 0 0	..	Alluvial	Prospecting	Nil.
Methven and Jones	2	Smoko Creek, Blackball, Block XI, Waiwhero Survey District	81 18 0	81 18 0	..	Alluvial	Prospecting	Nil.
Muir and Kissane	2	Hop-pole Creek, Waikakaho, Marlborough	49 15 0	40 15 0	70	Alluvial	Prospecting	Work in progress.
Mahakipawa Goldfields, Ltd.	8	Mahakipawa, Marlborough	200 0 0	183 10 0	140	Alluvial	Prospecting	Satisfactory.
Hutt Valley Prospecting Syndicate	2	Conn's Creek, Waimangaroa, Block VI, Kawatiri Survey District	40 0 0	40 0 0	100	Alluvial	Prospecting	Nil.
O'Neill and McDonald	2	Mount French, Greenstone, Block IX, Hohonu Survey District	20 0 0	20 0 0	..	Alluvial	Prospecting	Small values proved.
Porter and mate	3	Notown (Grey), Block XI, Mawheranui Survey District	29 0 0	23 10 0	65	Alluvial	Prospecting	Nil.
Phillips and mate	2	Jones Creek, Ross, Block II, Totara Survey District	17 8 7	17 8 7	89	Alluvial	Prospecting	Nil.
Royds and party	2	Lake Rotoroa, Howard District	15 12 0	15 12 0	..	General	Prospecting	Nil.
Sargison and Maddocks	2	Bray and Specimen Creeks, Snow's River, Collingwood	36 0 0	13 10 0	..	Alluvial	Prospecting	Nil.
Scott and Allen	2	O'Donohue's, Ross, Block I, Totara Survey District	25 0 0	14 0 0	28	Alluvial	Prospecting	Work in progress.
Sixtus and Son	2	Canaan, Takaka Survey District	39 0 0	39 0 0	..	General	Prospecting	Nil.
Timpson and Thorpe	2	Rimu (Hokitika), Mahinapua Survey District	71 13 6	71 13 6	..	Alluvial	Development	Satisfactory.
Westland Gold Prospecting Syndicate	3	Onoeroa and Waikukupa Rivers, Block I, Waiho Survey District	200 0 0	..	..	Dredging	Boring	Work in progress.
Westland Prospecting Syndicate	3	Awatuna, Hokitika, Block X, Waimea Survey District	162 18 7	26 15 0	..	Dredging	Boring	Values, but poor.
Watson and Lang	2	Lyell-Mokininui Districts	39 0 0	33 3 0	..	General	Prospecting	Nil.
Waikakaho Victory Co.	4	Hop-pole Creek, Waikakaho, Marlborough	100 0 0	..	..	Alluvial	Prospecting	Work in progress.
Wickes and mate	2	Deep Creek, Wakamarina, Block II, Onamalutu Survey District	10 15 0	10 15 0	100	Alluvial	Prospecting	Nil.
Wells and Culverhouse	2	Onoeroa River, South Westland, Blocks V and X, Waiho Survey District	16 0 0	16 0 0	..	Alluvial	Prospecting	Nil.
Haast Prospecting Syndicate	2	Bourke and Haast Rivers, South Westland, Governors Survey District	15 12 0	15 12 0	..	Alluvial	Prospecting	Nil.
Bell and Harris	2	Wangapeka River Area	50 14 0	50 14 0	..	Alluvial	Prospecting	No values proved.
Davies and Hart	2	Canvastown	15 12 0	15 12 0	..	Alluvial	Prospecting	No values proved.
J. Roberts	1	Marsden	33 10 10	33 10 10	..	Alluvial	Development	Satisfactory.
Robinson and Wheeler	2	Lower Oemaroa River	78 5 7	78 5 7	..	Alluvial	Prospecting	Nothing proved.
R. Stewart and party	2	Blue Spur, Hokitika	27 10 0	27 10 0	..	Alluvial	Development	Satisfactory.
G. Tibbles	1	Dunganville	10 0 0	10 0 0	100	Alluvial	Prospecting	Workable ground proved.
F. Blake and Sons	3	Blocks VII, XI, and XV, Matakitaki Survey District	12 10 0	12 10 0	..	Alluvial	Prospecting	Values proved.
W. Boyd and party	2	Above junction Kokatahi and Hokitika Rivers	29 10 0	21 8 11	93	Alluvial	Prospecting	Unsatisfactory.
Purcell and Engholt	2	Waikukupa Gorge	15 0 0	6 0 0	..	Alluvial	Prospecting	Satisfactory.
West Coast Gold Concessions, Ltd.	3	Okarito	34 2 6	34 2 6	..	Alluvial	Prospecting	Work incomplete.

Southern Inspection District.									
Rees Valley Mining Syndicate	4	Rees Valley, Glenorchy, Earnscleugh Survey District	40 0 0	..	150	Quartz	Driving	Work in progress.
Gordon, Hope, and party	4	Junction Claim, Shotover River, Queenstown	36 0 0	26 6 6	58½	Alluvial river deposit	Sinking and driving	Work in progress.
Ballarat Creek Mining Syndicate	4	Head of Ballarat Creek, Skippers Survey District	42 12 0	38 2 0	60	Reef	Driving	(Same as S. Pascoe and party.) Reef not yet intersected; work in progress.
G. D. and A. G. Beale	2	Scanlan's Gully, Macetown	40 0 0	8 0 0	..	Alluvial	Reconditioning water-race	Work in progress.
Haast Prospecting Syndicate	2	Ballarat Creek and Skippers Creek areas, Queenstown	70 4 0	46 16 0	..	Reef	Prospecting	Results satisfactory; several outcrops discovered.
Crown Terrace Prospecting Syndicate	2	Crown Terrace, Arrowtown	20 0 0	..	185	Alluvial	Boring	No gold found.
J. B. Aitken and T. Fearn	2	Precipice Creek, Glenorchy	17 5 0	..	..	Alluvial	Driving and crosscutting	Operations not yet commenced.
Ballingall and Purton	2	Kennedy Flat, south bank Kawarau River, Kawarau Gorge	9 11 8	6 18 0	56	Alluvial	Deep lead, buried river course	Work proceeding.
F. R. Whitelock and party	2	Chapman's Gully, Leaning Rock Survey District	11 5 0	..	..	Reef	..	Work not yet commenced.
A. Hughes and party	2	Gees Flat, south bank Kawarau River, Cromwell	84 6 0	84 6 0	49	Alluvial	Driving	No lead found.
					45	Deep lead	Sinking	Results satisfactory; work in progress.
T. C. Hore and party	5	Serpentine and German Jack's Gully, Long Valley Survey District	50 0 0	50 0 0	..	Alluvial and deep lead	Surface prospecting, sinking, and driving	Work in progress.
Otago Mining Development, Ltd.	4	Symes Reef, Fruitlands	187 10 0	187 10 0	300	Reef	Driving	Work not completed; still driving.
Scott and McGill	4	Rongahere, Clutha River	19 4 0	19 4 0	..	Alluvial	Surface prospecting	No payable gravels located.
W. Murray and R. J. Bell	2	Scotland Point, Cromwell	24 16 0	24 16 0	162	Alluvial	Sluicing	Work proceeding.
R. J. and W. H. Bell	2	Below Scotland Point, Cromwell	9 11 8	9 11 8	75	Alluvial	Open cut	Work proceeding.
North Bros.	2	Adams Flat	16 4 0	16 4 0	60	Alluvial	Sinking	Good prospects.
Bruce, Kitto, and Waldron	3	Hawkesburn Basin, between Bannockburn and Clyde	23 8 0	23 8 0	156	Alluvial	Dip drive	More driving required.
S. Macale and mate	2	Nevis Gorge	13 10 0	13 10 0	..	Alluvial	Prospecting	Fair prospects.
J. Cairns and J. R. Percy	2	On Run 223M, Block VII, Lauder Survey District	15 3 9	..	..	..	..	Work not commenced.
C. Boult and D. Campbell	2	German Hill area, near Poolburn	9 0 0	9 0 0	..	Alluvial	Prospecting	Still prospecting.
Aitken and partner	2	Waikirikiri Valley, Clyde	21 1 8	21 1 8	225	Alluvial	Driving	Work still in progress.
Magnus and Walker	2	Shanty Creek area, Alexandra	23 8 0	23 8 0	..	Alluvial	Sluicing	Results satisfactory.
Cornish Point Gold-mining Co., Ltd.	4	Cornish Point, Cromwell	150 0 0	150 0 0	50	Alluvial	Driving	Nothing of importance found.
Golden Crescent Sluicing Co.	3	Wetherstones, Lawrence	163 12 3	163 12 3	102½	Cement	Driving	Results satisfactory.
J. S. Harvey and mate	2	Preservation Inlet	39 4 0	..	..	Alluvial and reefing	..	Work not yet commenced.
Industries Ltd.	9	Wetherstones cement deposit, Lawrence	250 0 0	..	..	Cement	Driving	Work in progress.
R. Harding and party	5	California Gully, Block VII, Longwood Survey District	20 0 0	7 10 0	50	Alluvial	Driving and sinking	Work in progress.
Wilson's River Gold prospecting party	4	Wilson's River, Preservation Inlet	259 4 0	187 4 0	..	Alluvial	Prospecting	Work in progress.
F. Moore and party	2	Preservation Inlet	50 0 0	42 0 0	..	Reefing	Prospecting	Work not completed.
A. J. Thompson	2	Block X, Waiau Survey District	30 0 0	30 0 0	100	Prospecting tunnel	Driving	Nothing payable found.
A. F. Wilson	2	Block VI, Garvie Survey District (Myrtle Flat)	60 0 0	60 0 0	264	Alluvial	Open cut, rock	Work not completed.
Central Mines, Ltd.	3	Kawarau Gorge, Waitiri	81 0 0	81 0 0	..	Alluvial	Sluicing	Work not completed.
McIntosh and Lowe	2	Gow's Creek, Waikaia	11 2 10	11 2 10	107	Alluvial	Sinking	Nothing payable found.
Upper Nevis Gold Dredging Co.	7	Upper Nevis	100 0 0	100 0 0	823	Alluvial	Boring	Results unsatisfactory.
J. Tanner and party	3	Sawyer's Bay (ocean side), of Port William, Stewart Island	41 4 0	41 4 0	..	Alluvial	Prospecting	Nothing of importance found.
W. Sutherland and J. Halliday	2	Pipe Clay Gully, Bannockburn	9 11 8	9 11 8	200	Alluvial	Driving	Nothing found.
John Stevenson	4	Upper Nevis	114 0 0	114 0 0	151	Alluvial	Boring and sluicing	Results satisfactory.
	278		..	4,811 2 11				

* Includes authorizations in previous years. The total of the subsidies granted during the year ended 31st March, 1932, amounted to £5,410 17s.

(2) Government Prospecting Drills.

The following table gives details of the drilling done and the results obtained for twelve months ended 31st December, 1931 :—

Drill Superintendents: W. H. Warburton, E. Wilson, W. McLellan, and G. Pettigrew.

Drills used: Diamond and Keystone drills. Percussion and Hand-placer drills.

Number of Holes drilled.	Total Depth, in Feet.	Diameter of Hole.	Mineral sought.	Character of Country drilled through.	To whom lent.	Cost per Foot of Drilling.	Cost per Foot of Transport.	Cost per Foot of Carbon's Wear.	Results.
	Ft.	In.				s. d.	s. d.	s. d.	
19	3,540	3, 2⅜, and 1¾	Coal	Grits, shale, and sandstone	Westport Coal Co.	2 6	1 2	1 10·86	Satisfactory.
2	890	3	„	Shale and sandstone	State Coal-mines	..	..	..	In progress.
8	139	6	Gold	Gravel ..	Snowy Creek Dredging Syndicate	15 6·36	5 3·07	..	Unsatisfactory.
1	75	3¼	„	„ ..	Lamplough Syndicate	14 0·5	9 8·5	..	„
5	493	6	„	„ ..	Siamese Tin Syndicate	10 3·4	3 6·9	..	..
10	508	6	„	Gravel and sand..	A. Donnellan	12 1	5 9	..	Satisfactory.
45	5,645								

(3) Subsidized Roads on Goldfields.

The expenditure in the form of subsidies and direct grants upon roads on goldfields amounted to £2,872, as compared with £5,381 during the previous year.

Through the unexpected death of the late Mr. J. A. C. Bayne at the dawn of 1932 the Mines Department was deprived of a most efficient officer and a man under whom all District Inspectors of Mines were pleased to serve.

I have, &c.,
G. Duggan,
Inspecting Engineer of Mines.

ANNEXURE A.

SUMMARY OF REPORTS BY INSPECTORS OF MINES.

NORTHERN INSPECTION DISTRICT (J. F. DOWNEY, Inspector of Mines).

QUARTZ-MINING.

Waihi Gold-mining Co., Ltd. (J. L. Gilmour, Manager).—The following is a brief summary of the principal work carried out:—

No. 15 level (1,880 ft. below collar of No. 4 shaft): No further exploration work carried out. The balance of the broken ore in the Cow block on the Martha lode arch section, which was the only fully payable block opened up in this level, was drawn off. The only other work on the level was the opening-up of a low-grade stoping block, known as the Cod block, on the Edward lode. This was 120 ft. in length, and to the end of the year had been stoped up for 41 ft. The average value of the stone was about £1 0s. 2d.

No. 14 level (1,752 ft. below collar of No. 4 shaft): Shrinkage stoping on the big low-grade Trout block on the Edward lode was continued, and the whole of the block was broken out with the exception of an arch under No. 13 level, estimated to contain about 25,465 short tons.

No. 13 level (1,578½ ft. below collar of No. 4 shaft): Work on this level was practically confined to stoping the Trout and Cod blocks on the Edward lode and the Ellis block on the Empire lode. Stoping on all three was completed, and the broken ore was being drawn off.

No. 12 level (1,447½ ft. below collar of No. 4 shaft): No new development was carried out. The principal work was stoping the Andrewartha block on the boundary of the Waihi and Grand Junction areas. The stoping was completed, and the arch under No. 11 level removed.

No. 11 level (1,301 ft. below collar of No. 5 shaft): No very important developments to report. In order to try out the possibilities of some ore located in the Empire lode north, between Kauri and Bath crosscuts, reference to which was made in last year's report, a stope was opened out in the hope that the ore would improve as it was worked upwards, but the quartz continued low grade, and work on it was stopped in May. A crosscut was then put in to the south at 50 ft. down Rokker winze. In this a vein of fair-grade ore was cut in the main Empire lode and driven on for 202 ft., and a stope was opened on it. This will be known as the Jarvis block. On the Martha lode a rise in the hanging-wall near the company's eastern boundary disclosed payable ore for a depth of 60 ft. below No. 10 level.

No. 10 level (1,152 ft. below collar of No. 5 shaft): The stoping of Brooks block on the Martha lode was continued, and the stope carried up to within 14 ft. of No. 9 level. On the south part of the Empire lode, stoping was continued in Furze block, east and west of London south-east crosscut, on ore of payable grade. An investigation was made of the centre part of the Empire lode east and west of London south-east crosscut. Samples assayed well, but the run of ore was found too narrow to be worked at a profit. On the Edward lode further investigation failed to reveal anything of economic value.

No. 9 level (30 ft. sub-level): Ore of good grade was won from this sub-level, 30 ft. below No. 9 level, opened up from Tereki winze. This ore was stoped up to within 9 ft. of No. 9 level.

No. 9 level (1,000 ft. below collar of No. 5 shaft): Shrinkage stoping of a number of blocks was continued. On the Edward lode (west branch) a high-grade leader met with in driving the west wall gangway past Salmon stope was followed into the west wall for 68 ft. The ore was good for a start, but the values gradually declined, and as the lode was narrow work on it was stopped. On the Welcome lode a good deal of investigation was carried out between No. 2 shaft west crosscut and Carter's south crosscut, without revealing anything of value. The best development of the year in this level was on the Martha lode. The drive eastward in the hanging-wall of the lode into Grand Junction Co.'s ground, referred to in last year's report, was extended from 409 ft. east to 512 ft., where it holed through into old workings, some fair-grade ore being got in this final distance, while a crosscut put out north from the drive at 463 ft. revealed a good run of ore, on which two stoping blocks were opened. One of these, known as Jamieson's, is 185 ft. in length, of which 132 ft. is in Junction Co.'s ground. The other block opened up was 125 ft. in length. A good deal of work was also done on the Martha lode north section, in Waihi Co.'s ground, but nothing worth working was found.

No. 8 level (48 ft. sub-level): A block 99 ft. in length of good-grade ore was opened up on the Martha lode north in the vicinity of Bull's pass.

No. 8 level (60 ft. sub-level): Work confined to taking out on square sets the King arch on the Empire lode, West section, which yielded a large tonnage of high-grade ore.

No. 8 level (855 ft. below collar of No. 4 shaft): The work here consisted largely in mining ore from arches and caved blocks on the Martha lode between this level and No. 7 level. Some investigation of the Martha was also made near the eastern boundary, but nothing of workable value was met with. On the Empire lode north section a short shrinkage block of good-grade ore was opened up.

No. 7 level (705 ft. below collar of No. 4 shaft): Operations consisted mainly in removal of arches on the Martha and Empire lodes.

No. 6 level (545 ft. below collar of No. 4 shaft): A good deal of ore was won from the Martha lode by square-setting east and west of Bulls' south crosscut, and from the Empire lode, west of Muir's pass, on a sub-level 16 ft. below No. 5. A considerable amount of prospecting was done on the No. 2 reef and parallel reefs lying between the line of the Wheel filling-pass on the west and the No. 6 shaft on the east. Several stoping blocks were opened up. One of these, the Moralee Block on No. 2 reef, was 165 ft. in length, and the other, the Olsen block on Olsen reef, was 92 ft. in length. The reefs are small, but contain some high-grade ore. Some ore was also won from the H, I, and J reefs from a sub-level 16 ft. below No. 5. These reefs are small branches of the Empire lode in the western part of the property south of No. 2 shaft.

No. 5 level: Stoping was continued in Taylor block on Taylor lode, but at 70 ft. up the reef became low grade, and ore-breaking was stopped. On No. 2 reef a shrinkage stope, known as Gordon block, was opened up. This, however, was nearly beaten out at the end of the year. On the north branch of the Martha lode a block known as Cornes was opened up for 280 ft. in length. The quartz here is narrow but of good grade.

Surface workings: About 3,350 tons of ore was won by open-cut from the Emily block on the Welcome lode. The extraction of ore from Merry arch on the Martha lode was completed. From the south branch, Martha lode, west of No. 2 filling-pass, some ore was also won by driving and open-cutting. To work the Martha lode at Britannia pass, an incline from surface to 20 ft. below was constructed to enable a remnant of ore under the Smithy level to be removed.

No. 10 level foot-wall gangway: The construction of this main haulage gangway between No. 2 shaft and Junction shaft was completed, the total distance along the gangway between the shafts being 1,920 ft. The electric locomotive (battery type) purchased for use in this has been delivered, and a power-line has been laid to Junction shaft for charging purposes.

Exploration: From the foregoing it will be seen that during the year no large-scale development work was carried out, such work as was done mainly consisting of following branch lodes and loops and preparing for the extraction of remnants of ore.

Output: A total of 175,786 long tons of quartz was mined and treated, from which gold and silver to the value of £336,224 were obtained. The recovery of gold, amounted to 64,105 oz. 12 dwt. 16 gr., valued at £314,120, and of silver 323,475 oz. 0 dwt. 9 gr., valued at £22,104. The company paid dividends during the year to the amount of £99,181 8s., bringing the total disbursements to £5,941,464 10s. 6d. The average number of men employed was 509. Total yield of bullion since commencing work 24,642,919 oz. 3 dwt. 11 gr.; value, £16,841,565.

Waihi Grand Junction Gold-mining Co. (J. L. Gilmour, Manager).—The Waihi Co. continued the working of this mine under arrangement. A lot of investigation was carried out, and although nothing of great importance was met with, a number of useful small bodies of ore were located. The following is a brief summary of the work done:—

Waihi Co.'s No. 13 level (about Grand Junction No. 10): The trucking of broken ore from Ellis block on the Empire lode was completed, and a new block, known as Fahey's, about 150 ft. in length, was opened up immediately eastward of Ellis block. On the Empire lode the breaking of ore both in Waihi and Grand Junction ground was completed, and all the broken ore in the latter ground was drawn off.

Waihi Co.'s No. 11 level (36 ft. below Grand Junction No. 7): The drive eastward on the Dominion lode of McNamara's north crosscut was extended 102 ft. to a total distance of 448 ft. in low-grade quartz. At 445 ft. a crosscut, known as No. 1 shaft south-east crosscut, was put out. This intersected the State reef at 55 ft., and the reef was driven on for 201 ft. east, good values being got for 107 ft. A shrinkage stope was started on this run of ore; the block will be known as Anderson block. At 146 ft., the south-east crosscut also intersected the main Empire lode in a short block left between two old stopes. The crosscut was carried through the lode, and 21 ft. into footwall country. A footwall gangway was constructed for the extraction of an arch under Grand Junction No. 7 level.

Waihi Co.'s No. 10 level (57 ft. sub-level): The drawing of ore from McNamara's block in this sub-level was completed.

Waihi Co.'s No. 10 level (30 ft. sub-level): The north-west crosscut was extended through the Martha lode, then turned westward to meet the new footwall gangway coming eastward from Waihi Co.'s No. 4 shaft main north crosscut, No. 10 level. This crosscut prospected the ground between the Grand Junction shaft and the boundary of the property. Several small leaders were intersected in it, but they were too small for working. One of them known as the 103 ft. reef, was followed westward for 177 ft. For the first 76 ft. it contained payable ore about 4 ft. wide, but westward of this point the reef was disturbed by cross-reefs of calcite, and both width and value became erratic. The Martha reef was intersected at 154 ft., where it was 45 ft. in width. Payable values were got in a section of it, 6 ft. wide, between 20 ft. and 26 ft., but when this was driven on eastward the values rapidly fell away, and the work was stopped. On the Dominion lode, a drive westward from the bottom of Harvey's winze revealed a remnant of good ore, which will be taken out later. The south-east crosscut was continued across the lines of the Republic and State reefs, and holed through to old workings on the Empire lode about 201 ft. south-east of Junction shaft. The Republic reef was met at 110 ft., where it was 12 ft. wide, but, with the exception of 1 ft. on the hanging-wall side, was low grade. It is now being driven on east and west. The State reef was met with at 160 ft., where it was 14 ft. wide; with the exception of 1 ft., it was, however, valueless. Driving east on the payable portion revealed good values for 60 ft.

Waihi Co.'s No. 10 level (about Grand Junction No. 6): Breaking ore on the Republic block was stopped at 110 ft. up, owing to the values declining. On the State reef the drive eastward from Junction Co.'s main south-east crosscut was continued from 330 ft. to 429 ft., when work was stopped owing to the reef becoming very small. A shrinkage block, 158 ft. in length, was then opened up immediately eastward of the crosscut, Values were good for a start, but at 98 ft. up the reef was split by hard country, and stoping was stopped.

Grand Junction No. 6 level (about 4 ft. above Waihi Co.'s No. 10): The only work done consisted of filling up an old stope on the Dominion lode to enable a remnant of good ore to be removed from Shaft block.

Waihi Co.'s No. 9 level: Investigation of the hanging-wall of the Martha lode north and south sections was continued. The drive eastward into Junction Co.'s ground was extended from 409 ft. to 512 ft., where it holed to old workings. Two stoping blocks were opened up on this run of ore, one 185 ft. in length and the other 125 ft. On the north section nothing of any value was located.

Grand Junction Co.'s Nos. 5 and 6 levels: A good deal of investigation was carried out in the hanging-wall of the Martha lode, south section, without anything of value being met with. A drive eastward from the main crosscut was extended to 134 ft., when it holed through to an old working. At 132 ft. a crosscut (Dillamore's) was then put out due south for 34½ ft., in which what appeared to be an upward continuation of the Dominion lode was intersected. This was driven on west for 86 ft. The reef then split up and driving was stopped. A stope 48 ft. in length is being opened on this ore.

Output: The ore won from the mine during the year amounted to 23,657 long tons, which yielded gold and silver to the value of £61,523. The gold amounted to 11,013 oz. 10 dwt. 14 gr., valued at £53,964, and the silver to 110,626 oz. 2 dwt. 14 gr., valued at £7,559. The average number of men employed was 104. Dividends amounting to £6,905 5s. 4d. were paid. Total value of bullion produced since commencing work, £2,430,055.

Golden Dawn Gold-mines, Ltd., Owharoa (J. H. Benney, Manager).—In the early part of the year the crushing of the test parcel at the Waihi Co.'s Waikino battery was continued, and 288 long tons of quartz was treated for a return of 244 oz. 6 dwt. 3 gr. gold, valued at £1,026 8s. 9d., and 443 oz. 12 dwt. silver, valued at £43 4s. 4d. As arrangements could not be made with the Waihi Co. for further crushing, the Golden Dawn Co. then purchased the plant of Muir's Reefs Gold-mining Co., and removed such portion of this to its own mine as was required to bring its battery up to date. The removal and re-erection of this plant was completed towards the end of the year, and some trial runs were made, but there was no clean-up. In preparation for the start of the battery, a good deal of work was done underground, mainly by way of filling up the old shrinkage stopes on No. 1 reef, and getting faces ready for working on Nos. 1 and 3 reefs on No. 3 level. A crosscut was also started on No. 2 level with a view to picking up No. 3 reef there. On an average 20 men were employed. Total yield of bullion since commencing work, 1,122 oz. 10 dwt. 3 gr.; value, £1,718 13s. 1d.

Talisman-Dubbo Gold-mines, Ltd., Karangahake (J. Caisley, Manager).—The drive in the Dubbo section of this company's property was continued on the reef from 556 ft. to a total of 647 ft., the reef averaging about 3 ft. in width. With a view to enabling this ore to be mined and transported economically, a start was then made to reopen the old Talisman No. 1 adit on the other side of Karangahake Peak. This adit is about 100 ft. below the adit on the Dubbo side, and it is the intention of the management to rise from it to the upper adit, and install an aerial tramway to take the ore from the mouth of the Talisman No. 1 to the county road, from which point it can be carted at reasonable cost to a treatment plant. Owing to the portal of the old Talisman No. 1 being down, it was thought advisable to start a new adit in unbroken ground to meet the old adit some distance in. This new adit had been driven 20 ft. at the end of the year. Total yield of bullion since commencing work, 4 oz. 12 dwt.; value, £11 17s. 11d.

Waiawa Claim (L. Turnbull, Owner).—Some driving was done in a low level in this claim on Taukani Hill, Karangahake, to cut a run of stone on what is believed to be the Roderick D'hu reef on which some work had been done in a shallower level the previous year. This low level was carried in farther than should

have been necessary to cut the reef, but nothing was seen of it, and at the end of the year a rise was being put up to the upper adit. Some 14 tons of quartz from the mine, treated at the Moanataiari Battery at Thames, is reported to have yielded 23 oz. 19 dwt. bullion, valued at £47 9s. 11d. This is the total yield and value since commencing work.

New Talisman Claim, Karangahake (R. Schulzke, Owner).—A little prospecting was done on this claim, mainly on the Sheppard and Woodstock reefs, the latter being driven on for 40 ft. Some fair values were said to have been got, but no quartz was crushed.

New Crown Claim (H. A. Meagher, Owner).—This was the only other claim at Karangahake on which any mining was done during the year. An adit, 180 ft. in length, was driven with a view to striking the downward continuation of some leaders located at the surface, but nothing of a favourable nature was cut in it.

New Zealand Crown Mines, Karangahake.—No mining was done, but 9 tons of old tailings, disposed of to L. Thorburn, Thames, and treated by him at the Thames School of Mines plant, yielded 22 oz. 10 dwt. bullion, valued at £57 6s. 1d. Total yield since commencing work, 17,813 oz. 10 dwt.; value, £17,161 6s. 1d.

Waiotahi Mine, Thames.—This mine, which was formerly worked by the New Waiotahi Gold-mining Co., was forfeited during the year, and Mrs. M. Boyle became the owner. A tribute party of three men did about 150 ft. of driving, and some stoping, on a small leader, from which 7½ tons of quartz and 13 lb. picked stone yielded 16 oz. 16 dwt. bullion, valued at £54 8s.

Caledonia-Kuranui-Moanataiari Consolidated Gold-mining Co., Ltd., Thames (S. G. Baker, Manager).—Work was continued steadily during the year on the level opened from the foot of the incline shaft sunk from the Moanataiari tunnel in the Cambria section. Driving was done here on the No. 1 reef south, on which a stoping block about 120 ft. in length was opened, and on a small reef branching from this. These reefs just above the level carried fair values, but the values rapidly declined as stoping extended upwards. A winze was also sunk 20 ft. below the level, and a rise put up 43 ft. on No. 1 reef north. The quartz crushed amounted to 82 tons 1 cwt. 1 qr. 26 lb., which yielded 229 oz. 3 dwt. bullion, valued at £690 19s. 3d. On an average five men were employed. Towards the end of the year a good portion of the company's claims was forfeited on suit by R. Aitken, who purposes erecting a plant to treat the large amount of low-grade material known to occur there. Total yield since commencing work, 576 oz. 3 dwt.; value, £1,775 10s. 11d.

Occidental-Unu Claim, Thames (A. F. Sawyer, Owner).—The only work done consisted of repairing the main adit, and trying to get the lower part of the mine unwatered.

Lucky Shot Gold-mining Co., Thames.—Owing to the unsatisfactory nature of the developments in its mine, this company found itself unable to carry on, and went into liquidation early in the year. Work was carried on, however, in the mine by several parties of tributers. Working mainly on footwall droppers on the Golden Age reef below the Lucky Shot main adit, these parties won 32½ tons of quartz, which yielded 81 oz. 17 dwt. 9 gr. gold, valued at £309 8s. 5d. About six men on an average were employed. Total yield of bullion since commencing work, 527 oz. 14 dwt. 21 gr.; value, £1,671 17s. 2d.

Waiomo Sulphide Corporation, Ltd.—The only work done consisted of the clearing-up of several of the levels of the old Monowai Mine, and the taking-out of some small test parcels of ore from various parts. The return to hand shows that 46 tons, treated by the corporation in its own plant, yielded 47 oz. 4 dwt. 4 gr. gold, valued at £63 2s. 6d., and 117 oz. 3 dwt. silver, valued at £8 18s. 7d. Total yield of bullion since commencing work, 5,929 oz. 1 dwt. 7 gr.; value, £3,313 4s. 3d.

Cambria Mine, Thames (A. F. Sawyer, Owner).—The only work done on this claim was carried out by tribute parties, of which there were six or seven working, especially towards the end of the year, on various small leaders in the property. Only two parties, Kemp and Dunlop and Corbett and Cosgrove won any gold of consequence. The former party, working on Prescott's leader, mined 19½ tons of quartz, which yielded on treatment 50 oz. 1 dwt. bullion, valued at £157 14s. 9d. The yield of gold for 1931 totalled 73 oz. 10 dwt.; value, £287 0s. 10d. Total yield of bullion from this mine since commencing work, 105 oz.; value, £359 18s. 7d.

North Star Gold-mining Co., Ltd., Thames.—During the year this company acquired from the North Star Syndicate all its interests in the North Star claim. A winze was sunk from the North Star No. 4 level to a depth of 48 ft. on a small reef, at a point about 1,000 ft. from the portal. A rise was also put up from the adit with a view to holing through to No. 3 level to improve the ventilation, but owing to some miscalculation no connection was made. Several small parcels of quartz, aggregating 10 tons, mainly from the small reef in the winze, were crushed in the company's own battery for a return of 17 oz. 12 dwt. gold, valued at £62 8s. 10d. On an average two men were employed. Total yield of bullion since commencing work, 21 oz. 6 dwt.; value, £70 19s. 10d.

Garbo Claim, Thames (A. W. Jensen, Owner).—A little driving and stoping was done on this claim at Karaka Creek on several small leaders, 2½ tons from which were crushed for a return of 7 oz. 10 dwt. gold valued at £30 0s. 3d. Total yield of bullion since commencing work, 19 oz. 11 dwt.; value, £62 18s. 3d.

Bright Smile Claim, Thames (D. T. Dunlop, Owner).—From this claim a few pounds of picked stone crushed during the year returned 35 oz. 9 dwt. bullion, valued at £103 15s. 5d. Total yield of bullion since commencing work, 176 oz.; value, £474 2s. 5d.

Tui Gold-mining Co., Thames.—Owing to unsatisfactory developments, this company decided to go into liquidation, and part of its property passed into the hands of Taylor Brothers, who renamed their holding the Taniwha claim. Some 2 tons taken from a small leader by these owners were crushed for a return of 5 oz. 17 dwt. bullion, valued at £18 4s. 4d.

Hauraki Mines Consolidated, Ltd., Coromandel.—This company itself did no work during the year, but several parties of tributers worked leaders near the surface on various parts of the property. Altogether these parties treated 18 tons of quartz for a yield of 20 oz. 11 dwt. gold, valued at £82 2s. 2d. Total yield of bullion since commencing work, 468 oz. 14 dwt.; value, £1,413 4s. 1d.

Long Trail Claim, Tokatea (J. A. McNeil and Sons, Owners).—During the year this party, which had been assisted by Government subsidy for some time previous to prospect an area near Austral Hill, about six miles north of Tokatea Saddle, located a small reef showing promise. Cut in numerous places on the surface for a length of about 300 ft., this reef ranged from 1 ft. to about 3 ft. in width, and showed fair prospects wherever cut, the best values being at the southern end. Here a crosscut was put in which cut the reef about 20 ft. below the surface, at which point it was about 1 ft. wide, but carried good values. A winze was put down on it from the crosscut to a depth of 20 ft., when the water prevented further sinking. The reef, which was very flat, continued to carry good values to the bottom of the winze. A drive was also started at the north end at a point which would have given about 70 ft. of backs on the highest part of the reef. By the end of the year this had been driven nearly 200 ft. It was on a small vein, which, however, did not prospect very well, so there is a possibility it is not the same reef that was trenched on the surface. During the year, 13¼ tons of quartz, mainly from the south end of the reef, were crushed at the Four-in-Hand battery for a return of 50 oz. 5 dwt. bullion, valued at £154 4s. 9d. Towards the end of the year another gold-bearing formation was found on the Red Trail claim, held by the same party, about a quarter of a mile east of the reef just mentioned, but insufficient work had been done on it to give any idea as to what promise it held.

Boswell Gold-mining Co., Waikoromiko.—The area held by this company was that formerly held by the Four-in-Hand Gold-mining Co. A new level was driven for 100 ft. in the north side of the spur, with a view to locating a small gold-bearing leader believed to have been exposed near No. 2 level during stope-filling operations. This leader was not intersected, but probably the drive was not carried far enough. Prior to carrying out this work, a small patch of rich quartz was located on No. 2 level, from which 25¼ tons yielded on treatment 149 oz. 3 dwt. gold, valued at £592 6s. 8d. Two men were employed.

Mount Tokatea Mineral Fertilizer Co.—This company did little active work on its property during a good portion of the year. Some prospecting was done on the footwall of the big Tokatea Reef, which served to reveal a small leader carrying fair gold in places. Towards the end of the year a small air-compressing plant, driven by a Gardner crude-oil engine, was installed, and the work of advancing the main crosscut in the Tokatea Reef was resumed. The reef at this point is supposed to be about 150 ft. in width. By the end of the year this crosscut had been advanced a further 18 ft. to 66 ft.

Eclipse Mine, Mahakirau (J. and R. McKenzie, Owners).—The adit mentioned in last year's report as being in course of driving with a view to the location of a small leader which carried little gold near the surface was continued for a few feet, but nothing of value was got in it. The owners then repaired an old adit, several hundred feet farther along the line of the leader, and extended this for a considerable distance, but no better result attended the work than had attended their previous efforts.

Huia Mine.—This claim, formerly part of the Peter Maxwell, was worked by Gibbs and party. A parcel of 6 tons from No. 1 adit, treated at Thames School of Mines, yielded 7 oz. 11 dwt. bullion, valued at £20 7s. 8d.

Quicksilver Mines.

Kaikohe Development, Ltd., Ngawha Springs (R. H. Goodwin, Manager).—This company continued operations and made a great effort to overcome the difficulties that lay in the way of recovering the mercury from the surface deposit it was working, but the recovery continued very unsatisfactory, and when about September a substantial fall came in the price of mercury, it was found impossible to carry on operations, and all active work was stopped. A few hands were kept on, however, to make a general clean-up of the plant, which was not completed till nearly the end of the year. During the period 7,924 tons of material was treated, for a yield of 15 tons 5 cwt. 1 qr. 12 lb. mercury, valued at £7,296, making the total value of the product recovered since the company started operations £8,326. An average of fifty-three men was employed.

Great British Mercury Mine (T. A. Black, Manager).—The new low level was extended about 150 ft., and No. 3 borehole was located. No cinnabar-bearing formation was, however, met with.

Mount Mitchell Mine.—The only work done was a little quarrying on the roadside.

Sulphur.

There was no resumption of work during the year by White Island Products, Ltd., and no other sulphur deposits in the district were worked.

Oil-wells.

Taranaki Oil Fields, (N.Z.), N.L.—Drilling of Waitangi No. 1 well was continued, the well being carried down from 373 ft. to 1,682 ft. Down to 900 ft. the drilling was in fairly hard and solid rock, but below this depth the ground became much softer, with a tendency to close in after being drilled. Much of this part of the well had to be reamed again and again, and when at 1,350 ft. the well closed in entirely it was realized that further effort to deepen it would be wasted. The well was therefore abandoned, and the rig was shifted to a new location about one mile north of it. Here a new well, known as Waitangi No. 2 was started. This well was drilled to 2,172 ft. Down to 1,700 ft. the drilling was carried out without undue trouble, but at that depth the lowest section of the 11¾ in. casing became displaced, and could not be withdrawn. It then became necessary to mill through this casing, which work was satisfactorily accomplished, and drilling proceeded. At 1,931 ft., the 8⅝ in. casing was set, but from this point on much trouble was experienced. It was found increasingly difficult to maintain the full diameter of the hole, and below 1,960 ft. the closing-in was so persistent as to render this impossible. Every effort was made to carry on, but no progress could be made, and eventually the well had to be abandoned, when the company entirely gave up its operations.

Moturoa Oil Fields Ltd.—The drilling of Moturoa No. 2 well was started in March, and proceeded with few interruptions till July, when the 8¼ in. casing was cemented at 2,045 ft., an effective shut-off being made. Drilling was then continued to 2,127 ft. Between 2,090 ft. and the bottom a good flow of oil was met with. Up to the end of the year, the well had produced 71,568 gallons of crude oil, valued at £1,192 16s. In November a fire caused considerable damage to the rig and derrick, resulting in a shut-down for some weeks. The average daily production since the well came in is estimated at about twenty-five barrels of 35 Imperial gallons each. Eight men were employed.

New Plymouth (N.Z.) Oil-wells, Ltd.—This company continued the drilling of its No. 1 well from 280 ft. to 3,036 ft. Petroliferous gas was struck at various depths, and at various points below 2,600 ft. there were light traces of oil. In November operations were suspended pending the raising of further finance.

Coal-oil (N.Z.), Ltd.—In the Omata No. 1 well, the side-tracking operations at about 2,525 ft., referred to in last year's report, were continued and the well was advanced a short distance, but another set of tools got fast, and further side-tracking had to be resorted to. This time, with a good deal of trouble, the well was eventually deepened to 3,505 ft. Light shows of oil were got at 3,424 ft. and at 3,438 ft. In July, owing to the exhaustion of its funds the company ceased operations.

New Zealand Oil Syndicate.—In the early part of the year the Prospect Valley No. 2 well was deepened from 1,340 ft. to 1,396 ft. The chairman of the syndicate, Mr. Ewen McGregor, made further efforts during various parts of the year to continue the work, but no further advance was made.

Blenheim Oil-well Reclamation Co., Ltd.—Side-tracking of the lost tools at 2,044 ft. in the Blenheim No. 2 well was effected, and the well was subsequently deepened, after much delay and a lot of trouble, to 2,200 ft. Between 2,170 ft. and 2,177 ft. the oil strata was penetrated. Towards the end of April a strong flow of oil occurred, and for some time afterwards a good deal of oil came to the surface, largely as the result of frequent swabbing. About the end of May swabbing was discontinued, and an attempt made to pump the oil. At first the pumping worked successfully, but formations settled back into the bottom of the well preventing the oil rising quickly enough to keep the pump going. About 40,000 gallons of oil was produced for the year.

Accidents.

It is pleasing to be able to record again that during the year no fatal accidents have occurred at any of the mines or quarries in the district, and that there were even no accidents reported as serious.

PROSPECTING.

For the best part of the year very little prospecting was carried out in the district, but about November the decision of the Unemployment Board to allow its allocation under the No. 5 Scheme to be used for prospecting at Thames and Coromandel led to an active revival of the work in these localities. At the end of the year, sixty-six men were employed in and around Thames under the scheme, of whom thirty-one were tributing in the mines and thirty-five carrying out field prospecting in the outer areas. At Coromandel, thirty-four men were engaged, of whom twelve were tributing, mainly on the Hauraki Consolidated claims, and the rest prospecting at Colville, Tokatea, Kennedy Bay, and other places. The tributers in both localities were getting a little gold, but no finds of any important character had so far been made by any of the subsidized men. The only new prospecting find of any importance during the year was that made by J. A. McNeil and Sons on their claims near Austral Hill. The party located a small reef, from which they crushed 13¼ tons for a yield of 50 oz. 5 dwt. gold, valued at £154 4s. 9d., equal to £11 8s. 6d. per ton. They also located another gold-bearing formation on their area, but not much work had been done on this. The prospectors under the unemployment scheme are putting in full time and working well, and it is hoped some good finds will result from their efforts.

WEST COAST INSPECTION DISTRICT (E. J. SCOBLE, Inspector of Mines).

QUARTZ-MINING.

Marlborough District.

Dominion Consolidated Mine.—No work of importance has taken place on this company's property for the year, nor does it seem possible that any is likely to again occur unless a new ore body is discovered.

Reefton District.

Blackwater Mine (R. A. Stewart, Manager).—Development work at this mine during the year has taken place as follows:—

Driving: No. 9 level was extended 53 ft. north to the end of the known main ore-body, all on reef over a width of 2 ft. 1½ in., and with values averaging 13·58 dwt. per ton. This drive is to be further advanced when opportunity offers with the object of locating the Prohibition block, which should be some 80 ft. to 90 ft. ahead. No. 10 level north was extended for a distance of 490 ft., of which 441 ft. was advanced on reef over a width of 2 ft. 1 in., with values averaging 11·51 dwt. per ton. The last 250 ft. of reef driven on, though continuous as to length, has not proved so consistent in width and values as the corresponding blocks on the levels above. No. 11 level north was extended for a distance of 820½ ft., 751½ ft. being on reef over a width of 2 ft. 8 in., with values averaging 14·55 dwt. per ton.

Rising: The total amount of rising done for the year amounts to 332¾ ft., of which 226 ft. exposed reef worth 16·43 dwt. per ton over an average width of 2 ft. 2 in. The rising work referred to includes operations incidental to connecting No. 7 level (Blackwater Mine), with the bottom of the Prohibition shaft. This rise has 10 ft. to go, and it is intended to later connect same with the bottom of the shaft named and afterwards strip downwards accordingly.

Winzing: The total amount of winzing carried out for the year amounted to 548½ ft., of which 434¾ ft. were on reef averaging 12·68 dwt. per ton in value over a width of 2 ft. 4 in. Crosscutting—in all amounted to 150 ft. The total footage of driving amounted to 1,884½ ft., of which 1,329½ ft. were on reef averaging 13·85 dwt. per ton over a width of 2 ft. 4 in. Sump-cutting amounted to 33 ft.

Prospecting South of Snowy River: In consequence of the discovery of a reef (by Messrs. Harrison and Absalom) at Quartz Creek, on the south side of the Snowy River, and on which reef two levels had been driven for a considerable distance on stone averaging 3 ft. in thickness, by the men named, it was deemed advisable to reopen an old adjoining adit situate on the Blackwater Co.'s property in Quartz Creek, as the work done by Messrs. Harrison and Absalom indicates that their reef, if same maintains its present underlie, must pass within the random of the adit mentioned and into the Blackwater Co.'s holding. The adit described exposed ore up to 1 ft. 6 in. in width for the first 40 ft., where it was cut out with a fault. Driving was carried out for a distance of 359 ft., measured from the portal, and of this work some 200 ft. were on reef-track and the remainder in country rock. Operations are being continued.

Reduction works: The battery crushed 43,815 tons of ore for a yield of 21,188 oz. 1 dwt. of gold, of which 17,098 oz. 12 dwt. were obtained by amalgamation, 2,511 oz. 7 dwt. by cyanidation, and 1,578 oz. 2 dwt. by the treatment of concentrates, the value of the whole recovery being £99,792 6s. 1d. These figures show an increase in the tonnage treated, and also in the ratio of recovery therefrom, when compared with last year's operations, which may be considered as highly gratifying. The total yield of gold since commencing work amounts to 440,080 oz., valued at £1,760,328 3s. 7d. The major portion of the stoping work carried out during the year has been confined to Nos. 10 and 11 levels, all in a northerly direction. An average of 160 men was employed throughout the year.

Alexander Mine (J. Bolitho, Manager).—Development operations at this mine were confined exclusively to the Mullocky Creek section during the first nine months of the year, but were then wholly transferred to the McVicar block, or Bull Creek section, on account of additional and payable stone being found in that area. McKay adit: A level was started on what is known as the McKay block, outcropping on the western side of Mullocky Creek. This level was advanced 72 ft. on stone averaging 1 ft. 9 in. in width, and with values at £3 19s. per ton. All reef-matter cut out at the point mentioned, and driving was therefore discontinued Intermediate north of No. 1 winze (McKay's): This level, situate 32 ft. below the outcrop, was advanced 23 ft., all on stone intermixed with country rock over an average width of 3 ft., with values at £1 11s. 1d. per ton. Winze off Intermediate: This was started 14 ft. north and sunk to a depth of 30 ft., all on stone averaging 2 ft. 3 in. in width, with values at £3 5s. per ton. A connection was made with the bottom of the winze by rising 5 ft. from the back of the north-west crosscut driven below. North-west crosscut: This crosscut was started at a point 80 ft. from the entrance to the McKay crosscut, and driven north-westerly a distance of 60 ft., where a reef giving values of £2 1s. 9d. per ton over an average width of 2 ft. was intercepted. North drive off north-west crosscut: The lode here was driven on for 35 ft., where the stone gave out, leaving only a small reef-track carrying low values. The lode was valued at £2 15s. 10d. per ton over a width of 2 ft. 3 in. A winze sunk on this block, 36 ft. north of the crosscut, reached a depth of 18 ft., where work was suspended owing to the presence of water. The lode is lying at a flat angle, and is very much disturbed at the bottom of the winze; value, £2 3s. 10d. over 2 ft. South drive off north-west crosscut: 12 ft. only has been driven here, values being 11s. per ton and the lode averaging 1 ft. in width. Loftus No. 1 level: This drive was started on an outcrop known as Loftus reef, which is situate about midway between No. 1 Mullocky Creek level and the McKay crosscut. The lode showing here is probably a continuation of the McKay block, or another lense of stone on the same line of reef. The lode was driven on for 40 ft., when it split into two portions. Driving was continued and followed a mineralized vein a few inches wide for a reasonable distance, with unsatisfactory results. Width of stone 2 ft. 2 in., and value £1 9s. 11d. per ton. Stoping in this section was carried out above McKay crosscut, and all available ore has been extracted therefrom, with the exception of a few tons on the extreme south end of the block. The lode generally was disappointing, gradually

diminishing in size, and losing values from the surface downwards. A small amount of stoping was done on Loftus reef, but work here had to be discontinued owing to the values being contained in pyrites. Stoping was likewise undertaken on Mullocky Creek level, only to be shortly given up on account of the lode-matter being very hard and not suitable for operating on with hand work—the only labour available. Bull Creek sections (McVicar): Work was recommenced in this portion of the mine with two men towards the middle of September, and the number gradually increased from then onwards until thirty-five men were so employed. No. 3 stope, McVicar block: A solid stope was opened out from a rise 22 ft. above No. 3 level, and advanced 18 ft. to the south and 14 ft. to the north, all on reef averaging 6 ft. in width, and with values at £5 4s. per ton. The lode faulted going north, but was recovered again and then proved to be a large body of good stone. No. 3 Intermediate level: This was opened out 22 ft. above No. 3 level, and driven for a distance of 59 ft. on reef with a value of £4 8s. per ton over a width of 7 ft. 6 in. The north end of this block has not yet been reached. Reef 8 ft. showing at the face. No. 3 north level: A drive was started 214 ft. from the portal in order to prove the stone underfoot in the intermediate above this level. The first 32 ft. exposed a small reef-track several inches wide. The lode then came in and was driven on for 86 ft., with values at £4 19s. per ton over an average width of 2 ft. 10 in. Driving is being continued. No. 3 rise; This is situate north of the main crosscut, and same was up a height of 9 ft., from which point it has been continued and carried on to 22 ft., where a connection was made with the Intermediate. Reef formation and small boulders of quartz were carried the full distance, but no payable ore was seen until the level was reached. No. 4 level north: This was started 397 ft. from the exit to No. 4 crosscut and driven north for 52 ft. Occasional boulders of stone were passed through with this work, but these contained no values worthy of note. Stoping has been carried out on No. 3 level (McVicar block), over a reef length of 130 ft. The lode varies from 3 ft. to 10 ft. in width, and gives promise of being able to yield an increased tonnage during 1932. Reduction plant: The battery was kept running intermittently until October last with two shifts daily of eight hours each, and since then three shifts daily have been worked. 3,754 tons of ore was crushed for a yield of 3,017 oz. 13 dwt. of gold, of which 2,262 oz. 19 dwt. was won by amalgamation and 754 oz. 14 dwt. by cyanidation, the value of the whole recovery being £16,053 2s. 8d. (inclusive of premium on gold and premium on exchange). Twenty-seven men were employed on an average for the period. The total yield of bullion since the commencement of work amounts to 11,674 oz. 2 dwt., valued at £46,703 6s. 11d.

Homer Mine.—Work at this mine during the year chiefly consisted of completing the erection of the five-head stamper battery, the amalgamating-table, as mentioned in last report, together with the construction of a chute to be used for the purpose of gravitating ore between the trucking-level and mill. An 11 h.p. Diesel crude-oil engine was also installed. This is used as a power unit for running the reduction plant, and is said to give complete satisfaction. Crushing was commenced at the beginning of November and continued from then on until the end of December. The ore treated during this time amounted to 310 tons (at grass), and from this was obtained 15 oz. 14 dwt. of gold, valued at £51 9s. 6d. An average of two men was employed throughout the year.

New Big River Mine.—This mine has been idle for the year, but is not likely to remain so much longer as active preparations are being made to carry out certain definite prospecting-work on its upper levels. The total quantity of gold produced from this mine amounts to 97,651 oz. 1 dwt., valued at £390,612 4s.

Wealth of Nations (Progress Mine).—No work has taken place at this company's mine during the year. The treatment plant, however, continued to operate on residues formerly dumped (and which are largely oxidized), with satisfactory results. The quantity of material treated amounted to approximately 1,000 tons, and from this was obtained 400 oz. 10 dwt. of gold, valued at £1,593. Mr. A. P. Watson, battery superintendent, and six men employed. The total quantity of gold produced from this mine amounts to 370,231 oz. 3 dwt. 2 gr., valued at £1,481,368 12s. 10d.

Westland District (Ross).

Mount Greenland Mine (W. O. Bierworth, Superintendant).—This mine—shut down for a lengthy period—recommenced operations during the early part of the year, and has since succeeded in producing and treating some 740 tons of ore, which gave a yield of 248 oz. of gold, valued at £1,077 7s. 11d. The average number of men employed was four. The total yield of gold from this mine amounts to 2,282 oz. 16 dwt. 5 gr., valued at £9,200 7s. 3d.

DREDGING.

Rimu Dredge (A. Archer, Dredgemaster). — This company's 10-cubic-foot bucket-line dredge was in operation for a portion only of the year, there being a cessation of work from the 10th June to the 5th October, to permit of the transference of machinery and equipment from the old to the new structure. The annual production and yardage figures, owing to the four months' idleness referred to, are consequently affected, and show an equivalent decrease from those obtained over the previous period. During the year the dredge excavated and treated gravel from an area comprising 21·33 acres, with an average depth of 42 ft. The old and new dredges were in operation for a total of 4,360 hours 28 minutes, during which time they dug and treated a total of 1,417,925 cubic yards of material, at an average rate of 325 cubic yards per digging-hour, which represented an increase in digging efficiency of 7 cubic yards per digging-hour when compared with similar work done during 1930. The gold content of the gravel treated throughout the year showed an increase of 0·9d. per cubic yard over that treated in 1930, and had it not been for the four months' shut-down, the increase in gravel values would have been substantially reflected in the gross production. Operating-costs for the periods during which the dredge was digging showed an increase of 0·29d. over that of the previous year, this increase being due to the cost of parts placed on the new dredge, and charged direct to maintenance. The new (all steel) dredge commenced digging-work on 5th October, and has been in continuous operation since that date. Owing to the fact that the dredge was obliged to dig its way out of the construction pond through a confined strip of ground, and make a turn before starting on straight-ahead digging, it has been found rather difficult to give accurate comparison figures as to the digging efficiency of the new machine. The three months digging to the end of the year, however, show an average digging-rate of 368 cubic yards per hour, or an increase of approximately 14 per cent. over the best annual average of the old dredge. It is expected, with better digging conditions and a larger pond, that the percentage of increase will be improved to a greater extent still. The new dredge is a substantial, well-built structure, and one that promises to fulfil in every way all that is expected of it. Fifty-four men were employed on an average throughout the year. The total yield of gold since the commencement of operations amounts to 118,632 oz., valued at £474,862.

Okarito Five-mile Beach Dredging Co., Ltd. (D. Mitchell, Dredgemaster). — Productive work started with this dredge on 22nd August, and continued almost without interruption until the end of the year. The total period worked amounted to 2,139½ hours over 119 days, which represents 75 per cent. of the possible digging-time. 119,412 cubic yards of material were treated altogether, and from this was obtained 1,968 oz. of gold, valued at £10,053 17s. 8d. Sluicing (blow-up) operations were carried out on the claim prior to the dredge commencing work, and resulted in the recovery of 166 oz. 3 dwt. of gold, valued at £793 8s. 7d., from 51,200 cubic yards of sand and gravels. The total quantity treated therefore amounts to 170,612 cubic yards of material, and the yield obtained therefrom to 2,134 oz. 3 cwt. of gold, valued at £10,847 6s. 3d. An average of fourteen men was employed throughout the year.

Awatuna Extended Dredging Co. (D. Pettigrew, Dredgmaster). — Operations were commenced by this dredge during the early part of the year and continued until November, when it was shut down permanently owing to the extremely low returns obtained. Recoveries amounted to 170 oz. 15 dwt. of gold, with a value of £683. An average of ten men was employed for the year.

Alluvial Mining.

Mahakipawa Goldfields, Ltd. (K. M. Barrance, Manager). — This company's mine operated continuously throughout the year, producing 4,000 cubic yards of wash, which, on treatment, gave a yield of 1,560 oz. 14 dwt. 1 gr. of gold, valued at £7,631 2s. 1d. Development work consisted of 1,248 ft. of driving and 18 ft. of rising, practically the whole part being on washdirt. A 6¾ in. by 6¾ in. by 7 in. Holman air-compressor was installed during the year. This was put down so as to permit the working of a power drill underground, hand labour having proved itself somewhat ineffective where progress in the harder levels was concerned. An average of twenty men was employed for the year. The total yield of gold since the commencement of operations amounts to 2,009 oz. 9 dwt., valued at £9,426 2s.

Collingwood (Rocky River, Takaka, Wangapeka, Tadmor, &c.).—Twenty men were employed, winning 303 oz. 0 dwt. 19 gr. of gold, valued at £1,203 7s.

Marlborough (Wakamarina, Waikakaho, and Cullensville).—Seven men were employed, winning 123 oz. 17 dwt. 11 gr. of gold, valued at £520 14s. 3d.

Murchison (Howard Diggings, Matakitaki, Maruia, and Lyell).—Forty-six men were employed, winning 721 oz. 7 dwt. of gold, valued at £3,009 15s. 2d.

Buller (Charleston, Birchfield, &c.).—Twenty-seven men were employed, winning 472 oz. 13 dwt. 13 gr. of gold, valued at £1,881 11s. 7d.

Reefton (including Merrijigs, Blackwater, and Ikamatua).—Eleven men were employed, winning 190 oz. 13 dwt. 11 gr. of gold, valued at £795 13s. 7d.

Grey (Ahaura, Barrytown, Kumara, &c.).—Forty-nine men were employed, winning 1,030 oz. 2 dwt. 7 gr. of gold, valued at £4,285 8s.

Hokitika (Callaghans, Blue Spur, Ross, and South Westland).—Fifty men were employed, winning 1,150 oz. 16 dwt. 14 gr. of gold, valued at £4,954 1s. 4d.

Hohonu Sluicing Co. — J. A. Peever, Manager, and five men were employed. Sluicing operations at this claim were carried out for a total of 1,760 hours, and during this time 275,200 cubic yards of gravels (or an average quantity of 160 cubic yards per hour) were run through the sluice-boxes. The gold won from this work amounted to 267 oz. 5 dwt. 14 gr., valued at £1,419 2s. 6d., which works out at 1·24d. per cubic yard. Values continue to be poor, and have been cut out altogether on one portion of the face over a width of 3 chains. The losing of values referred to necessitated shifting the plant to a more suitable portion of the claim, hence the somewhat reduced productive period shown.

Minerals other than Gold.

Onakaka Iron and Steel Co., Ltd. (J. A. Heskett, Manager).—The operations of these works were interrupted by the liquidation of the company on the 28th March, when its assets passed to debenture-holders, who appointed joint receivers to act on their behalf. After a lapse of four months the plant was leased to Mr. J. A. Heskett, and the production of pig-iron was then continued on behalf of the debenture-holders. Some 6,920 tons of iron ore treated during the year gave 3,460 tons of pig-iron, of which 960 tons were produced prior to liquidation. One hundred and twenty men were employed. The pipe-making plant was in operation for seven months altogether, and produced in this time 1,400 tons of cast-iron pipes, of sizes ranging from 4 in. up to 2 ft. in diameter, all of which were supplied to various New Zealand local bodies and gas companies. A trial of Onakaka pig-iron carried out during the year yielded the exceptionally good test of 35,000 lb., British Standard Specification showing a test at 28,000 lb.

Petroleum.—No work of any description has been carried out in the district as connected with examinations testing, and boring for oil.

Prospecting.

Very greatly increased activity has been shown in this branch of work. Continued prospecting operations on the Waitahu project, mentioned in last report, have since, it is claimed, proved same to contain such values that a company has been formed to work the area in question. Drilling at German Gully and on Gillespie's Beach has revealed the existence of what is stated to be payable values (from a dredging point of view) on these areas, and, companies having been formed in both cases, steps are being taken to install suitable plant thereon accordingly. Boring-work (still in progress) carried out on the Haast, or Okuru beach, seems promising. A considerable amount of field prospecting has taken place, and though outstanding discoveries therefrom have been nil to date, it would appear as if future operations are likely to yield more interesting information.

Accidents.

One fatal and two non-fatal accidents occurred in the district during the year. The first, in which a man named James Perryman was the victim, occurred in the Waiuta Mine on 21st July, and was brought about by the first hole in a round of three shots (being fired by the deceased and his mate in a stope at the time) not spitting with the first application of a light. This being noticed by the victim, he delayed long enough to light same and was then caught with flying debris from the explosion of the two holes first spitted, and as a result suffered almost instantaneous death. Two men (Harold Wynne and Patrick McCann) were the victims of the non-fatal accidents. They were both employed in connection with constructing the Mount David Sluicing Co.'s water-race. Wynne was injured on 30th January. He was struck by a tree which was felled by another workman, and suffered a fractured left arm. McCann was injured on 3rd June. He was engaged in erecting set timbers on a faulty section of the race, when a slip came down from some steep and adjacent country and struck him in its fall. His injuries consisted of a sprained right ankle and a fractured lower left leg. The occurrences described were of an accidental nature.

General Remarks.—Mining.

Recoveries from alluvial mining showed a distinct gain when compared with the previous year, the value of the gold won being £25,700 15s. 6d. as against £6,237 10s. 9d. recorded in connection with the earlier period. The gold won from metalliferous mines also showed a gratifying increase, and amounted in all to 24,869 oz. 18 dwt., as against 19,624 oz. 1 dwt. 10 gr. for last year. The values likewise showed an increase, being £118,567 6s. 2d., as compared with £86,205 9s. 10d. for the previous year. Dredging also shows an increase in recoveries and values when compared with the previous year, the figures in this respect being 10,435 oz. 18 dwt. of gold, valued at £49,420 3s. 9d., and 10,270 oz. of gold, valued at £42,107, respectively. The all-round increase in gold won is no doubt due to the greater activity shown towards mining during the period under review. The activity referred to was much more pronounced at the latter end of the year, and same was undoubtedly brought about by virtue of the prevailing economic depression and by the increased price given for gold. Appearances indicate that the returns will be greater still for the coming period.

SOUTHERN INSPECTION DISTRICT (T. McMillan, Inspector of Mines).

Quartz and Alluvial Mining.

Waitaki County.

Livingstone and Maerewhenua.—Seventeen men were employed in this locality prospecting and sluicing in the greensand deposits. Several water-races have been reconditioned, and the Gold Gully, near Livingstone, is being reopened. The gold won amounted to 182 oz. 18 dwt. 2 gr., valued at £881 5s. 10d.

Six men were employed at Diggers Gully, Kurow, bringing in water to rework this area.

Waihemo County.

The Ounce Mine, Stoneburn.—No work has been done at this mine during the year.

Golden Point Gold and Scheelite Mining Co., Macrae's (M. Moye, Manager).—This mine has been opened up by driving, crosscutting, and rising. A compressor has been installed, with the necessary pipe-lines. Hardy hammer and stoping drills are used. A treatment plant, consisting of a Blake type rock-breaker, a five-stamp double-discharge battery, two amalgamating-tables, classifying-boxes, and two Wilfley tables, has been erected and suitably housed. All the machinery is electrically driven, power being generated by an 88-96 h.p. four-cylinder Crossley horizontal heavy-oil engine direct coupled to a 63 kw. alternator. Active mining and crushing operations commenced in September. The amount of driving was 513 ft., crosscutting 258 ft., and stoping 1,056 square feet; 682 tons of quartz was crushed and treated for a return of 308 oz. 3 dwt. of gold valued at £1,769 10s. Twenty-four men were employed in the mine and battery.

Macrae's.—Several parties of men have been investigating the partially worked ground on Macrae's Flat adjoining the Macrae's township. An electrically driven gravel-pump plant has been installed. Power was generated by a tractor, which was an expensive method of power-production. Operations are suspended until electric power is available. The power-lines are being taken to the Macrae's district. When current is available these flats will be tested by gravel-pump mining methods. No work has been done in the scheelite mines on account of the prevailing low prices. Eleven men were engaged prospecting in the Macrae's, Dunback, and Shag River areas. The gold won amounted to 18 oz. 9 dwt. 8 gr., valued at £70 14s. 8d.

Maniototo County.

Golden Progress Quartz-mining Co., Oturehua (L. E. Autridge, Manager).—Active mining operations have been continued during the year. The reef has been driven on east and west. On the 150 ft. level connection was made by an uprise from the west end to the 80 ft. prospecting level. This level was reconditioned and retimbered where necessary. The uprise and the inclined prospecting-shaft provide a second outlet and a return airway. Stoping operations commenced above the 80 ft. and 150 ft. level in June, and have been actively carried on since that date. The reef is variable in width and subject to faulting. A 10-head battery, together with amalgamating-table, Wilfley table, berdan, engine and boiler, have been erected and suitably housed. Crushing-operations commenced in May, 1,228 tons of quartz being crushed for a yield of 1,989 oz. 16 dwt. of gold, valued at £10,131 13s. 6d.

Kildare Consolidated Gold-mining Co., St. Bathans.—Sluicing and elevating operations were carried on in the barrier left between Scandinavian and the M. and E. claims. When sluicing in debris to strengthen the remaining barrier a layer of quartz drift which had been covered by slipped material was exposed. This deposit has yielded good returns. Preparations have been made to strip another portion of the deep lead at the upper end of the Kildare claim. Nine men employed. The gold won amounted to 381 oz. 12 dwt., valued at £1,720 4s. 6d.

St. Bathans-Vinegar Hill.—Eight men produced from this area 100 oz. 6 dwt. 2 gr. alluvial gold, valued at £399 19s. 3d.

Cambrian.—Three men were engaged prospecting and sluicing, and won 43 oz. 10 dwt. 12 gr. gold, valued at £171 10s.

Naseby and Kyeburn.—Thirty-two men were employed prospecting, sluicing, and elevating in this area. The gold won amounted to 892 oz. 10 dwt. 21 gr., valued at £4,078 9s. 4d. The largest producer was A. and G. Brown, with 206 oz. 7 dwt., valued at £1,062 12s. 7d.

Patearoa and Serpentine.—Sixteen men were employed sluicing and elevating. The gold won amounted to 204 oz. 18 dwt. 22 gr., valued at £838 8s. 4d.

Oturehua, Blackstone Hill, and Wedderburn.—Four men won 11 oz. 3 dwt. 12 gr., valued at £47 14s. 3d.

Tuapeka County.

Gabriel's Gully Sluicing Co. (D. Murray, Manager).—This company is sluicing and elevating the old tailings in Gabriel's Gully. The gold won amounted to 345 oz. 11 dwt., valued at £1,580 17s. 4d.; total yield of gold since commencing work, 20,945 oz. 7 dwt., value £82,593 11s. 4d.

The Golden Crescent Sluicing Co., Wetherstones (W. R. Smyth, Manager).—The drive mentioned in last year's report was extended to 776 ft. Cross drives were driven to the north and south of the main dip at the 500 ft. horizon and to the north at the 400 ft. horizon to test the deposit. The prospecting work yielded 24 oz. 2 dwt. of gold, valued at £128 8s. Industries Ltd. have taken an option over this property and commenced operations on the 16th December. They will install new winding, compressing, crushing, and treatment plant for the purpose of mining and treating a sample of 4,000 tons of the auriferous cement.

The Golden Rise Claim, Wetherstones (W. R. Smyth, Owner).—A block of ground alongside the Lawrence–Waipori Road is being worked by sluicing and elevating. The yield of gold amounted to 190 oz. 9 dwt., valued at £824 4s. 4d.

Paddy's Point Gold-mining Co., Forsyth (R. Webb, Manager).—Sluicing and elevating operations have been carried on steadily during the year. The yield of gold amounted to 346 oz., valued at £1,713. Total yield of gold since commencing work, 793 oz.; value, £3,531.

The Sailor's Gully Sluicing Co., Waitahuna (A. W. Eaton, Manager).—Ground-sluicing operations have been continued during the year in the weathered portion of the cement deposit. The yield of gold for the year amounted to 456 oz. 12 dwt. 18 gr., valued at £2,213 19s. 2d. Total yield of gold since commencing work, 13,140 oz. 2 dwt. 23 gr.; value, £52,262 4s. 2d.

Tallaburn Sluicing Co., Horse-shoe Bend (W. Meyer, Manager).—Sluicing and elevating operations have been carried on during the year for a yield of 122 oz. 9 dwt. 16 gr., valued at £510 8s. 8d. Total yield of gold since commencing work, 3,498 oz. 17 dwt. 20 gr.; value, £12,419 14s. 10d.

Tuapeka County (Lawrence, Waitahuna, Waipori, Tuapeka Mouth, Roxburgh, and Beaumont).—Fifty-seven miners and prospectors won gold amounting to 250 oz. 15 dwt. 11 gr., valued at £1,055 6s. 7d. The largest producer was A. and R. Brown, with 86 oz. 5 dwt. 3 gr., valued at £388 1s. 2d.

Vincent County.

Central Mines, Ltd. (J. Gordon, Manager).—Sluicing operations were resumed in the early part of the year. The ground has been very rough and values have been poor. Operations are being continued.

Cornish Point Gold-mining Co., Cromwell.—Work was resumed at this mine and further driving and prospecting was done without locating a payable lead. Operations are now suspended. The gold won amounted to 10 oz. 17 dwt. 10 gr., valued at £45 1s. 6d. Total yield of gold since commencing work, 24 oz. 5 dwt. 4 gr.; value, £100 17s. 4d.

Nevis.—Eighteen men in seven parties have been employed sluicing and elevating for a yield of 399 oz. 10 dwt. 15 gr., valued at £1,605 16s. 10d. Graham and party (F. Jones, Manager), with a yield of 319 oz., valued at £1,289 15s. 9d., was the largest producer.

Boring operations were carried out on the claims of the Upper Nevis Dredging Co. in the Upper Nevis.

Murchison Bros., Fourteen-mile Beach.—This claim is situated in the gorge of the Molyneux River about half-way between Roxburgh and Alexandra. The material is very rough and the lower portions can only be worked when the river is low. The year's working yielded 68 oz. 5 dwt. 3 gr., valued at £272 10s. 4d.

Kawarau, Cromwell, Bannockburn, Clutha, Clyde, Waikerikeri, Blackman's Gully, Alexandra, Cardrona, Matakanui, and Drybread Areas.—Ninety men were engaged prospecting, sluicing, driving, and sinking for a yield of 355 oz. 2 dwt. 7 gr., valued at £1,663 8s. 5d.

Lake County.

Glenorchy Scheelite Mining Co., Ltd., Glenorchy.—On account of the prevailing low price of scheelite development and maintenance work only has been done at this mine. Two men have been employed on development work, driving, sinking and rising on the northern slope of Mount Judah.

Big Beach Gold-mining Co., Shotover River.—Sluicing operations have been carried on throughout the year. The gold won mounted to 366 oz. 12 dwt., valued at £1,786 18s. 7d. Total yield of gold since commencing work, 2,683 oz. 2 dwt.; value, £10,713 15s. 5d.

Moonlight Mining Syndicate, Moonlight Creek.—Sluicing operations have been carried on throughout the year. The gold won amounted to 210 oz. 4 dwt. 18 gr., valued at £867 18s. 3d. Total yield of gold since commencing work, 1,119 oz. 12 dwt.; value, £4,393 7s. 1d.

Sandhills Mining Co., Upper Shotover.—This company has been again hampered by high rivers and floods which carried away the diversion barriers. Operations are suspended for the present. The gold won amounted to 18 oz. 2 dwt., valued at £85 12s. 4d.

The New Skippers Sluicing Co., Skippers, Shotover River (E. Sainsbury, Manager).—The gold won amounted to 56 oz. 11 dwt., valued at £253 11s. 9d.

A. E. Smith and Party, Maori Point, Skippers.—This party have been sluicing and elevating on the beaches of the Shotover River at Maori Point. The gold won amounted to 595 oz. 14 dwt. 14 gr., valued at £2,953 18s. 11d.

Hope, Oxenbridge, and Party (below junction of the Moke Creek and Shotover River).—This party have been engaged in wing-damming and elevating in the bed of the Shotover River. The paddock having been filled with debris several times an attempt is being made to tap the lead by sinking in the schist on the river-bank and driving under the lead.

Hawke Mining Syndicate, Shamrock Claim (Hayes Gully).—Work has been continued at this claim. The gold won amounted to 53 oz. 15 dwt., valued at £280 5s. 6d.

The Crystal Mine, Sawyer's Gully, Skippers, is being reopened by Mr. J. R. Tripp. Work is being carried out on the outcrop of the reef. A one-stamp battery driven by water-power has been erected for treating the outcrop material. Twenty-one tons of quartz has yielded 11 oz. 2 dwt. 15 gr. of gold, valued at £60 10s. 11d.

Macetown, Shotover, Glenorchy, Rees River, and Dart River Areas.—Forty-four men have been employed prospecting, sluicing, and elevating and won 203 oz. 17 dwt. 16 gr. of gold, valued at £880 1s. 10d.

Southland County.

Nokomai Sluicing Co., Nokomai.—This company has been actively employed during the year elevating the alluvial gravels to a height of 90 ft. Owing to the high lift and excessive seepage of water, the successful working of this claim has become a difficult matter. The gold recovered amounted to 379 oz. 17 dwt., valued at £1,788 7s. 8d. A new company is being formed to work the claim by a combined drag-line method. Electrical power will be generated for the purpose of driving the machinery. Total yield of gold since commencing work, 2,559 oz. 18 dwt.; value, £9,993 12s. 1d.

King Solomon Deep Lead, Ltd., Winding Creek, Waikaia (R. Ruffin, Manager).—Active operations have been continued during the year. The shaft has been refitted and cages installed. A 15 in. sirocco fan direct-driven by an electric motor, 9 in. galvanized ventilating-pipes, and a four-stage centrifugal pump direct-driven by a 25 h.p. motor have been installed, and hoppers and sluice-boxes with an elevated covered gangway from the shaft have been built. The Winding Creek plant and water-rights were acquired, and the pipe-line has been extended to the mine, ensuring a steady supply of water for the sluice-boxes. Underground the drives were extended into the auriferous wash which lies on an irregular floor. The north section was first developed. A main level was also driven to the southern or Radford's section, where considerable development work has been done with fair results. The northern section has yielded the best results; several rich patches have been blocked out. The floor is very uneven. Dips have had to be driven in the northern section, the water being pumped by electric auxiliary pumps. Some of the drives are very wet and all have to be timbered with sets, close lathed. Development work is being carried on in both sections. Preparations are being made to provide a second outlet near Radford's section. The gold won amounted to 1,493 oz. 16 dwt. 12 gr., valued at £7,747 16s. Total yield of gold since commencing work, 1,498 oz. 16 dwt. 12 gr.; value, £7,775 10s. 9d.

A. Copeland and Party.—Sluicing and elevating in the Victoria Gully, Nokomai. The gold won amounted to 90 oz. 6 dwt., valued at £462 4s. 5d.

Winding Creek Gold-mining Co., Waikaia.—Prospecting operations failed to disclose a payable deposit, and operations were suspended in April. The gold won amounted to 7 oz. 1 dwt. 11 gr., valued at £27 7s. 2d. The plant and water-rights were sold to the King Solomon Deep Lead, Ltd.

Stoney Creek Gold-mining Co., Waikaia.—Further prospecting failed to disclose a payable deposit, and operations were suspended in April. The plant was sold to the King Solomon Deep Lead, Ltd.

Waikaia.—Six men prospecting, sluicing, and elevating produced 81 oz. 5 dwt. 19 gr., valued at £384 6s. 5d. A. Mutch, who has leased H. Nelson's claim at Waikaia, is ground-sluicing in Happy Valley, and has produced 223 oz. of gold, valued at £864 1s. 4d.

The Dome Creek Syndicate have reconditioned part of the Muddy Terrace water-race, and have prospected a considerable area on the river-flat and the right-hand terrace of the Dome Creek in Mr. Sutton's run. Sluicing operations were carried on in the right-hand terrace. The gold won amounted to 25 oz. 0 dwt. 7 gr., valued at £127 11s. 4d.

Athol, Nokomai, and Paddy's Alley Areas.—Eight men prospecting, sluicing, and elevating produced 240 oz. 6 dwt. 2 gr., valued at £1,170 16s. 7d. The largest producer was Mutch Bros., of Athol, with 146 oz. 8 dwt. 6 gr., valued at £690 1s. 2d.

Riversdale, Balfour, Mataura River, Waikaka, and Chatton Areas.—Thirty-eight men were prospecting, cradling, and sluicing and produced 130 oz. 15 dwt. 12 gr., valued at £592 6s. 5d.

Waikawa, Wailuna Lagoon, and Wyndham Areas.—Fifteen men prospecting, cradling, and sluicing produced 99 oz. 15 dwt. 3 gr., valued at £392 8s. 8d.

Wallace County.

Magnetic Cylinder Co., Wakapatu.—This deposit could not be profitably worked by the gravel-pump method, and operations were suspended in March and the plant removed.

Round Hill.—Work has been resumed at the Round Hill Mining Co.'s claim by a party of seven tributers who have cleaned out and reconditioned the water-races and plant. The large paddock was pumped out and sluicing and elevating operations were resumed in July. The gold won amounted to 210 oz. 14 dwt., valued at £939 8s. 6d.

Round Hill District.—Twenty-two men have been employed fossicking, prospecting, and sluicing. The gold won amounted to 101 oz. 13 dwt. 20 gr., valued at £408 19s. 6d.

Orepuki, Tuatapere, Waiau, Wilson's River, Te Oneroa, and Stewart Island.—Thirty-seven men have been employed prospecting, sluicing, and elevating the alluvial and sea-beach deposits. The gold won amounted to 325 oz. 14 dwt. 4 gr., valued at £1,421 17s. 3d. The largest producer was J. H. Sorensen, with 68 oz. 0 dwt. 10 gr., valued at £325 11s. 5d.

Stewart Island.—Several parties have been prospecting in the Port Pegasus area of Stewart Island. This area is very rough, with very dense tangled undergrowth. It is difficult country to prospect.

Preservation Inlet and West Coast Sounds Area.—Several parties have been prospecting.

Dredging.

Upper Nevis Gold-dredging Co., Nevis River.—This company's electrically equipped dredge was dredging during the early part of the year, but operations were not resumed when the present working-season opened. Boring operations were carried ahead of the dredge at the end of the year. The gold won amounted to 295 oz. 0 dwt. 18 gr., valued at £1,515 7s. 5d. Total yield of gold since commencing work, 2,535 oz. 0 dwt. 1 gr.; value, £10,438 15s. 11d.

Golden Terrace Extended Gold-dredging Co., Lower Shotover.—Dredging operations have been carried on during the year. Operations were suspended for a period in April and May when the screen and tailings-elevator were dispensed with and sluice-boxes were installed to replace them. Other adjustments have been made and the machine is working satisfactorily. The gold won amounted to 930 oz. 13 dwt., valued at £4,785 3s. 1d. Total yield of gold since commencing work, 1,444 oz. 13 dwt.; value, £6,538 10s. 3d.

Minerals other than Gold.

Tungsten.—No scheelite was produced during the year on account of the continued low values.

Silica.—The Southern Cross Glass Co., Ltd., Ashburton: The output of silica sand from this company's silica license at Mount Somers amounted to 35 tons 11 cwt. 1 qr., which was valued at 10s. per ton at the site of the deposit. Operations ceased on the 18th March owing to trade depression.

Platinum.—10 dwt. of platinum was recovered from beach claims at Orepuki.

Oil-wells.—Southland Oil, Ltd.: This company commenced boring operations on the Southland Oil-bore No. 1, at Kauana, half a mile north of Kauana Railway-station, in the Hokonui Survey District, Southland, at a height of 290 ft. above sea-level. J. W. Rawlinson, well-manager. Drilling operations were commenced on the 11th February, and were suspended on the 28th July. The bore had reached a depth of 586 ft., passing through gravel, sand, limestone, greensand, and hard indurated sandstone. The company commenced operations at the Southland Oil-bore No. 2 on Section 737, Block 59, Hokonui Survey District, near Centre Bush, Southland, 280 ft. above sea-level. George Bassett, well-manager. Drilling operations were commenced in August. A depth of 1,552 ft. had been reached by the end of the year in fossiliferous claystone. The drill-manager reported that the well was tested at 1,449 ft. and showed oil and gas to be present in marked degree. Boring operations are being continued.

Accidents.

Three serious accidents occurred during the year. Stephen Macale was accidentally injured at the Central Mines, Waitiri, Kawarau Gorge, on the 20th March. He was acting as nozzleman and was using a tee-piece between the pipe-line and the nozzle-piece. The flange of this tee-piece broke at the bolt-holes, causing the nozzle to swing round. The handle caught Macale and knocked him into the tail-race, causing injury to ribs, lung, and pelvis.

J. Bulman was accidentally injured at the Golden Terrace Extended Gold Dredge, Lower Shotover, Queenstown, on the 12th June. He suffered a compound fracture of his left wrist. He and his mate were dismantling the screen chute and were cutting out the rivets of the strap plate holding the two halves of the drop chute. They had inserted service bolts before cutting out all the rivets. When releasing the bolts half of the chute plate slipped, throwing Bulman's feet outward. The other half of the chute plate fell on his left wrist, breaking the bone in two places and leaving two deep punctured wounds.

Frederick Morgan, prospector, sustained a broken leg through a fall while prospecting in the Preservation Inlet area. He was admitted to the Invercargill Hospital on the 21st October.

General Remarks.

Great activity is being shown in the mining industry and many mining fields are being prospected. Men who have had experience in these fields in their early days have taken out either miner's rights, prospecting, or claim licenses, and are testing various areas. Syndicates and companies are also prospecting for reefs in the various reefing areas. The increase in the quantity of gold won by alluvial mining amounted to 2,418 oz. 18 dwt. 15 gr., with an increase in value of £16,597 1s. 8d. The number of men employed increased by 276. Several causes have helped to increase the alluvial-gold production in this district. The seasons have been satisfactory from a sluicing point of view in the majority of areas in the southern district. The King Solomon Deep Lead Mine at Waikaia reached the productive stage in February. The continued state of depression has caused a resumption of prospecting in many of the old mining fields. The increase in the price of gold has also largely stimulated mining, especially in areas where mining and farming are combined. The increase in the quantity of gold won by quartz-mining amounted to 2,302 oz. 7 dwt. 10 gr., with an increase in value of £11,936 9s. 10d. The number of men increased by thirty-four. The Golden Point Gold and Scheelite Mine at Macraes, and the Golden Progress Quartz-mine at Oturehua, also the Crystal Mine at Skippers, have reached the productive stage during the year. The quantity of gold won by dredging increased by 527 oz. 7 dwt. 18 gr., with an increase in value of £3,437 10s. 6d.

ANNEXURE B.

STONE QUARRIES.

SUMMARY OF REPORT BY INSPECTOR OF QUARRIES FOR THE NORTH ISLAND.

(JAMES NEWTON.)

The number of quarries operated during the year was 245; and although the number of men casually employed increased by fifty-six; the quantity of stone won decreased by 367,377 tons. With the exception of building-stone all classes show a decrease in output, doubtless the result of the depressed state of financial affairs obtaining during the year.

The following serious accidents have occurred during the year. On the 9th January W. Mather, quarry foreman of the Paekakariki Quarry, as the result of a premature explosion when engaged charging a hole, suffered a badly lacerated cheek and the loss of his right eye. On the 31st January W. J. Woods, quarry foreman at Petch's Quarry, Piopio, sustained loss of the fingers of his left hand through the premature detonation of a detonator while engaged inserting the fuse. Apparently he had let the detonator fall to the ground after having removed the sawdust therefrom, and a bit of gritstone getting into the capsule caused friction when inserting the fuse. On the 17th February T. Smith, an employee in the Uriti Quarry, whilst engaged charging a shot-hole received such serious injuries from a premature explosion that he died the following day. Smith had inserted almost the full charge of explosive when the explosion occurred. On the 9th March F. Hewitt, foreman at the Pukemiro Quarry, sustained injuries to his foot by a fall of stone down the quarry-face. On the 21st May E. C. Bruntnell, foreman, Oamarunui Quarry, suffered a broken leg through falling down the quarry-face. On the 5th December, B. Hart received a broken arm, the result of being struck by a rolling stone whilst engaged barring away stone after firing a shot in the Auckland City Council's Quarry, Mount Eden.

ANNEXURE C.

MINING STATISTICS.

Table 1.

STATEMENT SHOWING THE QUANTITY OF QUARTZ CRUSHED AND BULLION OBTAINED IN THE NORTHERN INSPECTION DISTRICT FOR THE YEAR ENDED 31ST DECEMBER, 1931.

Locality and Name of Mine.	Average Number of Men employed.	Quartz crushed.	Bullion obtained.		Value.
			Amalgamation.	Cyanidation.	
WAIHI BOROUGH.					
Waihi—		Tons. cwt. qr. lb.	Oz. dwt. gr	Oz. dwt. gr.	£ s. d.
Waihi Gold-mining Co., Ltd. ..	509	175,786 0 0 0	..	387,580 13 1	336,224 0 0
Waihi Grand Junction Gold Co.	104	23,657 0 0 0	..	121,639 13 4	61,523 0 0
	613	199,443 0 0 0	..	509,220 6 5	397,747 0 0
OHINEMURI COUNTY.					
Karangahake—					
Talisman-Dubbo	2	..	..	..	1 16 0
Waiawa	2	14 0 0 0	23 19 0	..	47 9 11
Crown	1	9 0 0 0	22 10 0	..	57 6 1
Maratoto—					
Maratoto Consolidated ..	2	3 0 0 0	3 6 0	..	5 6 9
Owharoa—					
Golden Dawn	20	288 0 0 0	..	687 18 3	1,069 13 1
Neavesville—					
Hauraki-Alaska	2	..	20 5 0	..	36 7 4
Prospectors	4	0 0 0 10	10 16 0	..	31 19 10
	33	314 0 0 10	80 16 0	687 18 3	1,249 19 0
THAMES BOROUGH.					
Thames—					
Moanataiari	5	82 1 1 26	229 3 0	..	690 19 3
Taniwha	2	2 0 0 0	5 17 0	..	18 4 4
Lucky Shot	6	32 10 0 17	81 17 9	..	309 8 5
Cambria	4	24 10 0 0	73 10 0	..	287 0 10
Bright Smile	1	0 1 0 20	35 9 0	..	103 15 5
North Star	2	10 0 0 0	17 12 0	..	62 8 10
Garbo	3	2 10 0 10	7 10 0	..	30 0 3
School of Mines Battery ..	..	..	7 1 9	..	21 1 0
Waiotahi	3	7 10 0 13	16 16 0	..	54 8 0
Nonpareil	1	0 0 0 5	1 13 0	..	7 9 6
Bank of New Zealand.. ..	..	..	2 1 0	..	8 5 1
Prospectors	3	..	18 0 0	..	58 14 4
	30	161 3 0 7	496 9 18	..	1,651 15 3
THAMES COUNTY.					
Waiomo—					
Waiomo Sulphide	12	46 0 0 0	..	164 7 4	72 1 1
COROMANDEL COUNTY.					
Coromandel—					
Hauraki	6	18 0 0 0	20 11 0	..	82 2 2
Long Trail	4	13 5 0 0	50 5 0	..	154 4 9
Four-in-Hand	3	25 5 0 0	149 3 0	..	592 6 8
Lone Star	..	..	0 10 0	..	1 8 4
Tiki Hill—					
New Era	..	3 3 0 0	2 19 0	..	12 5 2
Prospectors	3	3 0 0 0	9 19 0	..	39 8 11
	16	62 13 0 0	233 7 0	..	881 16 0
PIAKO COUNTY.					
Te Aroha—					
Huia	1	6 0 0 0	7 11 0	..	20 7 8
SUMMARY.					
Waihi Borough	613	199,443 0 0 0	..	509,220 6 5	397,747 0 0
Ohinemuri County	33	314 0 0 10	80 16 0	687 18 3	1,249 19 0
Thames Borough	30	161 3 0 7	496 9 18	..	1,651 15 3
Thames County	12	46 0 0 0	..	164 7 4	72 1 1
Coromandel	16	62 13 0 0	233 7 0	..	881 16 0
Piako County	1	6 0 0 0	7 11 0	..	20 7 8
Totals, 1931	705	200,032 16 0 17	818 3 18	510,072 11 12	401,622 19 0
Totals, 1930	705	201,770 9 3 0	774 7 12	597,898 5 1	386,610 17 4

STATEMENT SHOWING THE QUANTITY OF QUARTZ CRUSHED AND BULLION OBTAINED IN THE WEST COAST INSPECTION DISTRICT FOR THE YEAR ENDED 31ST DECEMBER, 1931.

Locality and Name of Mine.	Average Number of Men employed.	Quartz crushed.	Bullion obtained by		Value.
			Amalgamation.	Cyanidation and Concentration.	
INANGAHUA COUNTY.					
Snowy River—		Tons. cwt. qr.	Oz. dwt. gr.	Oz. dwt. gr.	£ s. d.
Homer	2	310 0 0	15 14 0	..	51 9 6
Waiuta—					
Blackwater Mine	160	43,815 0 0	17,098 12 0	4,089 9 0	99,792 6 1
Crushington—					
Wealth of Nations	6	1,000 0 0	..	400 10 0	1,593 0 0
Alexander River—					
Alexander	27	3,754 0 0	2,262 19 0	754 14 0	16,053 2 8
ROSS BOROUGH.					
Ross—					
Mt. Greenland	4	740 0 0	248 0 0	..	1,077 7 11
Totals, 1931 ..	199	49,619 0 0	19,625 5 0	5,244 13 0	118,567 6 2
Totals, 1930 ..	221	46,663 0 0	16,739 16 6	4,884 5 4	86,205 9 10

STATEMENT SHOWING THE QUANTITY OF QUARTZ CRUSHED AND BULLION OBTAINED IN THE SOUTHERN INSPECTION DISTRICT FOR THE YEAR ENDED 31ST DECEMBER, 1931.

Locality and Name of Mine.	Average Number of Men employed.	Quartz crushed.	Bullion obtained by		Value.
			Amalgamation.	Concentration.	
LAKE COUNTY.					
Upper Shotover—		Tons cwt. qr.	Oz. dwt. gr.	Oz. dwt. gr.	£ s. d.
Crystal	1	21 0 0	11 2 15	..	60 10 11
WAIHEMO COUNTY.					
Macrae's Flat—					
Golden Point	24	682 0 0	308 3 0	..	1,769 10 8
MANIOTOTO COUNTY.					
Oturehua—					
Golden Progress	28	1,228 0 0	1,989 16 0	..	10,131 13 6
Totals, 1931 ..	53	1,931 0 0	2,309 1 15	..	11,961 15 1
Totals, 1930 ..	3	12 0 0	6 13 19	..	25 5 3

SUMMARY OF INSPECTION DISTRICTS.

Inspection District.	Average Number of Men employed.	Quartz crushed.	Bullion obtained.	Value.
		Statute Tons.	Oz. dwt. gr.	£ s. d.
Northern (North Island)	705	200,033	510,890 15 6	401,622 19 0
West Coast (South Island)	199	49,619	24,869 18 0	118,567 6 2
Southern (Otago and Southland)	53	1,931	2,309 1 15	11,961 15 1
Totals, 1931	957	251,583	538,069 14 21	532,152 0 3
Totals, 1930	929	248,445	620,303 7 18	472,841 12 5

In addition, 11 persons were employed at unproductive quartz-mining.

Table 2.

STATEMENT OF AFFAIRS OF MINING COMPANIES, AS PUBLISHED IN ACCORDANCE WITH THE COMPANIES ACT, 1908.

Name of Company.	Date of Registration.	Subscribed Capital.	Amount of Capital actually paid up in cash.	Value of Script given to Shareholders on which no Cash paid.	Number of Shares allotted.	Amount paid per Share.	Arrears of Calls.	Number of Shareholders at present.	Number of Men employed.	Quantity and Value of Gold and Silver produced since Registration.		Total Expenditure since Registration.	Total Amount of Dividends paid.	Amount of Debts owing by Company.
										Quantity.	Value.			
AUCKLAND DISTRICT.														
		£	£	£			£			Oz.	£	£	£	£
Hauraki Mines Consolidated, Ltd.	28/11/25	87,354	55,808	28,750	349,419	Various	Nil	1,101	Nil	353	1,547	44,501	Nil	354
Golden Dawn Gold-mines, Ltd.	20/11/29	20,000	13,672	3,125	80,000	,,	426	264	51	1,173	1,546	10,238	Nil	2,364
Talisman-Dubbo Gold-mines, Ltd.	31/10/29	6,714	1,897	Nil	26,857	5/-	20	31	2	..	11	1,097	Nil	51
Tui Gold-mining Co., Ltd. (in liquidation)	1/5/29	7,815	2,900	3,750	46,260	3/-	42	42	Nil	2	6	2,419	Nil	49
Mt. Welcome Gold-mining Co., Ltd. (in liquidation)	21/10/20	3,600	3,053	2,500	24,400	5/-	122	55	Nil	50	142	3,544	Nil	150
Caledonia-Kuranui-Moanataiari Consolidated Gold-mining Co., Ltd.	16/3/20	43,062	32,309	2,500	182,250	Various	145	471	9	592	1,775	38,757	Nil	3,373
Boswell Gold-mining Co., Ltd.	31/5/31	396	396	Nil	792	10/-	Nil	13	3	149	591	666	Nil	96
Mount Campbell Gold-mining Co., Ltd.	5/5/31	5,350	850	Nil	5,350	20/-	Nil	10	2	Nil	Nil	837	Nil	Nil
Waiomo Sulphide Corporation, Ltd.	1/2/29	43,591	21,091	22,500	174,366	5/-	207	155	2	..	3,599	60,480	Nil	14,000
NELSON DISTRICT (INCLUDING WEST COAST).														
Moonlight Extended Gold-sluicing Co., Ltd. ..	20/8/30	9,069	1,647	3,000	90,690	Various	30	52	Nil	Nil	Nil	1,513	Nil	Nil
Awatuna Extended Gold-dredging Co. (N.L.) ..	23/2/31	9,920	5,387	4,500	99,200	2/-	Nil	85	11	183	903	9,959	Nil	4,867
Mahakipawa Goldfields, Ltd.	12/10/23	42,804	33,345	15,603	856,089	Various	125	960	30	2,000	9,332	56,049	Nil	762
Bell Hill Gold-sluicing Co., Ltd.	16/9/30	10,453	5,438	3,000	41,815	,,	1,294	153	16	Nil	Nil	8,382	Nil	204
Mount David Sluicing Co., Ltd.	2/9/30	30,000	30,000	20,000	50,000	20/-	Nil	208	1	12	50	36,589	Nil	3,127
Brian Boru Gold-dredging Co., Ltd.	29/9/31	18,000	8,171	9,000	27,000	8/7	1,122	172	25	Nil	Nil	2,238	Nil	3,177
Moutapu Gold-mining Co., Ltd.	25/11/30	3,584	1,595	1,989	71,680	1/-	105	57	Nil	Nil	Nil	1,394	Nil	Nil
New Big River Gold-mining Co., Ltd.	19/8/07	6,000	2,400	..	24,000	2/-	Nil	69	1	93,687	396,173	296,394	112,800	7,500
Alexander Mines, Ltd.	9/3/26	75,000	31,499	29,000	75,000	13/6	Nil	271	27	11,014	46,703	73,728	Nil	748
Okarito Five-mile Beach Gold-dredging Co., Ltd. ..	29/10/28	32,735	28,235	4,500	130,940	5/-	Nil	377	11	2,491	12,707	37,929	Nil	2,620
Buller Diversion Gold-mining Co., Ltd.	13/3/28	10,634	6,986	3,125	49,910	Various	1,005	155	Nil	Nil	Nil	7,735	Nil	75
New Zealand Mining Investments, Ltd.	12/8/31	2,062	848	500	41,250	,,	714	65	3	Nil	Nil	527	Nil	333
Rimu Gold-dredging Co., Ltd.	20/7/20	213,572	142,863	70,709	213,572	20/-	Nil	35	54	118,715	474,863	342,149	24,622	16,943
Ngahere Gold-prospecting Co., Ltd.	22/12/25	24,465	4,493	18,000	48,931	10/- and 2/-	Nil	32	Nil	Nil	Nil	4,480	Nil	Nil
Wealth of Nations Mine, Ltd.	15/7/22	20,000	15,000	5,000	20,000	20/-	Nil	101	Nil	9,357	41,150	60,520	Nil	9,292

OTAGO DISTRICT.

Golden Progress Quartz-mining Co., Ltd.	26/10/28	14,755	10,804	3,950	14,755	20/–	1	155	28	1,989	10,131	16,633	Nil	Nil
Kildare Consolidated Gold-mining Co., Ltd. ..	19/6/28	8,000	4,000	4,000	80,000	2/–	Nil	176	9	1,318	5,329	8,141	Nil	125
Skipper's Sluicing Co., Ltd.	20/11/11	3,450	345	3,105	3,450	20/–	Nil	31	*	2,335	9,575	10,123	Nil	2,019
Golden Point Gold and Scheelite Co., Ltd. ..	6/8/30	32,000	11,843	20,000	640,000	Various	156	392	24	203	1,145	12,918	Nil	4,167
Cornish Point Gold-mining Co., Ltd.	12/12/28	9,033	4,459	4,500	180,663	,,	30	238	Nil	24	100	4,929	Nil	125
Macrae's Flat Gold-prospecting Co., Ltd.	28/9/31	1,100	335	Nil	1,100	,,	76	37	3	Nil	Nil	110	Nil	63
Good Hope Gold-mining Co., Ltd.	7/4/30	2,825	862	Nil	2,825	6/–	11	73	Nil	Nil	Nil	954	Nil	934
Upper Nevis Gold-dredging Co., Ltd.	20/9/26	38,968	33,730	5,000	43,968	20/– and 12/6	Nil	153	3 to 11	2,535	10,438	51,427	Nil	7,324
Central Mines, Ltd.	20/2/30	1,381	1,381	Nil	27,632	1/–	Nil	37	3	Nil	Nil	1,592	Nil	70
King Solomon Deep Lead, Ltd.	14/11/29	13,000	10,237	2,762	260,000	1/–	Nil	464	32	1,498	7,775	11,993	Nil	322
Tallaburn Hydraulic Sluicing Co., Ltd.	3/12/04	1,200	1,200	Nil	12	£100	Nil	9	2	3,498	12,419	14,437	1,380	Nil
Nokomai Sluicing Co., Ltd.	14/6/26	25,000	14,840	10,160	25,000	20/–	Nil	74	20	2,559	9,993	40,611	Nil	15,731
McGeorge Bros., Ltd.	27/3/12	11,400	11,400	Nil	11,400	20/–	Nil	6	1	29,939	..	79,838	48,419	Nil
Kawarau Gold-mining Co., Ltd.	8/4/24	14,985	4,985	9,999	299,708	1/–	Nil	1,047	Nil	94	366	120,954	Nil	7
Paddy's Point Gold-mining Co., Ltd.	4/8/28	13,956	11,446	2,500	55,825	5/–	Nil	231	7	793	3,531	15,243	Nil	1,242
The Lady Ranfurly Gold-mining Co. (Kawarau), Ltd.	12/6/28	6,748	Nil	6,748	134,976	1/–	Nil	45	1	Nil	Nil	236	Nil	Nil
Good Fortune Gold-mining Co., Ltd.	13/5/25	1,800	1,038	600	1,800	20/–	12	12	Nil	Nil	Nil	738	Nil	Nil
Sailor's Gully (Waitahuna) Gold-mining Co., Ltd. ..	3/6/96	8,400	4,400	4,000	8,400	20/–	Nil	26	6	13,140	52,262	43,474	9,935	107
St. Bathan's Channel Co., Ltd.	4/1/82	4,590	4,590	Nil	81	£100, £40, £30	Nil	4	Nil	1,507	5,817	11,150	Nil	12
Golden Bed Mining Co., Ltd.	12/3/25	3,685	1,600	1,556	7,370	10/– and 9/6	Nil	81	Nil	Nil	Nil	3,087	Nil	40
Golden River Mining Co., Ltd.	21/1/25	3,447	1,752	1,257	3,447	20/– and 18/–	Nil	54	Nil	Nil	Nil	3,146	Nil	48
Golden Crescent Sluicing Co., Ltd.	26/11/98	3,500	3,500	Nil	3,500	20/–	Nil	19	Nil	13,761	55,027	49,218	14,175	2,652
Vogels Vision Gold Co., Ltd.	19/11/24	16,020	13,462	600	100,000	4/3 and 5/–	Nil	261	Nil	46	181	13,704	Nil	Nil
Gabriel's Gully Sluicing Co., Ltd.	2/5/07	600	600	Nil	600	20/–	Nil	9	..	20,945	82,593	73,544	20,375	70
Dart River Prospecting Co., Ltd.	2/5/29	2,000	562	1,000	2,000	12/6	62	27	Nil	Nil	Nil	Nil	Nil	18
Vinegar Hill Hydraulic Sluicing Co., Ltd. ..	23/9/00	6,000	6,000	Nil	6,000	20/–	Nil	16	..	5,493	21,099	22,442	1,050	1,101
Golden Terrace Extended Gold-dredging Co., Ltd. ..	23/4/26	100,000	62,536	35,225	100,000	20/–	285	1,252	12	1,444	6,538	71,187	Nil	11,859
Big Beach Gold-mining Co., Ltd.	7/12/26	22,500	13,074	9,125	22,500	20/–	300	166	6	2,638	10,432	11,878	Nil	6,664
The Molyneux Electric Gold-dredging Co., Ltd. ..	23/7/25	10,947	8,447	2,500	10,947	20/–	Nil	109	1	301	1,164	5,309	Nil	150

* Let on tribute.

FOREIGN COMPANIES.

Name of Company.	Date of Registration of Office in Dominion.	Subscribed Capital.	Amount of Capital actually paid up in Dominion.	Value of Scrip given to Shareholders on which no Cash paid.	Number of Shares on Dominion Register.	Amount paid up per Share, Dominion Register.	Arrears of Calls, Dominion Register.	Number of Shareholders on Dominion Register.	Number of Men employed in Dominion.	Quantity and Value of Gold and Silver produced since Registration.		Total Expenditure since Registration.	Total Amount of Dividends paid in Dominion.	Amount of Liabilities of Company in New Zealand.
										Quantity.	Value.			
		£	£	£			£			Oz.	£	£	£	£
Waihi Grand Junction Gold Co., Ltd.	22/12/97	41,437*	40,494†	112,500	268,140	2/–	Nil	982	9	..	2,379,929	2,354,272	152,392	82
Waihi Gold-mining Co., Ltd.	7/12/87	247,953	4,803	53,333	450,145	5/–	Nil	1,876	613	24,851,151	17,096,268	10,322,490	1,295,521	80,157
Clutha Development Ltd.‡	27/8/24	15,000	Nil	5,000	Nil	Nil	Nil	Nil	Nil	Nil	Nil	6,844	Nil	Nil

* Written down from £384,375 to 2/– per share. † On basis of £1 per share. ‡ Company is a prospecting company only.

APPENDIX B.

REPORTS RELATING TO THE INSPECTION OF COAL-MINES.

THE INSPECTING ENGINEER AND CHIEF INSPECTOR OF COAL-MINES to the UNDER-SECRETARY OF MINES.

SIR,— Wellington, 12th September, 1932.

I have the honour to present my annual report, together with statistical information, in regard to coal-mines of the Dominion for the year ended 31st December, 1931, in accordance with section 42 of the Coal-mines Act, 1925. The report is divided into the following sections:—

I. Output.
II. Persons employed.
III. Accidents.
IV. Working of the Coal-mines Act—(*a*) Permitted Explosives; (*b*) List of Mines required by Law to use Permitted Explosives; (*c*) List of Mines required by Law to use Safety-lamps; (*d*) Dangerous Occurrences; (*e*) Electricity at Collieries; (*f*) Prosecutions.
V. Legislation affecting Coal-mining.
Annexures—
A. Summary of Annual Reports by Inspectors of Mines. B. Colliery Statistics.

SECTION I.—OUTPUT.

The output of the several classes of coal mined in each inspection district is summarized as follows:—

Class of Coal.	Output of Coal during 1931.				Total Output to the End of 1931.
	Northern District (North Island).	West Coast District (South Island).	Southern District (South Island).	Totals.	
	Tons.	Tons.	Tons.	Tons.	Tons.
Bituminous and sub-bituminous	129,725	849,911	..	979,636	45,548,721
Brown	705,174	39,824	324,751	1,069,749	25,900,980
Lignite	..	759	107,612	108,371	4,548,846
Totals for 1931 ..	834,899	890,494	432,363	2,157,756	75,998,547
Totals for 1930 ..	766,312	1,286,071	489,709	2,542,092	73,840,791

The following is a table showing the annual production of coal and the quantity of coal imported since 1911:—

Year.	Coal produced.	Coal imported.	Total Quantity of Coal produced and imported.	Year.	Coal produced.	Coal imported.	Total Quantity of Coal produced and imported.
	Tons.	Tons.	Tons.		Tons.	Tons.	Tons.
1911 ..	2,066,073	188,068	2,254,141	1922 ..	1,857,819	501,478	2,359,297
1912 ..	2,177,615	364,359	2,541,974	1923 ..	1,969,834	445,792	2,415,626
1913 ..	1,888,005	468,940	2,356,945	1924 ..	2,083,207	674,483	2,757,690
1914 ..	2,275,614*	518,070	2,793,684*	1925 ..	2,114,995	572,573	2,687,568
1915 ..	2,208,624	353,471	2,562,095	1926 ..	2,239,999	483,918	2,723,917
1916 ..	2,257,135	293,956	2,551,091	1927 ..	2,366,740	378,090	2,744,830
1917 ..	2,068,419	291,597	2,360,016	1928 ..	2,436,753	247,861	2,684,614
1918 ..	2,034,250	255,332	2,289,582	1929 ..	2,535,864	215,656	2,751,520
1919 ..	1,847,848	391,434	2,239,282	1930 ..	2,542,092	157,943	2,700,035
1920 ..	1,843,705	476,343	2,320,048	1931 ..	2,157,756	179,060	2,336,816
1921 ..	1,809,095	822,459	2,631,554				

* Includes 21 tons shale.

The output for 1931 (2,157,756 tons) is 384,336 tons less than that of 1930, and is the largest yearly decrease so far recorded. There was a steady increase since 1922 until this year.

In the Northern District there was an increased output of 68,587 tons consequent on the steam-driven power plant at Auckland being required to generate current while the hydro-electric-power station at Arapuni was under repair. In common with the rest of New Zealand the northern miners, owing to the decreased demand, suffered a great deal of idle time, but it is pleasing to record that there was little stoppage owing to labour disputes.

From the West Coast District the output was 395,577 tons less than that of the previous year, that decrease being due chiefly to the restricted use of bituminous coal and to frequent stoppages owing to petty labour disputes. The demand for coal for railway use is still much restricted owing to the trade depression, and there seems little likelihood of any improvement in that direction for some time.

In the Southern District the output shows a decrease of 57,346 tons. That decrease is most noticeable at mines supplying the better grade of household fuel, as the community is purchasing the cheaper fuels and farmers are even sawing down fir and other trees for domestic fires.

Much idle time was experienced at the Kaitangata and Ohai Mines, and at most of the latter the miners are still sharing the available work.

The production from and the number of persons employed at the collieries of the Dominion are shown in the following table:—

Name of Colliery.	Locality.	Class of Coal.	Output for 1931.	Total Output to 31st December, 1931.	Total Number of Persons ordinarily employed.
Northern District.			Tons.	Tons.	
Hikurangi	Hikurangi	Sub-bituminous	54,394	449,156	177
Wilson's	,,	,,	46,857	592,999	184
Rotowaro	Huntly	Brown	130,754	1,633,856	287
Pukemiro	,,	,,	110,069	1,996,777	236
Glen Afton	Glen Afton	,,	185,202	1,365,575	430
MacDonald	Waikokowai	,,	91,905	91,905	193
Renown	,,	,,	82,749	270,629	183
Egmont	Tangarakau	,,	26,557	42,854	56
West Coast District.					
Westport-Stockton	Ngakawau	Bituminous	107,356	2,902,398	306
Millerton	Millerton	,,	71,757	8,143,313	389
Denniston	Denniston	,,	133,762	10,106,876	487
Westportmain	Westport	,,	14,758	172,098	45
Cardiff Bridge	Seddonville	,,	20,624	210,904	29
Paparoa	Roa	Semi-bituminous	26,608	679,603	36
Blackball	Blackball	Bituminous	12,171	3,909,598	47
Liverpool (State)	Rewanui	,,	120,840	2,284,787	347
James (State)	Rapahoe	Sub-bituminous	38,783	308,204	79
Dobson	Dobson	Bituminous	66,432	511,970	288
Wallsend	Brunnerton	,,	58,861	373,860	173
Southern District.					
Shag Point	Shag Point	Brown	17,011	301,635	60
Kaitangata and Castlehill (3 collieries)	Kaitangata	,,	92,773	4,884,809	245
Linton (2 collieries)	Nightcaps	,,	90,516	822,065	180
Wairaki (2 collieries)	,,	,,	29,030	395,445	64
Mossbank (2 collieries)	,,	,,	45,669	360,164	76
157 other collieries	All coalfields	Various	482,318	7,807,693	1,148
Collieries abandoned or suspended, &c.	Various	,,	..	25,379,374	..
Totals	..	..	2,157,756	75,998,547	5,745

SECTION II.—PERSONS EMPLOYED.

Inspection District.	Average Number of Persons employed during 1931.		
	Above Ground.	Below Ground.	Total.
Southern	232	705	937
West Coast	698	2,049	2,747
Northern	484	1,577	2,061
Totals, 1931	1,414	4,331	5,745
Totals, 1930	1,437	4,430	5,867

The following statement shows the tons of coal raised, persons employed, lives lost by accidents in or about collieries, &c., to 1931.

Year.	Output, in Statute Tons.	Persons ordinarily employed.			Tons raised per each Person employed below Ground.	Lives lost by Accidents in or about Collieries.		
		Above Ground.	Below Ground.	Total.		Per Million Tons produced.	Per Thousand Persons employed.	Number of Lives lost.
Prior to 1900	13,444,437	*	*	*	*	*	*	165
1900 ..	1,093,990	617	1,843	2,460	593	3·65	1·62	4
1901 ..	1,239,686	688	2,066	2,754	600	2·42	1·09	3
1902 ..	1,365,040	803	2,082	2,885	655	1·46	0·69	2
1903 ..	1,420,229	717	2,135	2,852	665	2·81	1·40	4
1904 ..	1,537,838	763	2,525	3,288	609	2·60	1·21	4
1905 ..	1,585,756	833	2,436	3,269	651	3·78	1·83	6
1906 ..	1,729,536	1,174	2,518	3,692	687	3·46	1·62	6
1907 ..	1,831,009	1,143	2,767	3,910	662	6·55	3·07	12
1908 ..	1,860,975	992	2,902	3,894	641	2·68	1·28	5
1909 ..	1,911,247	1,159	3,032	4,191	630	3·66	1·67	7
1910 ..	2,197,362	1,136	3,463	4,599	634	7·28	3·48	16
1911 ..	2,066,073	1,365	2,925	4,290	706	6·77	3·26	14
1912 ..	2,177,615	1,130	3,198	4,328	681	4·13	2·08	9
1913 ..	1,888,005	1,053	3,197	4,250	590	3·18	1·41	6
1914 ..	2,275,614	1,176	3,558	4,734	639	21·53	10·35	49†
1915 ..	2,208,624	1,050	3,106	4,156	711	4·07	2·16	9
1916 ..	2,257,135	988	3,000	3,988	752	2·65	1·50	6
1917 ..	2,068,419	1,090	2,893	3,983	715	1·93	1·00	4
1918 ..	2,034,250	1,102	2,892	3,994	703	2·95	1·50	6
1919 ..	1,847,848	1,095	2,849	3,944	648	5·41	2·53	10
1920 ..	1,843,705	1,152	2,926	4,078	630	0·54	0·24	1
1921 ..	1,809,095	1,218	3,149	4,367	574	5·52	2·28	10
1922 ..	1,857,819	1,191	3,365	4,556	552	3·23	1·31	6
1923 ..	1,969,834	1,353	3,647	5,000	540	2·53	1·00	5
1924 ..	2,083,207	1,364	3,505	4,869	594	4·80	2·05	10
1925 ..	2,114,995	1,288	3,489	4,777	606	3·78	1·67	8
1926 ..	2,239,999	1,336	3,823	5,159	586	6·69	2·90	15
1927 ..	2,366,740	1,386	3,988	5,374	593	4·23	1·86	10
1928 ..	2,436,753	1,366	4,010	5,376	608	3·69	1·67	9
1929 ..	2,535,864	1,370	4,127	5,497	614	4·73	2·18	12
1930 ..	2,542,092	1,437	4,430	5,867	574	5·50	2·38	14
1931 ..	2,157,756	1,414	4,331	5,745	498	1·85	0·69	4
Totals ..	75,998,547	..	..	..	..	..	..	451

* For returns for previous years see page 32, Mines Statement, 1921. † Year of Ralph's (Huntly) explosion.

SECTION III.—ACCIDENTS.

The following is a summary of accidents in and about coal-mines during 1931, with their causes :—

—	Fatal Accidents.		Serious Non-fatal Accidents.	
	Number of Separate Fatal Accidents.	Number of Deaths.	Number of Separate Non-fatal Accidents.	Number of Persons injured, including those injured by Accidents which proved Fatal to their Companions.
Explosions of fire-damp or coal-dust ..	..	..	..	..
Falls of ground	3	3	5	5
Explosives	..	..	..	..
Haulage	..	..	9	9
Miscellaneous—Underground	1	1	1	1
On surface	..	..	2	2
Totals	4	4	17	17

The fatal accidents for the year under review were at the rate of 0·69 per thousand persons employed and at the rate of 1·85 per million tons of coal produced.

Accounts of the different accidents are given in the reports of the District Inspectors (Annexure A).

Of the four fatal accidents three of the deaths were due to fractured skulls, two of which were caused by falling props.

On the 12th January John Dickson sustained a fractured skull in the Westport-Stockton Mine. He and his brother had been working less than an hour in a pillar place where the stump had been shot out. They were filling a tub of coal when a lump of stone of about 4 cwt. rolled down from the top of 6 ft. of loose coal in the waste. It hit the foot of a supporting prop, which, in falling, struck the deceased on the head. His head was pinned by the prop on a jagged piece of stone lying in the place.

The circumstances of this and the fatal accident at the Wairaki Mine emphasize the need of careful examination of supporting timbers particularly at the face of pillar and head-coal workings, to see that they are properly tightened at the roof.

The fatal accident to Thomas Dixon at the Wairaki Mine on the 1st June was due to a fall of 30 tons of top coal coming away at the "lip." The fall revealed a concealed back. It was claimed that these "tops" were supported by at least two props which were swung out by the falling coal. A shot-hole had been drilled into the "tops" and the shotfirer intended charging the hole within a few minutes.

At the Dobson Mine on the 8th July William Stone, a trucker, who was going to help a miner to reset a prop which had been knocked out by a shot at 9.30 a.m., was killed at 11 a.m. by a thick slab of stone falling from the insufficiently supported roof. The shot brought down about 3½ tons of coal and, in order to reset the props, that coal had to be shifted. This was done by filling it into the mine tubs. The fatality points to the need of replacing knocked-out timbers at the earliest possible moment.

The fatal accident to Alexander Johnson at the Pukemiro Mine on the 1st October was an extraordinary one. The deceased and his mate were removing unused props and other material from a finished pillar place preparatory to withdrawing the standing timber there by lever and chain. One of the standing props, 13 ft. in length, broke owing to the roof pressure and, in falling, a portion of it either struck the deceased on the head or it struck the prop which they were carrying. He sustained a fracture of the base of the skull, from which he died four days later. The accident could not have been anticipated, and reasonable precautions had been taken for the men's safety.

SECTION IV.—WORKING OF THE COAL-MINES ACT.

(*a*) Permitted Explosives.

(Regulations 233 to 237 inclusive.)

The following is a table showing the quantity of permitted explosives used and the number of shots fired at New Zealand coal-mines during 1930:—

Inspection District.	Quantity of Permitted Explosives used (lb.).			Number of Shots fired.	Number of Misfired Shots.				Approximate Quantity of Coal produced.
	A2 Monobel.	Ligdynite.	Samsonite.		By Defective Explosive.	By Defective Detonators.	By Defective Leads.	Total.	
									Tons.
Northern (*i.e.*, North Island) ..	194,250	..	..	186,703	1	115	19	135	680,352
West Coast (of South Island) ..	117,020	..	153,044	320,130	25	155	177	357	889,221
Southern (*i.e.*, Canterbury, Otago, and Southland)	3,796	..	63,851	95,837	..	16	33	49	248,860
Totals	315,066	..	216,895	602,670	26	286	229	541	1,818,433

Eighty-four and a quarter per cent. of the coal produced in the Dominion during 1931 was broken down by permitted explosive, and the average production of coal per pound of explosive used was 3·42 tons, and per shot fired 3·01 tons.

(*b*) List of Mines required by Law to use Permitted Explosives.

The following is a list of mines as at the 31st December, 1931, required by law to use permitted explosives:—

Northern Inspection District.

Pukemiro Collieries, Pukemiro—Throughout South Mine.
Rotowaro Colliery, Rotowaro—Throughout No. 1 and No. 3 Mines.
Glen Afton Colliery, Glen Afton—All sections of the mine, with the exception of A section.
Waikato Extended Colliery, Huntly—All sections.
Renown Colliery, Rotowaro—All sections.

West Coast Inspection District.

Puponga, Puponga.
O'Rourke's, Murchison.
Bennett and party's, Seddonville.
Cardiff Bridge, Seddonville.
Charming Creek, Seddonville.
Cascade, Seddonville.
Westport-Stateville, Seddonville.
Chester's, Seddonville.
Coal Creek, Seddonville.
Glasgow, Seddonville.
Quinn and party's, Seddonville.
Westportmain, Granity.
Westport-Mokihinui, Seddonville.
Westport Coal Co.'s Denniston mines.
Westport Coal Co.'s Millerton mines.
Westport-Stockton, Ngakawau.
Wynn's, Seddonville.
Rocklands, Berlin's.
Whitecliffs, Berlin's.
Archer's, Capleston.
Clele, Merrijigs.
Coghlan's, Capleston.
Collins, Murray Creek.
Terrace, Reefton.
Morrisvale, Reefton (Perfection Valley, Matchless, and Surprise).
Defiance, Reefton.
Burke's Creek, Reefton.
Waitahu Colliery, Reefton.
Honey's, Reefton.
Lankey's Creek, Crushington.
White Rose, Merrijigs.
Armstrong's, Dunollie.
Baddeley's, Runanga.
Bellvue, Runanga.
Blackball Coal Co.'s, Blackball.
Brae Head, Dunollie.
Cain's, Rapahoe.
Castle Point, Runanga.
Cox's Creek, Rapahoe.
Dobson, Brunnerton.
Duggan's, Rewanui.
Hunter's, Rewanui.
Briandale, Ten-mile.
Moody Creek, Dunollie.
Old Runanga Co-operative party, Rewanui.
Schultz Creek, Twelve-mile.
Smith's, Runanga.
Spark's, Rewanui.
State Coal-mines (Liverpool Collieries and James Colliery).
Paparoa, Roa.
Wallsend, Brunnerton.
Dennehy's, Barrytown Road.
New Point Elizabeth, Dunollie.
Goldlight, Rewanui.
Fiery Cross, Dunollie.
Jubilee, Rapahoe.
Bellbird, Ten-mile Road.

Southern Inspection District.

Kaitangata No. 1 Mine, Kaitangata.
Kaitangata No. 2 Mine, Kaitangata.
Wairaki Mine, Ohai.
Birchwood Mine, Ohai.
Linton Mine, Ohai.
Black Diamond, Ohai.
Black Lion, Ohai.

(*c*) List of Mines required by Law to use Safety-lamps.

The following is a list of the mines as at the 31st December, 1931, required by law to use safety lamps :—

Northern Inspection District.

Pukemiro Collieries, Pukemiro—Horne's No. 2 section and west section south colliery.
Rotowaro Colliery, Rotowaro—Throughout No. 1 and No. 3 Mines.
Glen Afton Colliery, Glen Afton—No. 1 heading section.
Renown Colliery, Rotowaro—Main north section.

West Coast Inspection District.

Westport Coal Co.'s (one section, Millerton Mine).
Dobson, Brunnerton.
Hunter's, Dunollie.
Spark's, Rewanui.
State Mine (Liverpool No. 2).
Paparoa, Roa.
Wallsend, Brunnerton.
Seymour, Owen River.

Southern Inspection District.

Kaitangata No. 1 Mine, Kaitangata.
Kaitangata No. 2 Mine, Kaitangata.
Wairaki Mine, Ohai.
Birchwood Mine, Ohai.
Linton Mine, Ohai.
Black Diamond, Ohai.
Black Lion, Ohai.

(*d*) Dangerous Occurrences reported.

(Regulation 82.)

A full account of these is given in the reports of the District Inspectors (Annexure A). The most serious was at Millerton Colliery, where a serious fire broke out in the middle section. The fire spread over a total area of 25 acres, and five men were injured by distilled-gas explosions before it was finally sealed off. Another fire in the Millerton Mine broke through stoppings into the third west dip section, which was finally abandoned and flooded in an endeavour to control the spread of the fire.

(*e*) Electricity at Collieries.

(Regulation 243.)

The following is a summary of the annual returns, in accordance with Regulation 243 (*e*), regarding electrical apparatus at collieries:—

Number of collieries at which electrical apparatus is installed	52
Number of continuous-current installations	11
Number of alternating-current installations	42
Number of collieries electrically lighted	39
Number of collieries using electrical ventilating-machines	41
Number of collieries using electrical pumping plants	33
Number of collieries using electrical haulage plants	37
Number of collieries using electrical screening plants	19
Number of collieries using electrical miscellaneous plants	23
Number of collieries using electrical locomotives	1
Total horse-power employed from motors on surface	7,092
Total horse-power employed from motors below ground	4,636

(*f*) Prosecutions.

Twenty-five informations were laid by the District Inspectors during the year for breaches of the Coal-mines Act and Regulations; two informations were dismissed, two were withdrawn, and twenty-one convictions were obtained. Accounts of the individual prosecutions are given in the reports of the District Inspectors (Annexure A).

SECTION V.—LEGISLATION AFFECTING COAL-MINES.

There were no amendments to the Coal-mines Act or to the Regulations during the year.

The District Inspectors of Coal-mines particularly regret the loss of their late Chief Inspector, Mr. J. A. C. Bayne, and I desire to record his unfailing interest in all mining matters and the assistance he readily gave to mining men.

I have, &c.,
G. Duggan,
Inspecting Engineer and Chief Inspector of Coal-mines.

ANNEXURE A.

SUMMARY OF REPORTS BY INSPECTORS OF MINES.

NORTHERN INSPECTION DISTRICT (WILLIAM BARCLAY, Inspector of Mines).

OUTPUT OF COAL.

The total output of coal from the Northern District mines for the year ended 31st December, 1931, was 834,899 tons, as against 766,312 tons in 1930. Of this return 677,419 tons were raised from the Waikato field (610,160 tons, 1930); 129,725 tons, North of Auckland (140,911 tons, 1930); and 27,755 tons, Taranaki (15,241 tons, 1930).

The total number of persons employed below and above ground was 2,061, as against 1,814 employed during 1930. The yearly output per man employed was 405 tons, as compared with 422 tons for the year 1930. The increased number of persons (247) employed in and about the mines for the year 1931 can be accounted for by the resumption of mining operations at McDonald Colliery by the Glen Afton Collieries, Ltd., and the decrease in the output per man employed can be ascribed to the fact that the miners generally suffered much idle time due to overproduction in each mining district.

The cessation of operations at the hydro-electrical works at Arapuni was responsible for the increased output from the Waikato field, and its rehabilitation will in effect cause a diminution in the demand for slack coal required for generating electric power. The low-temperature carbonization plant established at Rotowaro for the production of smokeless briquettes from waste small coal has reached the output stage, and steps are being taken to organize markets for their distribution to domestic and industrial consumers. No strikes of any importance occurred during the year. The principal mines were inspected monthly, and the circumstances of all serious accidents and complaints were duly investigated. Many inspections were made at the invitation of the mine-managers and representatives of the miners, with the result that many additional safety measures were adopted and effected for the well-being of the industry and workmen.

North Auckland District.

Hikurangi Coal Co. Ltd. (Shaft Colliery).—An average daily output of 300 tons has been maintained from No. 2 and No. 4 pillar sections. Exploratory headings driven through the main west fault resulted in the seam being recovered along a wide front. No serious flooding of the workings occurred during the year, due to the subvention of the Mines Department, and the beneficial results of the remedial works so far carried out in prevention of a recurrence of floodings. Total output to 31st December, 1931, was 449,156 tons.

Wilson's Collieries, Ltd. (Waro Colliery).—Development to the dip in the direction of the Hikurangi swamp area was stopped during the year, consequently future operations will be confined to two separate areas of solid coal lying to the east and west respectively of the main dip. A noteworthy change in the management and control of the mine was made during the year following a dispute pertaining to payment of the minimum wage to certain miners. Pending the negotiations advanced for a settlement of the dispute, the plant and pumps were withdrawn from the dip workings, and as the directors of the company had definitely decided to abandon the mine owing to the cost of winning coal being higher than the cost of obtaining outside supplies for the cement works at Portland, the mine workings and plant were handed over to the employees for operation under co-operative conditions. A company incorporating the whole of the employees of Wilson's Collieries Co., Ltd. (187 men) and registered as "The Waro Co-operative Co., Ltd." was subsequently formed to take over and work the mine. A satisfactory output has been obtained since the inauguration of the scheme, and the venture should ultimately result in lower production cost and improved working-conditions throughout this heavily watered mine. Total output to 31st December, 1931, was 592,999 tons.

The following small coal-mines operating on Crown leases situated east and west of the Maru Road, Hikurangi District, were worked continuously with due regard to the safety of men employed in extracting the remaining isolated blocks of thin coal left by earlier mining operations over the fields: Silverdale Colliery, (Foot's), Glen Nell Colliery (sublease from McIntyre and party to S. Foot), Phœnix Colliery (McKinlay and party), McInness's Colliery (sublease to Reyburn and party), Cherrie's Colliery, Northern Co-operative Colliery (E. A. Cunningham).

Ruatangata Coal-mine.—An output of 4,863 tons was obtained from pillars standing in the Old Kamo Mine. At the end of the year the mine was subleased to the Whangarei Coal Co., Ltd., comprising the officials of Wilson's Colliery, and the company is preparing to install pumping machinery to reach pillars remaining at greater depth. Total output to 31st December, 1931, was 24,560 tons.

Tauranga Block Area (Owner, Wilson's Collieries, Ltd.).—Three parties of miners—namely, Muir and party, Orr and party, and Windress and party—extracted several thousand tons of coal from the above area from faulted thin areas left by a former working. The output was conveyed by motor-lorry to Hikurangi, a distance of four miles.

The Rocks' Area (Owner, Hikurangi Coal Co., Ltd.).—The undermentioned mines were subleased from the company and worked by co-operative parties of miners with satisfactory results as regards output obtained from the available thin seams: Coutts and party, Laird and party, Cook and party, Wilson and party, Fearnley and party, Reynell and party.

Dunn and Steers Coal-mine (Crown Lease, Scenic Reserve).—The party extracted several pillars of soft coal standing near the outcrop in close proximity to the access road to the Waro Scenic Reserve. The available coal was exhausted in a few months and the drives abandoned. During the year and a half this mine was worked, 810 tons were produced.

Kiripaka Road.—Webber and party and J. Doel and party produced outputs from the New Kiripaka and Glenbervie Coal-mines from seams 4 ft. and 6 ft. respectively. The outputs were carted to Mair Station on the main railway.

Harrison's Waro Colliery (Owner, British Standard Portland Cement Co., Ltd.).—The mine worked intermittently during the year; as working-costs were exceeding the revenue from sales, the plant was withdrawn and the mine abandoned. A shaft 100 ft. deep equipped with winding-appliances, has been in use for a number of years, and following the withdrawal of the pumps, the water will gradually fill up the workings to the top of the shaft. The working-seam was stony and interspersed with volcanic ash which rendered the coal unmarketable. This mine has been worked for twenty-one years, and produced 63,641 tons.

Avoca Coal-mine.—Operations were resumed by a party of miners at this mine, situated six miles from Tangowahine. The seam varies in structure both in faulting and dislocation, and no compact coal has yet been located. The coal could be distinguished as "brown" by its high water content and friable appearance. The output is carted to Dargaville and surrounding districts. Total output to the 31st December, 1931, was 1,090 tons.

Whareora Coal-mine.—Indications of an improvement in the seam were not apparent during the year, and the stone band continues to be a troublesome factor in keeping the broken coal clean. The output (1,592 tons) was carted to Whangarei, a distance of eight miles.

Millbrook Coal-mine.—This mine is situated two miles west of Ruatangata Railway crossing. The seam is 4 ft. thick, and the roof cover is loose watered sand, necessitating heavy timber in support. The future prospects of obtaining a workable seam are not promising. Up to end of 1931, 50 tons was produced.

Waikato District.

Rotowaro Collieries (Taupiri Coal-mines, Ltd., Owners).—This colliery returned a decreased output, and at the end of the year two mine sections were closed down. In No. 1 Mine section the endless-rope haulage-road has been extended 40 chains to the east where the development headings are proceeding in a thick seam of coal occurring at shallow depth. The surface machinery has been remodelled, and the mine is now equipped to deal adequately with an output of 1,000 tons per day. The slack-coal dump at the mine has been increased to 30,000 tons, due to the cancellation of the slack contracts. Electric safety-lamps are used throughout No. 1 mine, and all main roadways are stone dusted. The total output to the 31st December, 1931, was 1,633,856 tons.

Pukemiro Colliery (Pukemiro Collieries Ltd., Owners).—An average daily output of 650 tons was produced from three separate mine sections. In the North Mine section the pillars are being removed from the north-east section, and bords of the first working are being advanced to the west in a seam of clean bright coal 10 ft. thick. In the South Mine section the coal is soft and friable, and consequent to a pressing demand for hard domestic coal the section was temporarily closed down at the end of the year. In the east section mining operations are confined to the extraction of the roadside pillars of clean thick coal. The working-seams are moderately inclined with occasional rolls over short distances. The roof usually stands well, and heavy props are used over bad areas encountered during pillaring operations. The total output to the 31st December, 1931, was 1,996,777 tons.

Glen Afton No. 1 Colliery (Glen Afton Collieries, Ltd., Owners).—A record output of 185,202 tons was produced during the year, principally from bords and headings of the first working. E section is being extended towards the boundary of McDonald's State Coal-mine Reserve, and the subsidiary endless-rope haulage-road for the section has been straightened and advanced to the farthest workable point. In K section the main headings have been driven through the boundary into McDonald's area for the purpose of effecting a connection with the headings advancing from No. 2 Mine (McDonald Colliery). A prospecting-shaft sunk at the end of the main haulage-road proved the continuity of the seam through the 50 ft. down-throw fault, and preparations are being made to connect the recovered seam to the mine system. The roadways were stone-dusted in treatment of the fine coal-dust, and increasing attention is being paid by the management to the benefits derived from filling out the scattered accumulations of fine coal deposited by spillings from overloaded skips. The working-faces are sprayed daily with water prior to shot-firing in allayment of the fine coal-dust. The total output up to the 31st December, 1931, was 1,365,575 tons.

Glen Afton No. 2 Colliery (McDonald State Coal-mine Reserve under Lease to the Glen Afton Collieries Ltd).—During the year this colliery was sufficiently developed to produce 91,905 tons from two separate mine sections. No. 1 section is being opened out on the southern boundary of the lease, and No. 2 section has been developed to the north by headings rapidly advanced to produce bord sections. Both mine sections are adequately equipped with modern haulages, electrically driven, and are proceeding in thick coal of excellent quality. The output is conveyed by endless rope tramway to Glen Afton No. 1 mine screens—a distance of two and a half miles. Reserves of unworked coal are extensive, and the future prospects of the mine will depend on the market requirements for steam and small coal.

Graham's Colliery (Party of Miners, Owners).—The pillars have been extracted from the east section, and the seam remaining to be worked does not exceed 4 ft. in thickness. A stone drive 6 chains in length was driven through a roll in the floor in order to afford a level road for horse haulage, and to provide free drainage to a thin area of coal on the west side of the mine. Output, 50 tons per day. Total output up to end of 1931 was 88,663 tons.

Pukemiro Junction Colliery (Party of Miners, Owners).—Operations were confined to the extraction of isolated blocks of clean coal remaining near the entrance to the mine. Total output to the 31st December, 1931, was 110,920 tons.

Waikato Extended Colliery (Roose Shipping Co., Ltd., Owners).—During the year the pillars were extracted from the Old Waikato Mine section. The seam is 18 ft. thick with an average roof-cover of 40 ft. of jointed fireclay. The output is consumed on the company's river steamers. Total production to the 31st December, 1931, was 88,671 tons.

Huntly Brick Works.—The fireclay quarry, operating for the production of fireclay for the manufacture of bricks, tiles, &c., was maintained in good order.

Taupiri East Colliery (Auckland University Council Endowment Lease).—A prospecting drive through old workings was the means of recovering a line of pillars in good condition remaining in support of the Old Kimihia Mine dip. The pillars are being reduced and extracted in satisfaction of a local demand for house-fuel. To the 31st December, 1931, 14,784 tons have been produced from this colliery.

Campbell Colliery (Whatawhata Crown Lease).—The mine worked continuously during the year, and produced a daily output of 20 tons. A motor-road of 40 chains, from the main Raglan Road, was formed and metalled in readiness to connect to the new drive which is in course of being developed in production of an output from a solid area of proved coal occurring near the northern boundary. Up to the end of 1931 32,804 tons was produced.

Renown Colliery (Renown Collieries, Ltd., Owners).—The standard mining method of bord and pillar has been followed in two panel sections with machine mining in all working-bords. A daily tonnage of 12 tons per miner is being maintained from the machine cut places in comparison with 5 tons per man in places cut by hand. Twelve to fourteen bords are usually cut and cleaned up during each working-shift, and having six to seven spare places, the work of cutting, shooting, and loading the coal is so designed that a sufficient number of places are always ready at the commencement of next day's work. The mine is developed well ahead of all possible requirements, and the cost per ton for mining the coal compares favourably with other mines, and if the mine could work four days per week a profitable return for the shareholders could be accomplished with an output of 500 tons per day. Total output to 31st December, 1931, was 270,629 tons.

Wilton Colliery (Wilton Collieries, Ltd., Owners).—A daily output of 400 tons has been obtained from the developed mine-workings. Due to the depressed condition of the coal trade, and of the fact that there are too many coal-mines mining a similar class of coal in the Waikato district, this colliery did not average three days per week during the year. The suitability and performances of two types of coal-cutting machines were tested during the year, but, owing to the physical condition of the thin friable coal-seam and timber encountered in flitting the machines, they were withdrawn from use, and hand mining was reinstated throughout the mine. The screening-plant was remodelled during the year, and iron skips were substituted for wooden ones. The main heading has been extended 12 chains to the south, and the west dip has been advanced 10 chains in provision of two bord sections. The pillars in the North dip section are being extracted and recovered while the timber supports and roofs are in good condition. This colliery produced 57,325 tons up to the 31st December, 1931.

Old Stockman Colliery, Mokau.—The working-seam is 4 ft. thick, with a strong sandstone roof-cover. The mine is worked intermittently for supplying local requirements. The total output to the 31st December, 1931, was 4,262 tons.

Mokau Colliery (Mokau Collieries, Ltd., Owners).—The mine is situated thirteen miles up the Mokau River, and is under course of development with limited capital. Two coal-seams 6 ft. and 8 ft. respectively have been located on the freehold area. Seven men have been engaged in forming and laying three miles of surface tram-

way required to connect the coal-seams to the wharf on the river-bank. The vagaries of the Mokau River are well known, and specially designed steamers will be required to ship the coal if the venture is to be successful.

Paparata Coal-mine (Crown Lease; Taranaki Coal Co., Ltd., Owners).—A small output was got from the 3 ft. shallow seam. No prospecting was done during the year. The total output to the 31st December, 1931, was 2,063 tons.

Egmont Colliery, Tangarakau (Crown Lease; Egmont Collieries, Ltd., Owners).—An output of 26,557 tons of brown coal was produced from the thin seam (3 ft.) by results obtained from two coal-cutting machines. The long wall system of mining has been employed, with satisfactory results, in extracting the 70 ft. pillars formed in the first working. The machine holes out the shale band occurring at the bottom of the 3 ft. portion of clean coal. The cuttings are stowed in the goaf, which, together with other impurities separated from the coal-seam, forms a pack for roof-settlement. The props are drawn off by a winch rope attached to the machine. The system is conducive to good ventilation and safe conditions for the workmen. In the north side a converging fault is cutting off the places, and proving troublesome in maintaining a sufficient number of places for machine mining. Total output to the 31st December, 1931, was 42,854 tons.

Gilberd's Colliery (Coal-prospecting License, Tatu).—An outcrop of 5 ft. of coal was followed into the hillside to a fault not yet pierced. It would appear that the seam lies to the dip of the prospecting-drive, and machinery will be required for drainage and haulage purposes. Total production to 31st December, 1931, was 336 tons.

Rangitoto Colliery (Native Lease, Tahia).—A 6 ft. seam has been followed from the outcrop, and several places in the rising seam are capable of meeting the local need for domestic coal. Total production to 31st December, 1931, was 805 tons.

Fatal Accident.

On the 1st October Alexander Johnston, miner, Pukemiro Colliery, was fatally injured as the result of an accident whilst engaged in carrying an unused prop out of a working-place. With his mate the deceased was carrying the prop on his shoulder when a standing prop, dislodged by weight, fell and struck the one they were carrying. The Coroner returned the following verdict: "That Alexander Johnston died on the 5th October, at Braemer Hospital, Hamilton, as a result of a fracture of the base of the skull caused possibly by his head being forcibly knocked back when the falling prop struck the one he was assisting to carry out of the working-place."

Serious Non-fatal Accidents.

On the 5th January, Robert Kerr, Pukemiro Colliery, received a punctured pick wound on the right foot which resulted in a troublesome injury.

On the 28th January, Clifford Stevens, engaged as a clipper on the McDonald Mine rope-road, was bodily injured as a result of being struck by a skip whilst engaged in tightening a clip.

On the 7th February, Joseph Devery, employed by Glen Afton Collieries, Ltd., sustained a fracture of the right fibula and serious back injuries as a result of being thrown from a rake of skips he was riding whilst engaged in taking rails down a surface incline.

On the 6th May, George Brown, employed at Glen Afton Colliery, sustained a fractured arm by being jammed between two trucks whilst engaged trucking.

On the 25th May, Oliver Stokes was injured at Glen Afton No. 2 Colliery. Whilst repairing a set of broken timber in the main drive, the haulage-rope slipped off the pulley and caused a compound fracture of both legs.

On the 20th August Arthur Young, working at Renown Colliery, sustained a fracture of his right wrist whilst engaged in clipping skips to the endless haulage-rope.

On the 18th December, Thomas Hugill, trucker, Renown Colliery, whilst walking backwards clipping the loaded skips on the main rope stumbled before a loaded skip which passed over his leg causing a fracture of the tibia.

The following eye accidents were sustained due to wounds inflicted by sparking coal: John Foster, Glen Afton Colliery, 100 per cent. loss of vision, right eye; William Downes, Glen Afton Colliery, 100 per cent. loss of vision, left eye; James Clark, Glen Afton Colliery, 100 per cent. loss of vision, right eye; J. Martin, Wilton Colliery, 70 per cent. loss of vision, left eye.

Prosecution.

On the 28th May, a trucker employed in Glen Afton Colliery was fined £2, costs £1, for using abusive language towards a roadsman employed in the same colliery.

Dangerous Occurrences (Regulation 82).

On the 8th June a heating of the goaf in No. 4 jig section, Rotowaro Colliery, was reported. The area was subsequently sealed off.

On the 17th June a portion of No. 4 pillar section, Rotowaro Colliery, was sealed off due to heating.

On the 20th August the pumps were withdrawn from Wilson's Colliery due to a strike of the mine workers. De-watering operations were spread over the remaining four months of the year.

Huntly School of Mines.

The average attendance of students attending night classes at Glen Massey, Pukemiro, and Huntly for the year was forty-eight. An attempt was made to popularize and increase the attendance at Huntly where facilities are available for teaching all subjects. The results were discouraging, as less students were recorded at the centre. It would appear that the mine workers residing in Huntly, where many other amenities are provided, are extremely reluctant to avail themselves of the benefits provided by the coal companies, local bodies, and Mines Department, whose donations are mainly responsible for the services rendered by the school.

WEST COAST INSPECTION DISTRICT (C. J. Strongman and Job Hughes, Inspectors of Mines).

The output from the West Coast Inspection District for 1931 was 890,494 tons, the lowest since 1906, and a decrease of 395,577 tons as compared with the output for 1930. This large decrease is due to two causes—(*a*) Labour disputes with resultant stoppages, (*b*) a decreased demand for coal. Buller, Greymouth, and Reefton districts show decreases of 236,052 tons, 156,927 tons, and 3,792 tons respectively, while Nelson district shows an increase of 1,194 tons.

The total number of persons engaged underground and on the surface at the end of 1931 was 2,747, compared with 3,120 for 1930, a decrease of 373. It is to be noted that the decrease in output and the decrease in the number of employees engaged in the industry was gradually becoming more pronounced as the year advanced. The increase in output in the Nelson district was due to the re-opening of the Mount Burnett Mine by a party of co-operative miners, and an increased production from the Seymour Mine.

The year has not been productive of any new mining features. Coal areas of any material dimensions have been continued to be opened up on the panel system of working, and during pillar-extraction as long

and straight a line of roof break as possible has been obtained, with beneficial results. A closer study of roof-control during pillar-extraction, particularly in thick seams, has undoubtedly enabled a larger percentage of coal to be recovered with an increased degree of safety. Another point of importance which has been illustrated more forcibly as the result of the mines working only partial time, is the ultimate disadvantages which follow upon the driving of wide working-places during the development stage. The ventilation of the mines, and particularly the gassy mines, has received particular attention, and we are pleased to report that the position in this respect is, generally speaking, reasonably satisfactory.

Grey District.

Liverpool State Colliery.—Operations at this colliery consist of the developing of the No. 2 Mine and the extraction of pillars from the No. 1 Mine and a portion of the No. 2 Mine.

No. 1 Mine.—In this mine there were, on an average, five pairs of miners extracting pillars, the seam being upwards of 20 ft. Pillar-extraction is nearing completion.

No. 2 Mine.—Five sections are being work—viz., Anderson, Kimbell east, Kimbell west, and the Morgan east and west. Anderson section—During the year the seam in the main level in this section became intersected with a thick band of stone. The lower portion of the seam was prospected and a good workable seam proved. From the main level two dip sections are being developed in coal of good quality and thickness. Kimbell sections—Development work in the Kimbell east level section was continuously carried out during the year. In the extension of these workings water was freely given off from the roof of the seam, and, in addition to water, feeders of gas were frequently met with in the roof breaks. In the Nos. 3 and 4 banks east, also Nos. 2 and 3 banks west, development work is now completed and operations in these banks are confined to the extraction of pillars. The main east level in the Morgan seam was stopped during the early part of the year. The seam pinched to an unworkable thickness intersected with stone bands. Operations in this seam are confined to the extending of the rise workings from the east and west levels in the direction of the old workings at the No. 1 Mine. A barrier pillar of approximately 2 chains in width is being left between the workings of the two mines to keep back the water in the No. 1 Mine. The workings in No. 2 bank west having reached the barrier, pillar-extraction has been commenced. Stone-dusting was regularly carried out during the year, and samples taken and analysed. Total output to the 31st December, 1931, was 2,284,787 tons.

James's State Colliery.—The output was obtained from the development of workings in the crosscut section, the extraction of pillars from the west section, and the opening-up of a small dip area west of the main haulage-road. Crosscut section—In this section the development work consisted of extending the south level and workings to the rise from the level towards the fault, also the opening-up of a dip section adjacent to the head of the crosscut jig. The coal in this section has been of fairly uniform thickness, but variable quality. In pillar-extraction, conditions permit of practically the whole of the pillar-coal being won. A considerable amount of exploratory work has been carried out on the reverse between the Nine-mile and Ten-mile Creeks, also on an area adjacent to the James's Mine. Along the escarpment overlooking the Ten-mile Creek coal outcrops have been traced for a distance of approximately 70 chains. With a view to proving the extent of this field, boring operations are being carried out between the outcrops and the Nine-mile Creek. Two diamond drill holes have been put down. The first borehole failed to prove workable coal, but the second one passed through two workable seams of 7 ft. and 15 ft. respectively. Total output to the 31st December, 1931, was 308,204 tons.

Blackball Coal-mines Proprietary, Ltd.—Mining operations at this colliery for the greater part of the year have been at a standstill. The mine ceased production on the 23rd January as a result of a dispute. The position reached serious proportions when on the 31st March all plant was withdrawn from the dip workings, with the result that these workings were flooded. It is reasonable to presume that No. 9 dip workings may never be recovered, and any recovery of coal beyond and to the dip of this area will require the formation of some other means of outlet, probably an extension of No. 2 dip. An attempt is at present being made to recover the old main level beyond No. 9 heading. This area had been sealed off for a number of years. Fairly good progress has been made, the work now having advanced to No. 12 heading. The water in No. 2 dip has been maintained at a reasonable level, and will be easily capable of drainage. During the time the mine was idle a general renovation of surface appointments and plant was carried out. Up to end of 1931, 3,909,598 tons have been produced.

Blackball Creek Coal Co., Ltd.—This is a new company which was formed during the period of idleness at the old Blackball Mine. A commencement was made to drive a dip heading near the eastern boundary of the Blackball Freehold, but after proceeding a distance of approximately 4 chains, trouble was encountered, and the area presents the appearance of being in the midst of a series of faults, and operations at this site were temporarily abandoned towards the end of the year. A more ambitious project is being undertaken at present. The party has commenced to develop an area adjacent to the old furnace; also other points to the rise of No. 9 and 10 headings and the old D level section will be developed. The coal will be transported to the bins by means of a water flume two miles in length and 220 square inches sectional area, a new bin of 600 tons capacity having been erected adjacent to the main bins for the storage of this coal. Power for this project will be drawn from the Grey Electric-power Board. The output since work commenced amounts to 4,093 tons.

Briandale Collieries, Ltd.—The several points at which this company have been operating from the north side of the Ten-mile Creek have been abandoned meantime, with the exception of the area being worked by Walker and party and the Aerial section. Severe surface movement has taken place as a result of pillar-extraction in the No. 3 section, and is an object-lesson of where not to extract pillars, as it will be fortunate if further surface-displacement does not take place to the disadvantage of mining operations farther up the creek. All pillars were left intact in Armstrong's Mine. A small party are developing an area about 10 chains to the north of the Ten-mile Creek, the coal being conveyed to the bins by means of an aerial jig, this means of transport having been proved to be efficient, cheaply installed and operated. To the 31st December, 1931, the output was 52,240 tons.

Wallsend Colliery.—The main development work in the No. 1 section, which is situated to the east of the shaft, was pushed ahead rapidly during the early part of the year, but, unfortunately, the effect of the Dobson fault and the Mount Buckley anticline interfered with prearranged plans. The dip heading was stopped after being driven a distance of approximately 14 chains, the Dobson fault being encountered at this point, and the lower easterly levels were stopped owing to the influence of the Mount Buckley disturbance. Development work in this section is now confined to the area lying to the east of the old Wallsend workings. A pair of headings are being driven parallel with the eastern extremity of the old workings preparatory to forming panels. A pair of dip headings are being driven in the No. 2 section and will be continued on to the Dobson fault. The coal in this section is of excellent quality and the strata are here lying normal. The small area of coal lying to the west has been formed into pillars, and a commencement has been made to make a connection with the Taylorville area lying beyond the Taylorville fault. The stone drive has been driven 100 ft. and is 11 ft. by 7 ft.; gradient 1 in 3·5; strata, compact mudstone. A 98 in.-diameter double-inlet sirocco fan has been installed, the housing being of reinforced concrete. Total output up to the 31st December, 1931, was 365,076 tons.

Dobson Colliery.—Mining operations have been considerably curtailed at this colliery owing to industrial trouble, followed by inability to recover pre-existing trade connection, the result being that the mine operated for only the first nine months of the year. Development work was carried out in the main dip headings, these being advanced to a total distance of 41 chains, also the main levels in No. 3 east and west sections, and the formation of a panel to the dip of No. 3 east level. The quality of coal in the above-mentioned sections has been fully maintained. The development of the main west level area presented difficulties due to the thinning of the seam in this direction. This was also attended with bad roof conditions owing to the close proximity of a top seam, known in this district as the "Brunner rider" seam, and which gives off methane very freely. The Sullivan Arkutter machine was continued to be used for development work. An additional electrically driven Bellis and Morcon's air-compressor was installed, and is giving satisfactory service. More frequent splitting of the air-current was practised at this mine with beneficial results. Up to the 31st December, 1931, 511,970 tons was produced.

Paparoa Colliery.—Development work has been continued in the Aerial section, the main levels having been advanced a total distance of 24 chains and to a point 5 chains distant from the outcrop in Waterfall Creek. The results from this area have been considerably better than indicated by the state of the outcrops, which show dirty coal, the seam having proved to clear itself of any impurity a short distance to the dip of the outcrop. An electrical plant is now in position to drive a dip heading, and indications point to a reasonably large area of coal in this direction. The prospecting stone drive to the west of the old mine-workings has been completed, and all haulage-roads leading thereto have been retimbered. An additional party of miners are now operating in this section. The quality of coal is superior to that being mined previously. Considerable general development work has been carried out at this colliery during the year. Production up to the end of 1931 was 679,603 tons.

Tyneside Colliery.—During the year a commencement was made to gain access to the area of coal lying to the north of the old Tyneside and Kiwi shaft workings. However, after driving a dip heading a distance of approximately 2 chains and installing a haulage plant and erecting a small bin at the roadside, operations ceased. This company produced 1,374 tons to the 31st December, 1931.

United Brunner Mine, Ltd.—A small amount of work has been carried out by this company, consisting of the reconstruction of Allan and party's incline, cleaning up and timbering of old roadways, and the winning of a small amount of coal (131 tons) from the seam situated adjacent to the river and bins. The work carried out is not suggestive of extensive mining operations. A small quantity of coke was produced from the old coke-ovens by blending Paparoa, Wallsend, and Brunner coals.

Co-operative Party Mines.

Spark and Party's Mine.—The bulk of the output during the year was secured from the pillar workings in the rise section. From the main level a dip drive has been started and driven a distance of 2 chains in a south-easterly direction. A small bathhouse was erected during the year. Total output to the 31st December, 1931, was 34,795 tons.

Duggan and Party's Mine.—All of the workings beyond Garvey's Creek have been completed and the plant withdrawn, the party having acquired an area on the eastern boundary of the abandoned No. 3 Liverpool State Mine. An aerial jig 10 chains in length has been constructed from the bin to a point on the hillside from whence a main level is being driven northerly. The coal seam varies from 2 ft. 6 in. to 4 ft. 6 in. in height. To the 31st December, 1931, the total output was 41,908 tons.

Old Runanga Co-operative Party (O'Brien and Party).—All the pillars in the Bin section having been extracted, the plant was withdrawn. In the Bluff section the coal in the main level, driven south-west, has increased in thickness to 8 ft. The coal in the inclines driven north-east has increased in thickness to 9 ft. To the 31st December, 1931, 26,929 tons was produced.

Goldlight Colliery (Williams and Party).—The workings going easterly have reached the fault. To the rise only a limited amount of solid working remains to be completed prior to the extraction of the pillars. To the 31st December, 1931, 29,231 tons have been produced.

Moody Creek Mine.—Stone bands increasing in thickness and faults encountered have hindered development and increased working-costs. Development work is nearing completion. A tram-line is being laid to open up a new seam higher up the creek. Total output to the 31st December, 1931, was 44,093 tons.

New Point Elizabeth Party (Guy and Party).—Development work has been carried out to the west and north in coal of good quality. Pillar-extraction has commenced to the north of the main incline. This party has produced 35,375 tons to the 31st December, 1931.

Fiery Cross Mine (Currie and Party).—The main level, after being driven a distance of 7 chains, encountered a fault. Prospecting operations having proved the existence of coal beyond the fault, a stone drive, 100 ft. in length, was projected to again pick up the coal-seam. A Blackman propeller fan was installed during the year. To the 31st December, 1931, the total output was 11,509 tons.

Baddeley and Party's Mine.—The output was got from pillar-extraction, which is rapidly nearing completion. The party produced 43,999 tons to the 31st December, 1931.

Castlepoint Mine.—The main level has been advanced northerly a total distance of 36 chains. Twelve chains to the rise a fault was encountered and pillar-extraction along the fault-line has commenced. The installation of a new sirocco fan materially improved the ventilation. Total production to the 31st December, 1931, was 39,411 tons.

Hilltop Mine (Armstrong and Party).—The main dip, after having been driven southerly a distance of 4½ chains, was stopped in stony coal. The No. 1 level has been advanced a total distance of 10 chains south-easterly in good coal. The total output is 7,362 tons.

Hunter and Party's Mine.—The main level was advanced a distance of 10 chains and temporarily stopped in coal 3 ft. thick. To the rise the coal has slightly increased in thickness, and, generally speaking, the area of coal proved has exceeded anticipations. A small bathhouse was erected during the year. Up to the end of 1931, 48,016 tons have been produced.

Cox Creek Mine (Coates's Lease).—During the year this mine was subleased to a party of four miners. Development work has been continued southerly to the dip. Easterly, the main level is stopped on the fault. One place has been driven west to the escarpment for ventilation purposes. Total output to the 31st December 1931, was 4,255 tons.

Schultze Creek Mine (Marshall and Party).—All pillars in the old mine have been extracted. The stone-drive in the new area has crossed the fault and development work is being continued in an easterly direction in thin coal. Development work has been carried out in coal not more than 2 ft. in thickness. The party produced a total of 20,319 tons up to the 31st December, 1931.

Dennehy's Mine.—The mine has been sublet to a party of two men. The main level has been driven in a northerly direction a distance of 2 chains in coal not more than 2 ft. in thickness. Total output to the 31st December, 1931, was 144 tons.

Cain's Mine.—The main heading is still being driven in a northerly direction, only a small amount of coal being produced. To the 31st December, 1931, the total output was 4,492 tons.

Bellbird Mine (Fauth and Party).—The coal in the main dip going south gradually thinned to 5 ft. and development work was stopped. The main levels are being driven east in coal of good quality 8 ft. in thickness. Total output to the 31st December, 1931, was 11,535 tons.

Bellvue Mine (Lynch and Party).—Development work is nearing completion, and pillar-extraction will shortly be commenced. Total output to the 31st December, 1931, was 37,540 tons.

Jubilee Mine.—The bulk of the output for the year was obtained from pillar workings to the rise. The dip workings have been advanced a distance of 2 chains. To the 31st December, 1931, the total output was 13,607 tons.

Curtis and Party.—This small mine, situated on the Nine-mile bluff, Grey–Westport Road, commenced operations during the year. The coal outcrops on the escarpment above the beach. Bins, winding-plant, &c., have been erected and coal-winning operations commenced. The party produced 391 tons.

Smith and Party's Mine.—Development during the year has been mainly on the strike of the seam to the north and south. The main dip has been advanced a total distance of 7 chains. A Keith-Blackman fan of the propeller type has been installed. Total output to the 31st December, 1931, was 54,182 tons.

Braehead Mine (Boote and Party).—Work in the upper mine has ceased. In the stone-drive section the main level has been advanced several chains in an easterly direction. To the rise the old workings have been reached and the accumulation of water drained off. To the 31st December, 1931, 59,210 tons was the total output.

Boustridge and Party.—Work during the year was entirely of a prospecting nature, with disappointing results, no seam of any commercial value having been located.

Remarks on Co-operative Mines in Grey District.—The majority of the mines are now using electricity extensively, and mining methods continue to improve. Several of the mines are now under the control of managers holding first- and second-class certificates, with the result that the general lay-out of the mines, particularly the haulage systems, are being improved. Several co-operative mines have erected miniature bath-houses for their convenience. These buildings, whilst not being elaborate, are clean and well kept, being provided with a concrete floor, ample hot-water supply, and the requisite number of showers. It is not usual to provide small cubicles, all the showers being placed in the same compartment. These small mines, with their electrically controlled haulage, screening, and ventilation systems, are gradually assuming a greater degree of permanency.

Reefton District.

Archer's Mine.—Work has proceeded along the usual lines, the methods of operations being extremely crude. Total output to the 31st December, 1931, was 46,467 tons.

Hopeful Mine.—This mine, situated to the west of Archer's Mine, is working Nos. 1 and 2 seams, which at this point are almost vertical. Only the coal lying between free drainage-level and the outcrop will probably be won.

Eone Mine.—A small block of outcrop was won during the year and a small amount of work carried out on a cross measure drift to intercept the seam at a lower level.

Coghlan's Mine.—Development work along the routine lines has been continued and the accumulation of water in the old Eone Mine drained off, thereby removing a definite source of danger. To the 31st December, 1931, the total output was 26,002 tons.

Waitahu Mine.—Only a small amount of work was carried out at this mine along the usual lines, the method of working pillars being condemned and subsequently stopped as unsafe. Total output to the 1st December, 1931, was 6,857 tons.

Morrisvale Collieries.—Perfection Mine: During the year considerable trouble has been experienced with fire. The main levels intercepted an old fire area and pillar-extraction was commenced. The rate of progress of pillar-extraction was insufficient to keep pace with the advance of the fire from the direction of the goaf, and arrangements were made to retard the fire's progress by means of erecting a water-flume and conveying the water to the fire area. This was only partially successful. Surprise Mine: The dip headings have been advanced a total distance of 10 chains preparatory to driving levels from which to form panels to the rise. A larger steam boiler and winch have been installed, but the equipment generally is not such as to facilitate development operations. The quality of coal proved in the dip headings was of a high standard. Matchless Mine: Work was completed at the old mine and will be resumed on the block of pillars named "Hygrade" in which a fire exists, at present controlled by two clay stoppings. A clean extraction of these pillars will be necessary to permanently isolate this fire. The total output from these mines to end of 1931 was 101,071 tons.

Burke's Creek Colliery.—Development work was continued in the main dip headings and in the main levels to the north. A commencement was made to form a panel from these levels. The quality of the coal is more or less fluctuating, and roof conditions in the lower workings are such as to add materially to the difficulty of profitable mining. Trade conditions have been particularly severe at this colliery. The No. 4 seam has been worked only to a small extent. To the end of 1931 the total output was 200,893 tons.

Terrace Mine.—Owing to the danger of spontaneous combustion in old workings and which were almost incapable of being sealed off, a commencement was made to extract the pillars from this mine, and the work is almost completed. The total output to the 31st December, 1931, was 6,684 tons.

Times Street Mine.—Development work proceeds at this mine in a haphazard manner and devoid of method, lack of capital being the chief cause of this. No 4 seam is being worked, and whilst same is usually of a friable nature, at this point reasonably hard patches of coal are encountered and there are usually followed without due regard to systematic working. Total output to the 31st December, 1931, was 2,080 tons.

Collins's Mine.—Work at this mine consists of extracting stumps of coal which have escaped the effect of the fire which destroyed the old mine. To the end of 1931 the total output was 59,330 tons.

Defiance Mine (McLaughlin's).—A short cross measure was driven for the purpose of tapping the seam at a lower level.

Wealth of Nations Mine (Lankey's Creek).—Work here consists of pillar-extraction. However, as a result of previous bad mining practice in which pillars of insufficient size were formed with roadways of excessive width, serious surface movement took place, with a resultant loss of coal. Total output to end of 1931 was 30,939 tons.

Clele Mine.—Work at the present mine is nearing completion, and prospecting carried out adjacent to the mine has disclosed sufficient coal to enable operations being continued for some time to come. Total output to the 31st December, 1931, was 47,068 tons.

White Rose Mine.—Very little work was carried out at this mine. Total output to the 31st December, 1931, was 192 tons.

Remarks.—It was found necessary to take steps to cancel a permit to manage a mine in this district as a result of persistence of unsatisfactory methods of work and a general disregard of the requirements of the Coal-mines Act and regulations.

Buller District.

Mitchell's Mine, Charleston.—A small amount of opencast work has been carried out to meet local requirements. Total output to end of 1931 was 365 tons.

Brighton Mine (Hunter and Party).—A prospecting-tunnel was constructed on Price's freehold, the seam being intercepted and a small quantity of coal won to meet local requirements. The total output to the 31st December, 1931, was 564 tons.

Rocklands Mine (J. P. Burley).—Development work of an intermittent nature and on a small scale has been continued to meet local requirements. To end of 1931 the total output was 10,347 tons.

Whitecliffs Mine (J. H. Burley).—Mining operations on a small scale have been carried out intermittently to meet local requirements. To the 31st December, 1931, the total output was 3,105 tons.

Coal Creek Mine.—The main levels have been driven approximately 25 chains and headings set away preparatory to forming a panel on the inbye side of the old workings. A small feeder of methane was reported early in the year and a ventilating-fan was installed forthwith driven by a Diesel engine. The mine has been idle during the latter portion of the year. Total output to the 31st December, 1931, was 97,910 tons.

Quinn's Mine.—Work at this mine consists of pillar-extraction which has reached a point approximately 6 chains from the mine entrance. Total production to the 31st December, 1931, was 8,632 tons.

Glasgow Mine.—An attempt was made during the year to gain access to a block of pillars in the old State Mine workings, but, owing to the fire again becoming active, was unsuccessful. Pillar-extraction is now being carried out. Total output to end of 1931 was 34,460 tons.

Cardiff Bridge Mine.—Operations are being gradually restricted owing to the rapid extraction of all available coal. The output from a portion of the mine was sluiced from the faces to the surface from whence all coal is flumed to the bins. The method of pillar-extraction at this mine is not all that could be desired, with the result that considerable crush takes place on the roadways and the pillars left to support same. Total output to the 31st December, 1931, was 210,904 tons.

Wynn's Mine.—Work was abandoned in the latter portion of the year, the seam having become too thin for profitable working. Total output to end of 1931 was 6,426 tons.

Chester's Mine.—Operations during the year have been of an intermittent nature owing to lack of orders. To end of 1931 total output was 21,061 tons.

Westport-Stateville Party.—Work of a scattered nature has been continued. A small output has been obtained but the operations have been more of a prospecting nature. A total of 13,173 tons was produced to end of 1931.

St. Helen's Mine.—Development of this mine was commenced by driving a pair of headings in a south-east direction until a fault was ultimately encountered. All work carried out to the west of the main headings is in thin coal, and it would appear that mining operations have not been commenced at the most advantageous point, the better prospects of the property being situated more in the easterly portion of the lease. Total production to the 31st December, 1931, was 3,088 tons.

Charming Creek Mine.—Development was retarded during the year as a result of a dispute. The mine settled down to work about the middle of the year under the tribute system. The main easterly development headings were advanced a total distance of approximately 10 chains in coal when a downthrow fault was encountered. The inclination of the coal-seam is undulating, and would appear to be almost conformable with the surface contour. An attempt to convey the coal from the faces by means of 35-cwt.-capacity trucks appears to be a failure, owing to the gradients being unsuitable and the present practice of running two different-sized trucks in the mine is not to be commended for profitable working. A steam loco. was put into use on the section of the line from the mine to the timber-mill in place of a petrol tractor, this being a decided improvement. Work has proceeded in the No. 1 south panel in good-quality coal, approximately 12 ft. in thickness. Preparations are being made for the installation of a permanent ventilating-fan. To end of 1931 the total output was 18,442 tons.

Westportmain Mine.—Operations during the year have been confined to pillar-extraction and developing or prospecting any visible outcrop. The rate of progress of pillar-extraction has been slow owing to the mine working very intermittently as a result of the limited demand for this class of coal. It is proposed to carry out development in the outcrops below the jig head with a view to extending the life of the mine, as the quantity of coal at present in view is very limited. Total output to the 31st December, 1931, was 172,098 tons.

Westport-Cascade Mine.—Monyhan's section: Development of this section has been continued during the year in a northerly and westerly direction with reasonably satisfactory results. The output is sluiced directly from the working-face to the surface flume, all places being driven 8 ft. in width. The system of sluicing has proved so satisfactory as to warrant its extension to the Upper North section in which pillar-extraction is taking place. The practice of sluicing coal from the working-place, wherever practicable, would appear to be much safer than the ordinary method of filling by shovel, particularly during the extraction of pillars in high coal, as by this method the coal is washed away from points beyond the lip of the top coal without it being necessary for the miner to expose himself beyond that point, the pressure of water at the nozzle being sufficient to reach the fallen coal whilst the miner controlling the water-supply is in a place of safety. Total production to the 31st December, 1931, was 60,496 tons.

Denniston Mine.—Ironbridge Mine: Development work has been carried out in Young's drive and Garing's dip section. The formation of large pillars by driving narrow places is almost completed. This area is directly underneath the old Kiwi workings, and it is proposed to isolate the latter section by means of extensive stopings to guard against fire. Pillar-extraction will then be commenced. Garing's dip section: This is also a new section of work underlying the old Port Arthur workings. Arrangements are almost completed for the installation of permanent haulage arrangements. Wareatea Extended section: Almost the whole of operations in this section consist of pillar-extraction, from which a very high percentage of recovery is being obtained. In the old dip section remarkably good results have been obtained in pillar-extraction under very bad conditions by means of the adoption of the straight line method of retreating. Development of Wareatea has been confined to the Waterloo section, several sections having to be stopped meantime owing to the coal being very friable. This was particularly applicable to Forsyth's pillar section. Deep Creek section: Pillar-extraction has been completed in the 24-acre section, and eight pairs of miners are engaged in solid work at the extreme end of the area in the bottom seam. The development of the stone-drive section in Deep Creek has been disappointing, due to the appearance of stone bands in the coal. However, an improvement is now indicated. Cascade section: Pillar-extraction was continued in the No. 8 section. Towards the end of the year trained men made an examination of Wallace's section with the aid of the "Proto" apparatus. This section has been sealed off for fire for a number of years. Expectations that a portion of the area sealed off may be capable of recovery were justified, with the result that a valuable area of excellent-quality coal should now be won. Temporary stoppings, later followed by permanent stoppings, of concrete blocks, now isolate the area and a commencement has been made to clean up the roadways. This was an example of the utility of a self-contained breathing-apparatus in the hands of a trained body of men. Total output to the 31st December, 1931, was 10,106,876 tons.

Millerton Mine.—In the Mine Creek section operations throughout the year were mainly confined to pillar-extraction. In the Settlement section development work to the south-west was continued in a small area of thin coal adjacent to the Westportmain Colliery. The efficient working of the mine was severely handicapped by slackness of trade. During April a serious fire broke out in the Middle section (Mine Creek), spreading over an area of 25 acres before it could be controlled. Fires are gradually spreading into the mine workings in the second west, third west, Middle section, and No. 2 dip. It is essential that the pillars be removed before the advancing fires cause them to be lost. The position underground is gradually becoming more serious, several men having been injured, and lives lost in dealing with the fires. It is possible to more efficiently deal with the fires, increase the safety of the workmen, and reduce the loss of coal by adjusting the method of working to the market requirements. Total output to 31st December, 1931, was 8,143,313 tons.

Westport-Stockton Colliery.—The main section of development during the year was the new east area. Additional boring operations were carried out beyond the present workings in this area, the results being highly satisfactory and proving approximately 200 acres of coal-bearing country, the seam still maintaining its thickness of 16 ft. The above area is now in process of being formed into panels and is capable of providing a considerably increased output, the only difficulties being that the section is very wet and the roof friable. Pillar-extraction has been continued in the old east and west pillar areas on the straight-line practice. The benefits accruing from a more systematic method of pillar-extraction have been very evident, and would have been more pronounced had trade conditions allowed of a more rapid rate of retreat. General repairs have been effected at the bins, transmission-lines, loco.-lines, and various outside buildings. Owing to the great distance of transportation of coal from the mine to the bins, and the several systems of haulages in use, the transportation upkeep costs at this mine are a heavy item. Total production to end of 1931 was 2,901,443 tons.

Nelson District.

Puponga Mine.—Mining operations have been confined to the area lying to the west of the old Puponga workings, and present indications are that this coalfield will materially extend in this direction. Almost all rise pillars are extracted from the area at present being worked, and in future it will be necessary to extend mining operations to the dip and possibly beyond a 40 ft. downthrow fault which has been proved to run in a north-west direction from the higher portion of the old mine-workings. The installation of a modern power plant would assist considerably in developing this coalfield, which every indication points to being a valuable one. A more desirable method of mining is required to be adopted so as to more fully guard against the placing beyond reach of a valuable coalfield as is already the position with the dip section of the old mine. Total output to the 31st December, 1931, was 317,391 tons.

Mount Burnett Mine.—Operations were resumed at this mine by a party of co-operative miners who commenced developing the No. 1 seam to the north of the creek. The seam, lying at an inclination of approximately 75°, is 10 ft. thick at the outcrop adjacent to the creek. Development of the main level disclosed a distinct tendency of the seam to thin proceeding north, and the party have commenced development to the south of the creek. A self-acting endless-rope haulage was installed to lower the coal to a point about 10 chains from the roadway where small bins were erected, the coal being conveyed to the bins by horse haulage. Difficulty will be experienced in arranging transport facilities owing to shallow water at any possible points of shipment. Total output to end of 1931 was 547 tons.

Broxbourne Mine.—A stone-drive was constructed to intercept the seam lying at a gradient of 1 in 3 on the property of H. Ellis. Only a small amount of coal was won. Total output to the 31st December, 1931, was 251 tons.

Motupipi Mine.—A small amount of coal continues to be mined from the beach; the demand is very limited. Total production to end of 1931 was 818 tons.

Irvine's Mine.—The coal produced from this mine supplies the requirements of a small lime-kiln, and is got by robbing the outcrop at various convenient points.

Seymour Mine.—A commencement has been made to develop this mine on the double-stall system of working. The seam, approximately 6 ft. in thickness, is split by a friable shaly band 2 ft. in thickness and about 3 ft. from the floor, making the former method of working unsuitable. During the year there was a sudden outburst of methane in the main level, at least 5,000 cubic feet being liberated and the pressure dislodged a piece of solid coal from the face 2 ft. in thickness. Fortunately, all the men hurriedly withdrew from the mine, which at that time was worked by means of naked lights. Safety-lamps only are now in use and a ventilating-fan driven by a Diesel engine was installed forthwith. Total output to the 31st December, 1931, was 3,692 tons.

O'Rourke's Mine.—Operations at the old mine ceased during the year and a small mine on an adjoining freehold property was commenced. The seam worked is thin, and only a small output for local use is produced. Total output to end of 1931 was 1,493 tons.

Dangerous Occurrences notified under Regulation 82 of the Coal-mines Act, 1925.

On the 3rd January, 1931, the mine-manager of the Perfection Mine, Morrisvale Colliery, discovered that an old fire had burned through a stopping. A new stopping was erected and the fire checked.

On the 5th January, 1931, a heating was discovered in the sixth west section of the Millerton Mine. Water was laid on, and the heated debris sluiced away.

On the 14th January, 1931, a fire broke through the stoppings into the third west dip workings of the Millerton Mine. Concrete stoppings that had been built in readiness controlled the fire.

On the 14th January, 1931, a fire broke through a stopping in the Hygrade Mine, Morrisvale Colliery. Two fresh stoppings were erected and the fire again sealed off. The mine had been idle for four years.

During February, the management of the Millerton Mine decided to abandon and flood the third west dip section of the mine in an endeavour to control the spread of the fire.

During February, the workings of the Glasgow Mine were holed into the old fire area of the Seddonville State Mine. The fire again became active and during March the State Mine workings were again sealed off.

On the 18th April, 1931, a serious fire broke out in the Middle section of the Millerton Mine. The fire spread over a total area of 25 acres, and five men were injured by distilled gas explosions before the fire was finally sealed off.

On the 18th May, 1931, a sudden outburst of methane occurred at the Seymour Mine, Owen River. The quantity was not less than 5,000 cubic feet, and, as the mine was at that time worked by naked lights, safety-lamps were forthwith placed in use and a ventilating-fan installed.

During August the old fire burned through No. 25 stopping in the second west section of the Millerton Mine. Stoppings were erected in two staple pits and doors in a second line of prepared stoppings closed to retard the advance of the fire. In addition, the main fire crossed the barrier into No. 2 dip workings. Stoppings were erected and the fire sealed off.

During November a surface fire penetrated underground into the workings of the St. Helen's Mine at Seddonville. A trench, 21 ft. deep and 99 ft. long, was cut and the fire isolated.

On the 3rd November, 1931, a workman's coat, hanging on a prop in the Wallsend Mine, was found to be smouldering. Nothing definite as to the cause of the ignition of the coat could be discovered.

Fatal Accidents.

Only two fatal accidents occurred in the district during the year, and after allowing for the fact that the output was considerably reduced, the result, comparatively speaking, shows a decided improvement on last year.

On the 12th January, 1931, John Dickson, miner, was killed in the Stockton Mine. He was filling loose coal when a block of coal rolled down the slope knocking out a prop, which struck Dickson on the head fracturing his skull.

On the 8th July, 1931, William Wratham Stone, a trucker employed in the Dobson Mine, was killed by a fall of roof stone.

Serious Non-fatal Accidents.

On the 4th February, 1931, William Getley, miner, Millerton, sustained a fracture of the right leg and of a small bone in the left ankle, through being struck by a piece of coal rolling down a slope.

On the 16th April, 1931, George Connors, coal-hewer, Morgan seam, Liverpool Colliery, sustained a fracture of the right tibia bone, through being struck by a fall of coal.

On the 7th July, 1931, Louis Gibbons, horse-driver, Morgan seam, Liverpool Colliery, was caught between a rake of trucks and a ventilation-door receiving injuries to foot and back.

On the 29th July, 1931, Hugh Ruane, miner at Dobson Mine, had his leg fractured by a rake of trucks.

On the 6th August, 1931, John Smeaton, miner, Kimbell west section, Liverpool Mine, sustained head injuries from a fall of coal.

On the 24th August, 1931, William Buchanan, underviewer, Wallsend Mine, sustained a fracture of the small bone of the right leg through being struck by a piece of stone.

On the 15th September, 1931, Sydney Payne, miner, Westport-Stockton Mine, sustained a broken left leg and injuries to back by falling coal.

On the 30th October, 1931, Charles Tanner, blacksmith, Hunter and Party's Mine, while repairing trucks close to the Rewanui Railway-line, was struck by a train, sustaining broken ribs and injuries to head and arms.

Prosecutions.

There were nineteen informations laid during the year. One was withdrawn, two were dismissed, and sixteen convictions were recorded.

For acting as mine-manager without a permit, a miner was fined £1 with costs 12s. (Section 60 (*e*) of Coal-mines Act, 1925.)

For failing to provide a place to store surplus explosives a mine-manager was charged, and convicted with costs. (Regulation 223 (1).)

For using a defective safety-lamp, a miner was convicted and ordered to pay costs. (Section 97 (*a*).)

For failing to keep detonators in a separate magazine a miner was convicted with costs. (Regulation 223 (2).)

A company was charged with failure to erect a bathhouse in terms of section 150 of Coal-mines Act. The case was dismissed.

For employing an uncertificated mine-manager, a mine-owner was convicted and fined £1 and costs. (Section 59 (1).)

For failure to keep detonators in a separate magazine, a mine-manager was convicted and fined £1 with costs. (Regulation 223 (2).)

A mine-manager was charged with failure to post timbering notice as required by section 117 (3) of the Coal-mines Act. Dismissed.

For failure to keep a record of detonators issued under Regulation 224 (5) a mine-manager was fined £1 with costs.

For failing to make suitable provision for the storage of explosives a mine-manager was fined £1 with costs.

For failure to ensure that the total quantity of air distributed to each working-place was not less than the minimum amount required by section 92 (1) of the Coal-mines Act, 1925, as amended by section 4 (1) (*a*) of the Coal-mines Amendment Act, 1927, a mine-manager was fined £2 and costs.

For failing to systematically clean the floor, roof, and sides of the mine, as required by section 126 (*c*) of the Coal-mines Act, a mine-manager was fined £2 and costs.

A mine-manager was charged for failing to keep a record of detonators issued and returned as required by amended Regulation 224 (5) (*c*). Fined £2 and costs.

A shot-firer was convicted and fined £2 and costs for firing an improperly prepared shot. (Regulation 234 (*b*) (i) (ii).)

A mine-manager was fined £2 and costs for storing explosives underground.

For firing an improperly prepared shot, a shot-firer was fined £2 and costs.

For failing to make a report on the conditions of the mine as provided for by section 128 (2) of the Coal-mines Act, a mine-manager, who also acted as fireman-deputy, was convicted and fined £1 and costs.

For failing to appoint in writing a sufficient number of competent officials, a mine-manager was convicted and ordered to pay costs. (Section 61.)

A charge against the deputy of the same mine for failure to make a report on the condition of the mine was withdrawn.

SOUTHERN INSPECTION DISTRICT (GEORGE DUGGAN, Inspector of Mines).

There was a considerable decrease in the output from the mines in the Southern Inspection District. During 1931 57,346 tons less were produced than in 1930. In Canterbury and Central Otago there were small increases, but the Southland mines suffered severely through the trade depression, their output decreasing by 42,848 tons. The output from the Black Lion mine was less than one-third that of the previous year. From the Linton Mines the output decreased by 26,394 tons and the Kaitangata Coal Co.'s mines produced 8,899 tons less. Many mines were worked only two days per week, consequently earnings were very small. In order to retain all employees a system of rationing work was adopted at some mines. The use of electric cap lamps is extending. They are much favoured on the Ohai field and 100 alkaline cell cap lamps are in use in the Kaitangata No. 1 Mine.

Sheffield Mine.—The McQueen Bros. worked back the few pillars of thin coal alongside the short steep dip and this mine was exhausted in July. Prospecting between Sheffield and Bush Gully succeeded in locating an 8 ft. seam within a few yards of the traffic-road. To the south-west a level is being driven on the seam containing many clay backs and dipping 1 in 2 to the south-east. This mine is called the "Bonanza." Total output from Sheffield and Bonanza Mines to end of 1931 was 188 tons.

Springfield Mine.—From a short tunnel going south-east a level has been driven to the north-east right to the boundary on an 18 in. seam of clean coal. Off the level several short stentons were driven for a few yards to the south-east, 18 in. of roof-clay being brushed for height. All working-places are supported by sets of timber and a 15 ft. vertical shaft was put up to the surface for a return airway. Total output to the 31st December, 1931, was 93,033 tons.

Homebush Mine.—Pillaring was continued both to the rise and dip of the level which entered poor coal under the gully. Work is within 1½ chains of the mine-entrance and that section will be exhausted early. Near the bottom of the surface jig a short dip has been driven to a 2½ ft. coal-seam. This will be extended towards a section of the old workings in the 7 ft. seam, and it is anticipated that a small area of workable coal can be won there. Total output to end of 1931 was 358,548 tons. Lately the supply of clay for the pottery has been obtained from an opencast pit on the property. A little was won from the underground workings early in the year.

Bush Gully Mine.—In the new workings three levels are being worked to the south-west, the lowest being in about four chains. The seam continues clean with a uniform thickness of 4 ft. The width of pillars between the two lowest levels is 50 ft. and between the second and third levels 30 ft. The surface jig is now in use. To end of 1931 total output was 42,979 tons.

Klondyke Mine.—The main level, going north-east, is in over a quarter of a mile and the steep seam of coal has thickened to 24 ft. Owing to its inclination—about 75°—an incline at only half rise is being driven and will be used as a jig. The cover has increased so a third level is being driven. Five concrete stoppings have been put in between the lower levels. Total output to the 31st December, 1931, was 3,421 tons.

Steventon Valley Mine.—No work has been done during the year and, in view of the disappointing results of former attempts, I do not think any more work will be done.

Lucknow Clay-mine.—Two men continued working back pillars until September when work ceased. Work will be resumed when the demand for fireclay warrants it. The goaf was closing nicely behind them.

Clearview Mine.—The output was produced from pillar-extraction to the rise of the main adit. Pillars have been worked back beyond the airway to the rise so the old shallow shaft is again being used for a return. To avoid brattice on the cuddy roads two overcasts were made in the back level. Sale has been found in Christchurch for slack coal, and all roads have been cleaned of dross. Total production to end of 1931 was 23,210 tons.

Dennis' Coal Lease.—A coal lease was granted over an area about half a mile west of the Clearview mine. A level 8 ft. square was driven to the north-east from near the north bank of Washpen Creek. It was stopped when 12 yards in, being under a poor seam of coal about 3 ft. thick.

Mount Somers Coal Co.'s Mine.—Three men were employed producing about 100 tons per month. The main level, going north, was connected to an old dip drive, the water in which being led away through a borehole drilled prior to the places being connected. This dip drive makes a good return airway and two shallow shafts not needed have been covered over. Beyond where it connected to the dip the main level met a series of upthrow faults, the last being of 12 ft. displacement. The level was continued in coal only 3 ft. thick and 4 ft. of stone brushing is being done below the seam. There is a good parting above the seam and hopes are entertained of meeting a lower seam; the face of the level is about 40 ft. from old workings, but it will be 35 ft. below. Boreholes will be drilled into the roof of the drive as it advances. A short dip to the west off the main level was stopped when 30 ft. down; another dip, about a chain farther inbye, and driven 8 ft. high with 14 ft. of coal above is down 130 ft. in good clean coal. A place, driven to the north-west off this dip, met a muck "back" 4 ft. wide, beyond which good clean coal was met. To the east the

coal dips steeply and a place going in that direction has been stopped. In the southern portion of the workings pillaring has been completed. Two places in thin coal dipping to the east are being worked to the east, one just above the pillared area, and the other 3 chains farther north. It is hoped to cross under a gully 30 ft. wide with these east places and then reach thicker coal. Total output to the 31st December, 1931, was 89,301 tons.

Blackburn Coal Co.'s Mine, Mount Somers.—A telephone-line 27 chains long is in use from the brow of the surface jig to the foot of the incline. Each 2¼ in. steel rope on the jig is fitted with an extra short rope connection to the hopper. The main drive to the north-west was driven level for a chain then at a dip of 1 in 6. It again flattened and now, 4 chains in, the floor is rising 1 in 10. There the coal contains much siliceous matter. To the west a place has been driven 3½ chains and the floor is rising 1 in 10 in that direction also, but the coal is of good quality. Opposite that west heading one was broken away to the east but the coal was so badly crushed and of such poor quality that the place was stopped when only 10 yards in. About a quarter of mile north of the main north-west drive a level was driven about 4 chains to the north and was then stopped in very poor coal. About 2 chains west of that level another was driven to the west. Thirty yards in it met troubled country and later the coal cut right out. Prospecting both above and below failed to locate the seam. Total production to the 31st December, 1931, was 2,362 tons.

Sunnydale Prospecting Syndicate, near Mount Somers.—About nine miles west of Mount Somers Railway-station two miners have been prospecting on freehold land. A few chains south of the Ashburton River a short drive was put in to the south in very stony coal, which thinned from 7 ft. to 5 ft. From near the face a place was driven a few yards to the east, but there the seam almost cut out, and to the west very stony coal 5½ ft. thick was met. About 60 chains farther west, and about 300 ft. higher up the hill, a 12 ft. seam of coal is exposed, but it is divided in the middle by a stone band 19 in. thick. This seam dips 1 in 2 to the east.

Albury Mine.—Output is produced from the Woodbank lease. A level was driven under the traffic-road and places broken away to the rise, the one nearest the road being, at the commencement, only 6 yards east of the road, but it diverged away from the road as it was extended. A 60 ft. shaft was put up to the surface for ventilation purposes, but later a connection was made to the old upper level and the shaft was covered. Just inbye of the connecting-drive a stone stopping was built in the level to seal off the old upper workings. To shorten the haulage a dip has been driven to the south at a grade of 1 in 2 for 26 yards, and it connects with the lower level which is still being extended to the north-east and is in 5 chains from the surface. This level is being driven 8 ft. high and 2 ft. of lignite is being left on the floor and 11 ft. on the roof. Thin coal is not anticipated until the level is in another 6 chains. Total output to end of 1931 was 4,710 tons.

Awakino Mine.—About three miles and a half west of Kurow and one mile and a half south of Scott's old Awakino Mine a vertical coal-seam outcrops near the east bank of the Awakino River. At the outcrop the seam is 8 ft. in thickness, but it thinned to 3½ ft. when the dip driven at a grade of 1 in 4 was only a few yards down. To the north there is evidence of an old drive which has fallen in. Total output to the 31st December, 1931, was 40 tons.

Airedale Mine.—Production came from the dip workings. As it is too steep for horse haulage to go to the full dip a crosscut is being driven to the north-east and three places are being worked to the south-east off the crosscut and one to the north-west. Sale is found for all the slack produced; the roadways are liberally treated with lignite ash; stoppings of Oamaru stone have been built between intake and return airways. Total production to the 31st December, 1931, was 5,198 tons.

St. Andrews Mine.—Pillaring continued in the outbye dip areas until spring, when stoppings were built in three dips leading to the pillar workings. These will be again opened next winter. No further work was done in the rise workings; the only places worked are the two levels to the north and the inbye north-east crosscut dip, down 3 chains from the main level. The lignite is very soft and friable, necessitating much timber. Total production to the 31st December, 1931, was 69,163 tons.

Ngapara Mine.—The east section workings were stopped in June owing to their proximity to a traffic-road. A fairly large pillar was then split in that section, which was then sealed off by stoppings of Oamaru stone. A dip to work an area to the west was proposed, but boreholes put down from the surface, 18 ft. to 20 ft. in depth, proved running sand over very soft lignite of poor quality. Places driven narrow and up to a good parting 7½ ft. from the floor are being worked south-west of workings formed about ten years ago; one has only about a chain to go to hole into the old workings. To end of 1931 the total output was 46,147 tons.

Oakdene Mine, Maheno.—This mine is about five miles south-west of Maheno and near the Serpentine Stream. From a spot a few feet above the level of the traffic-road a level was driven 90 ft. to the west into a fairly level seam of lignite 5 ft. thick at the outcrop; thinning rapidly to 15 in., black stone replaced the lower portion of the seam. Ten yards back from the face a place driven to the north-west was stopped when only 31 ft. in as the seam thinned rapidly in that direction also. About 2½ chains to the north another level was driven from the surface and met thin coal when 28 ft. in. It is intended to sink a shallow prospect shaft 2 chains ahead of the face of that level. A total output of 122 tons was won to end of 1931.

Diamond Hill Mine, Herbert.—About five miles south-west of Herbert and on the hillside about 700 ft. above the Waianakarua River a level has been driven to the south-west about a chain; lignite was met 6 yards in. To have the drive a workable height 2 ft. of the underlying fireclay and clay has been taken up. Above the seam is a foot of black "batt" and then another foot of lignite with soft clay and sandstone above, so all places have to be timbered. A few yards back from the face of the level a place is driven 12 yards to the south-east. It will be continued to the surface about 15 yards ahead. Old workings driven about sixteen years ago to the north have fallen in, as also has an old drive to the west. Total output to the 31st December, 1931, was 263 tons.

Shag Point Coal Mining Co.'s Mine.—In the west side longwall section of the upper seam workings the coal became too thin and was stopped early in the year. The pillars were then worked back east of the longwall work. A short dip down 70 ft. is being driven to the north to work a small area between Perry's dip section and the old Allandale Mine workings. Below the old water-level, now completely drained, three solid places are being driven to the east in coal 2 ft. 3 in. thick with a foot of stone above and then another foot of coal. Pillars have been extracted to the rise of the old horse level and two pairs of miners are extracting pillars from the west end of the workings between the water-level and the horse level. In the inbye section of the lower seam workings, two levels were driven to the west in coal 3 ft. thick, but as the coal thinned farther west the pillars are being worked back. Off an incline to the south-west three places are being driven in coal 3 ft. to 3½ ft. thick. The two highest levels to the west in the winch heading area were stopped owing to the heavy roof and to the coal thinning to 2 ft. 3 in., but the two lowest levels are still being driven; to the east the two highest levels were stopped also when only a chain in, as the coal thinned to 2 ft. Lower down the winch heading three levels are being extended and will be continued as long as the coal is workable. From the foot of the stone jig a level was driven through the fault and into the lower seam; it passed under the stone jig and is in coal 3 ft. 3 in. thick of good quality; the face is 11½ ft. below a place on the east side of Perry's dip. Total output to the 31st December, 1931, was 301,635 tons.

Shag Point Mine (Old).—The main dip, 6½ chains down from the surface, has not been extended far during the past year, work being done chiefly in two levels to the south and one on the north side. The upper of the south levels, started 5 chains down the dip, was stopped at the downthrow fault met 4 chains in. The upper north level was stopped also at a downthrow fault when 2 chains in from the dip. The lower north level is in 40 yards and has 20 yards to go before reaching the fault. The lower south level, producing most of the small output, is in 45 yards and has reached thin coal, but coal 6 ft. thick is expected to be met a few yards farther in. Total output to the 31st December, 1931, was 421,019 tons.

Rough Ridge Coalpit.—A few tons were won from the south-east corner of the lease during the year. A total output of 35,701 tons has been won.

Idaburn Coalpit.—Further stripping has been done at the north-west end of the pit where there is about 8 ft. of stripping including some fine white sand suitable for plastering. Total output to the 31st December, 1931, was 56,015 tons.

Oturehua Mine.—The dip to the north-west is down 6½ chains from the surface at an average grade of about 1 in 5. For the last 2 to 3 chains it was in lignite of very poor quality, but has again reached good lignite. Work is now concentrated on driving stentons and another connection to the surface for a return airway. The dip is ventilated by a 6 in. sirocco fan used as a blower. Only a little work has been done at the opencast pit. To end of 1931 6,921 tons have been produced.

Parfit's Pit.—The large slip from the west side which almost buried the pit in 1930 has been cleared away with the hydraulic nozzle and supplies are again being won from the north end of the pit. Total production to the 31st December, 1931, was 876 tons.

Cambrian Pit.—Further stripping was done to the west, and the pipe-line shifted back about 10 yards farther to the west. Total output to the 31st December, 1931, was 52,851 tons.

Coal Creek Flat Pit.—Most of the recent supply has been won from the upper portion of the thick seam, but the lower portion has been pumped out and work is proceeding towards the traffic-road. It is to be regretted that there is not a much greater demand for the lignite from this large and cheaply worked opencast pit. To end of 1931 the total output was 100,319 tons.

Shepherd's Creek Mine.—Production during the year was from the extraction of pillars from the north side workings. The waste is closing behind them nicely, the sand overburden filling it completely. At the present output the pillars should suffice for another two to three years. To the 31st December, 1931, total production was 126,161 tons.

Nevis Crossing Mine.—Work was recommenced near an old mine, about a mile above the junction of Coal Creek and the Nevis River and east of the river. A small quantity of lignite was won from opencast workings and then a level 6 ft. high was driven in about 50 ft. The seam is 13 ft. thick and there is about 4 ft. of gravel overlying the seam which could be sluiced away and the lignite then won by opencast working. Total output to the 31st December, 1931, was 18,276 tons.

Blackman's Gully Mine, near Earnscleugh.—About 20 chains north of the small mine worked in 1928 a short dip has been driven. A level was then driven to the north and intersected the dip near its face. It is now in 15 yards in a seam of coal 6 ft. thick and dipping to the north at about 30°. About 5 chains east is an untimbered level to the south driven in very soft lignite.

Freeman's Mine.—Pillar-extraction has been continued throughout the year. All working-places are well supported by blue-gum props, and the mine at present is free from trouble through heating. Roadways are constantly heaving and have to be brushed. A trucking-road, driven through several pillars on the south side, had to be abandoned owing to crush, the lignite there being of poor quality. The return airway is now along the north side and an old air-shaft has been cleaned out and retimbered. Total output to the 31st December, 1931, was 623,077 tons.

Jubilee Mine.—Pillaring was continued in the lower south workings, but on the 24th May a second inrush of water, apparently through some fissure leading to the old No. 4 section, delayed work for some weeks. The inflow is now only 4,000 gallons per hour, but the damage it caused and the possibility of further inrushes prevents the extension of the dip workings, so the life of this mine is limited to the already proven coal in the north and south levels. The upper south pillars have been worked, and pillaring in that section was completed in November. Considerable development has been done in the lower north levels, but when the bottom north level was in 11 chains thin coal of very poor quality was reached. The levels to the rise have since entered the thin coal area. None of them is within 4 chains of the old Walton Park Mine workings. Pillar-extraction from that section will be commenced early in the coming year. The floor heaves in most of the trucking-roads necessitating much brushing and renewals of timber. Towards the end of the year prospecting by hand bores was commenced a few chains south of the original Jubilee Mine, closed in 1918. Three holes have been drilled 50 ft., 60 ft., and 71 ft. in depth respectively, the third hole being 600 ft. west of the first one. Three seams of lignite were proved, averaging 4 ft., 5 ft., and 8 ft. in thickness. The 5 ft. seam was worked to the dip in the old mine and it is expected that the 8 ft. seam will underlie those old workings. Tenders have been called for a level drive, about 900 ft. long, to intersect the 8 ft. seam. Total output to end of 1931 was 579,764 tons.

Fairfield Colliery.—South of the area now being proven by the Jubilee Coal Co. is Section 45, which has been acquired by the Fairfield Collieries, Ltd., for coal-mining. Two bores have been put down by a percussive drill driven by a petrol-engine. The first bore proved two seams of lignite, the upper one 7 ft. thick and the lower one 11 ft., the floor of which is 185 ft. down from the surface. In the second hole, about 5 chains west of the other, the seams are thinner and the 11 ft. seam is split. A dip is being driven at a grade of 1 in 4 to work the lower seam.

McMaster's Saddle Hill Mine.—At the opencast pit the lignite became of very poor quality, so another pit was opened about 15 chains farther north to work a fairly large pillar left in from former workings. To the south-west there was only 8 ft. of overburden but it thickened to the north-west so a drive, 6 ft. wide, was put in that direction. Broken ground was reached 30 yards in, so the small amount of available pillar coal to the west was worked back. Another small area, a few chains from the opencast pit worked about a year ago, is being worked, and a 6 ft. drive is in over a chain and well supported by sets of timber. Work to the north is limited, but hopes are held of driving under a stream to the south to some unworked ground beyond. Total output to end of 1931 was 1,032 tons.

Willowbank Mine.—To shorten the haulage a new dip was driven from the surface, commencing 60 ft. from the old mine entrance and connecting to the east side workings, and the ventilating-fan removed to the mouth of the old haulage-road, which became the main return airway. The new dip and places to the north entered an area of soft and friable lignite and when 8½ chains down from the surface the dip struck a downthrow fault. Bottoms were picked up ½ chain back and up to the fault-line, and driving renewed. A little coal was met, but it soon cut out. Driving has been continued in igneous rock for over a chain, so apparently a large dyke is being crossed. If development proves disappointing and coal is not soon met pillar-extraction from the inbye east workings will be commenced. A place to the north in the east workings has also reached faulted ground, but a little more prospecting will be done there before that place is stopped. A small area to the south-west and between the new and the old haulage-roads is also being worked. Total production to the 31st December, 1931, was 40,040 tons.

Salisbury Mine.—Early in the year two miners commenced prospecting near the old Salisbury Mine workings. A drive was put in to the north-east and about 5 chains east of the old workings; at 20 ft. in a seam of lignite 7½ ft. thick was met but further driving proved it too thin, and the drive was stopped at 90 ft. in, the seam being then only 4 ft. 8 in. thick with a roof of sand. Another drive was put in farther to the west and met fallen-in old workings when only 11 yards in. A place was broken away and connected to a level from the first drive. A new drive was put in to the north-west, later deviating to the north, in coal 6 ft. thick, but with a fairly good roof. This place also holed into old workings. Along the line of the outcrop the overburden, from 6 ft. to 10 ft. thick, has been stripped for a chain in length and the seam is being worked opencast. To the end of 1931 the total output was 4,933 tons.

Elliotvale Mine.—A dip being driven to the south at about 1 in 8 is down 4 chains in good thick coal with a clean parting 7 ft. from the floor. A good deal of water is being made and has to be hand-bailed,

but a small rotary pump has been purchased, and will be driven from the surface by a petrol-engine. Owing to the lack of a pump, places on the west side contain a foot of water, but when the pump is brought into use those places will be extended. From about 3 chains down the dip a narrow place has been driven to the east and is in 25 yards in very good coal. Total output to the 31st December, 1931, was 2,572 tons.

Riverside Mine (formerly Tres Bon Mine).—A lease was granted in May to a party of Waronui miners. They drove a level to the south-east from the outcrop. This level is in over 4 chains in fairly good coal, but the seam is dipping ahead at about 1 in 12, so the level is stopped temporarily. Places were driven to the south-west but the seam dips in that direction also. It is now intended to drive from the surface about 5 chains farther south and connect with the face of one of the south-west places. About 3½ chains in the main level a place was driven to the north-east and connected to the old Tres Bon workings. This is used for a return airway. Total output to the 31st December, 1931, was 33,075 tons.

Essbank Mine.—Near the Akatore Coal Reserve and McKay's old workings three Waronui miners put down a dip and proved a small workable area of coal over 10 ft. in thickness. The dip commenced at a grade of 1 in 8 but it gradually flattened to a level drive. When 8 yards in a borehole was put through from the main drive into the McKay Mine workings and it was proposed to extract the standing pillars in that mine. Eventually it was decided to extract the Essbank pillars first and when these are exhausted an old drive into the McKay Mine will be reopened and the pillars there worked back from the Essbank goaf. A little prospecting has been done on two outcrops farther north on McKay's land. Output, 2,021 tons.

Taratu Mine.—The east side pillars in Barclay's section are nearly exhausted. On the west side a short dip has been driven into an unworked area of about 3 acres where the coal is of good quality, and connection was made to an old level to the north for a return airway. At the new dip section the main heading to the south-east was driven to the dip for 8 chains at a grade of 1 in 4·4. The top seam, 9 ft. thick, was met at 520 ft., and after driving through 3 ft. 9 in. of mixed coal and clay the middle seam, 15 ft. thick, was struck. When 10½ chains in the main heading was deflected to the south to go on the strike of the seam. The return airway is being driven from the surface at a grade of 1 in 2½. Three Hume concrete pipes, 6 ft. in diameter, have been placed at the top of the return. Total output to the 31st December, 1931, was 732,464 tons.

Lakeside Mine.—Owing to the difficulty in ventilating it, the crosscut from the bottom of the main dip to connect with the east workings inbye, was stopped early in the year. On account of the slackness of trade only two miners have been working at this mine in places to the south, one in the upper and the other in the lower seam. To the 31st December, 1931, the total output was 10,444 tons.

Wangaloa Mine.—The pillaring of the inbye section was completed in July and a dirt stopping 3 yards thick was then built in the main level outbye the goaf. Pillaring was recommenced outside the barrier. To work the coal to the dip from the surface a drive was put in to the north-east and the seam was met 20 yards in; this drive was continued as a dip, the seam dipping ahead at about 1 in 8. Off the top of the dip a level is being driven to the north-west to connect with the old main level. Total output to end of 1931 was 3,843 tons.

Summerhill Mine.—Towards the end of the year work was resumed in the main level about 8 chains in from the surface. Tops were dropped and it is intended to rise into the upper portion of the seam, which it is anticipated will be of better quality than the lower coal. A total of 958 tons has been produced to the 31st December, 1931.

Kaituna Mine.—A short dip was driven about a chain west of the fallen-in main dip of the workings closed about five years ago. They intended connecting to the top level of the old workings and near its face, but as the seam thinned to 3 ft. work ceased near the end of the year. Total production to end of 1931 was 26,172 tons.

Kai Point Mine.—This small mine was reopened in May. A level has been driven to the north from the surface and about a chain west of the entrance to the old workings. The level was commenced in the lower portion of the 16 ft. coal-seam, but, that portion proving of poor quality, the heading was driven through an 18 in. band of stone up into the top coal which, so far, has been fairly clean. A back heading and a place to the west are also being worked and some top coal has been won from the old workings. Total output to the 31st December, 1931, was 3,425 tons.

Kaitangata No. 1 Mine.—A large proportion of last year's output was from pillar-extraction in the No. 1 seam, No. 2 section workings, North of Leishman's dip the pillars have all been worked back and the goaf has been sealed off. The inbye north pillars in Kyle's dip area—those to the dip of Leishman's—are being worked. Most of the pillars east and west of Fuller's dip have been extracted and a section to the rise of that area is being worked back towards O'Fee's dip. All the west side pillars, except a row next to the dip, in O'Fee's section have been won, and those near the bottom of the dip and to the east have also been extracted. A dip has been driven, and is down 300 ft., below the bottom level in Kyle's section. The seam was 7 ft. thick at first, but it has thinned to 4 ft. with only a slight dip to the east. Four levels are being worked to the north—the top one is 7 chains in—and three places to the south, the face of the top south place being 3 chains in from the dip. The thin seam south of the main haulage-road was worked until August, when, on account of trade slackening off, it was sealed off. In March only three shiftmen were employed there while in June nine miners were at work in the dip and the levels to the south-west. The seam continued clean and barely 5 ft. in thickness. About 500 ft. up from the bottom of the main return airway and 1,000 ft. down from the ventilating-fan, a level was driven to the north in a seam of coal 8 ft. thick, but containing a band of stone, about the middle of the seam, from 8 in. to 18 in. in thickness. The main north level is in 8 chains, and the band of stone has thinned to 8 in. Development is proceeding east and west, the places to the west being in the bottom coal, 5 ft. thick, below the stone band. At a grade of 1 in 3 a prospect dip was driven to the north-west out of the 8 ft. seam. At 400 ft. down a 6 ft. seam of poor quality was met. When the dip was 200 ft. down a blower of firedamp was struck coming from the south side rib. The blower—although of much less volume—is still active. A connection was made from that spot direct to the return by sinking a 60 ft. shaft from a higher level. Six chains down the dip a place was broken away to the west and is in about 30 yards, but the coal has not improved in quality.

Kaitangata No. 2 Mine.—The small area of pillars in the No. 6 section was finished early in the year, and that section was sealed off. Pillaring has also been done in a section of the No. 2 seam from a pair of levels to the south and off the slant dip. As an extension of the slant dip a pair of dips were driven to the north-west, and about 4 chains down a 30 ft. upthrow fault was met. Beyond that fault good clean coal 8 ft. thick was found and there is a good prospect of virgin land to the west containing this seam. Owing to the long haulage and the difficulty of effecting repairs to the steel arches on the main haulage-road it was decided to drive a new dip haulage-road from the surface at a grade of 1 in 5. This drive will be about 1,200 ft. long. It was commenced in November from an old tramway off the road to the coast and will connect to the dip to the north-west and beyond the upthrow fault. Total production from Kaitangata Co.'s Mines to the 31st December, 1931, was 4,884,809 tons.

Benhar Mine.—The main dip, down 12½ chains, has not been extended during the year as sufficient places could be found in the north and south levels. From near the bottom of the dip the north level is in 3 chains. Two chains up another level going north has a thick band of stony lignite about 3 ft. up from the floor. A barrier of over a chain in width will be left between this level and the old workings to the rise. The bottom south level is in 3 chains and six other levels are also being driven to the south, the top one being 7 chains in from the main dip. All these places are in good lignite. Total output to end of 1931 was 294,481 tons.

Brighton (McColl's) Mine.—No further work was done at the mine over the hill during 1931, but a new dip was driven near the area where work was suspended in 1925 and which is about 10 chains nearer the main Brighton Road. After dipping at a grade of 1 in 6 for 2 chains the seam was met. The drive was then continued as a level to the north-west and later was deflected to the north. After passing the old workings, places were driven to the west, the seam having thickened from 5½ ft. to 8 ft., but 2 ft. is being left on for roof support. Total output to the 31st December, 1931, was 10,009 tons.

Bush's Mine.—On land a few chains north of McColl's 1930 workings two men have been prospecting. A short dip drive holed into Sheddon's old workings of many years ago. After passing the old places this 6 ft. drive, going north, entered very dirty lignite and 100 ft. in there is only 6 in. of clean lignite near the roof and another 6 in. about 2 ft. up from the floor. Another drive, about a chain to the west, is in about 50 ft., but the seam is very dirty there also.

Fry's Mine.—To the north a short dip was driven, but, owing to an inflow of water and having no pump, the drive was abandoned and another one commenced 2 chains farther east. This dip was driven at a grade of 1 in 10 and at 100 ft. in 2 ft. of lignite was met. Below is a 5 ft. stratum of sand and then the lower seam of lignite, the thickness of which has not yet been ascertained.

Green's Mine.—The main dip is down 1,100 ft. from the surface or 6¼ chains below the deviation to the north-west. Off the dip six levels are being worked to the north-east, but the dip itself is stopped and the bottom is used as a sump. These north-east places have several chains to go before reaching the barrier pillar below the flooded old workings. Owing to the severe competition from the nearby opencast pits this mine is working only half-time. No work has been done on the south side of the dip since March. Total output to the 31st December, 1931, was 371,004 tons.

Otikerama Mine.—The upper north level reached broken lignite containing many open backs. Owing to the steady flow of water through these backs the level was stopped, as also was a place to the east off the level in which poor lignite was met. There is very little cover over the lignite and towards the end of the year the level fell in. The dip was extended about 15 yards and another level commenced to the north. This is in over 2 chains. To the south a level was driven 12 yards and holed into former workings. Total production to end of 1931 was 48,953 tons.

Rosedale Pit.—Work was continued in the old pit for a few months, but, as the overburden increased to over 15 ft. in thickness, that pit was abandoned, and a new one opened up about 15 chains to the south where the lignite is 10 ft. thick with only 3 ft. of overburden. Total output to end of 1931 was 2,433 tons.

Croydon Coal Co.'s Pit.—About half a mile east of the old Croydon Bush coalpit a new pit was opened up. At first the lignite was 10 ft. thick with only about 3 ft. of gravel overburden, but the overburden thickened and a good deal of water seeped into the pit from a nearby creek. In September a dip drive was commenced about a quarter of a mile west of the opencast pit. There the seam was 15 ft. thick, but dipping steeply to the north. Soon a fault was struck, so work was again resumed in the opencast pit. To the end of 1931 the total output was 24,430 tons.

Whiterig Opencast Pit.—About half a mile north of the old Whiterig Mine an opencast pit is being worked in a paddock about 15 chains from the traffic road. At present 7 ft. of lignite is showing with only 2 ft. of stripping. Total output, 423 tons.

Milne's Pit (Hakatea).—This pit has been extended to the west and the north face is over 50 yards in length, but the overburden is thickening in that direction. Total output to the 31st December, 1931, was 2,329 tons.

Hamilton and Randalls (formerly Larking's) Pit.—Work has been continued to the south and west and the seam at the west face is now 18 ft. thick, with only about 3 ft. of overburden. The total output to the end of 1931 was 2,875 tons.

Terrace Pit.—About 15 chains east of Larking's Terrace Mine two men commenced stripping an opencast pit where there is at least 8 ft. of lignite. Output, 106 tons.

Wendon Mine.—The old workings were reached early in the year so the 20 ft. of top coal is being worked back. A little blackdamp came through from the old workings, but it was soon cleared away. The working-face is within a chain of the foot of the short dip and the waste is closing nicely behind. The "tops" may last another year, and there is no other known supply around in the locality. Total output to the end of 1931 was 1,820 tons.

Glenlee Mine.—The main level was stopped in very wet ground. The back level to the rise and a level on the west side are still being driven, the latter being 4 chains in. The roadways have been cleaned of dross and dusted with limestone. Total output to the 31st December, 1931, was 34,814 tons.

Princhester Creek Pit.—Opencasting was continued to the north and the stripping disclosed from 2 ft. to 3 ft. of hard papa rock. A 5 ft. downthrow fault was met running east and west and hading to the north. About 8 ft. from the fault the coal is dipping steeply to the north, so another fault is near or the seam is going to cut out in that direction. There is about six months' supply in sight, so prospecting will have to be commenced soon on an area a chain or so farther to the north. Total production to end of 1931 was 3,905 tons.

Argyle Pit.—The seam has thinned out on the west side and towards the Waikaia River and is also thinning quickly to the south, so work will soon be confined to the south-east and east, but the pit may be extended towards the north-east also. Owing to the thinning it is not practicable to form the intended shorter tailrace. Total production to the 31st December, 1931, was 12,163 tons.

Northcoat's Pit.—Owing to shortage of water early in the year a large slip about half-way along the face of the pit could not be removed for some time. Work was continued to the north and taking about a foot of the top of the seam, temporarily leaving 3 ft. of lignite underfoot. The seam is rather stony in the middle. Later a large amount of stripping was done and from 70 tons to 80 tons got ready for marketing. Total output to the 31st December, 1931, was 37,758 tons.

Lawrence's Pit (formerly McIver's).—A considerable amount of stripping has been done at the south end and it is intended to use an hydraulic elevator at the north end in order to work lignite left underfoot by McIver. A chair has been erected over the Waikaia River. Total output to end of 1931 was 1,525 tons.

Boghead Mine.—Very little work has been done in the main dip during the past year. The bottom north level has been extended about 30 yards and the south level about 50 yards, with a couple of cut-throughs on each side. About 3 chains to the rise another south level has been extended half a chain. A ventilating-fan has been purchased from a nearby closed mine and should be running early in the new year. Total production to end of 1931 was 70,347 tons.

Mataura Lignite-mine.—Work has been continued in the lower east bords and there is about another twelve months' solid work to be done before all six bords reach the boundary. No arrangement has been made to work the area to the east of the boundary. The ventilating-fan was repaired and fitted up at a new site east of the main drive. Total output to the 31st December, 1931, was 370,555 tons.

Diamond Lignite-pit.—Opencasting was continued towards the north until the pit was about 6 ft. from a deep ditch near the surface tramway. The stripping, chiefly of gravel, is being stacked against the north side of the pit as it will not be extended any farther in that direction. The pit was advanced from 6 yards to 8 yards towards the west where the stripping is from 10 ft. to 12 ft. thick. A block of lignite 12 yards long, 8 yards wide, and 10 yards deep, is now ready for working as only a little stripping remains to be done from above the block. Total output to end of 1931 was 36,725 tons.

Black Diamond Mine.—Pillaring has been continued at the north-east corner of the lease and since the beginning of the year a waste of not more than 50 yards square and 25 ft. in height has been made, so it is evident that the output has been a very small one. In September, owing to slight signs of heating, the waste was sealed off and pillaring was resumed outbye the stoppings. Total output to the 31st December, 1931, was 224,927 tons.

Smithvale Mine.—Work ceased in October at the opencast pit east of the Ohai Railway, where the 7 ft. resin seam was being worked. The dip to the west, to go under the traffic-road, was stopped in August, when it was over 300 ft. down at a grade of 1 in 4. At the face was a soft sandstone with 15 in. of coal above, then another 2 ft. of sandstone and then 2 ft. of coal. The measures were also dipping at 1 in 4 so it was decided to put down a short bore at the face. This not proving any workable coal-seam, the drive was stopped and it was then decided to work an opencast area near the old Wairio Mine workings. A surface tramway 20 chains long was formed down the hillside from the traffic-road and a new loading-bank was built near the road. Work did not proceed far to the east before reaching burnt-out ground. Then a pillar to the north was extracted. Prospecting will be commenced on a small area of virgin land nearer the traffic-road. Total output to end of 1931 was 2,297 tons.

Mossbank No. 1 Mine.—The small section of solid work off the bottom of the main dip and to the south-east is completed and two miners are splitting some of the standing pillars. The extraction of pillars and top coal has been continued throughout the year in the Nos. 1 and 4 sections. The coal in the No. 1 section is very dirty, so much has to be left in on that account.

Mossbank No. 3 Mine.—As some of the upper west workings were within 2 chains of the Wairaki No. 1 Mine workings they were stopped. The levels were driven on the floor at first but as the top coal was found to be much cleaner than the lower portion of the seam the levels were extended in the top coal. For a while the seam became thinner, but it again thickened before reaching the barrier pillar. Through the upthrow fault of 15 ft. a pair of places have been driven about 5 chains in fairly clean coal and places are being worked east and west off these headings. East of the main haulage-road a small section has been worked. Most of the east levels have reached the barrier which separates these workings from the pillared area in the Mossbank No. 1 Mine. As the main haulage-road was not driven to the full dip its extension will be deviated to the south-west. Total output from Mossbank (two mines) to the 31st December, 1931, was 360,164 tons.

Lobbs Hill Mine.—The main level was stopped in coal 2 ft. 9 in. thick. Then a higher level was driven for a few chains, but the coal thinned to 2½ ft., so the few pillars were extracted. Owing to bad roof, all places had to be supported by close-lathed sets of timber. Near the end of the year the plant was removed to a new site about a quarter of a mile farther south. A new tramway, 10 chains in length, was laid down the hillside, and then a drive was put in to the east in coal 4 ft. thick. This is near old workings and the old level nearby has been retimbered. Total production to end of 1931 was 1,083 tons.

Wairaki No. 1 Mine.—The No. 2 east levels were stopped at the fault, and a few pillars to the rise have been extracted. Below the No. 2 east level and 18 chains in from the main haulage-road a prospect dip is being driven at a grade of 1 in 8. When 150 ft. down it met an upthrow fault of about 11 ft. displacement. A downthrow fault was expected 120 ft. beyond the upthrow, but the dip is now down 300 ft. and is still in the measures, dipping at the same inclination as the drive, immediately below the coal-seam. To the west a place is being driven up into the seam and it will connect with a back heading. From near the bottom of the main haulage-road the No. 3 east level was extended through the upthrow fault which was met when the level was only 2 chains in. At the face, about 4 chains in, the level is under the floor of the coal-seam and it will have to be extended another 100 ft. before a full face of coal can be worked. Work ceased in the prospect dip below the No. 3 west level early in the year as no workable coal was found, and the dip was allowed to fill with water. Throughout the year pillaring was continued in the Nos. 2 and 3 west sections and in the lower portion of No. 1 west section, the upper portion having been worked out and sealed off over a year ago. Total output to the 31st December, 1931, was 395,445 tons.

Linton No. 1 Mine.—Manderson's dip, when 19 chains in, met an upthrow fault running east and west and of 20 ft. displacement. The place was then driven to the rise at a grade of 1 in 4 to cross the fault. It was then continued for 11 chains at its normal dip of 1 in 8 and it is within 2 chains of the barrier pillar separating the Linton No. 1 and Birchwood No. 2 Mines. Eleven chains in from the north-west heading an incline was driven to the south-east and it met the upthrow fault when 6 chains up. It was driven through the fault and levels then broken away right and left, that to the right, going parallel with Manderson's dip, being in 5 chains. A small panel has been formed to the east of the incline and below the upthrow fault. About 2 chains beyond where the fault was met in Manderson's dip another pair of inclines were driven to the south-east. They met another upthrow fault of 40 ft. displacement which junctions with the 20 ft. fault, so the inclines had to be stopped about 5 chains away from the large fault which separates the No. 1 and No. 2 mine workings. Two levels have been driven to the east from near the top of the inclines and a small panel formed. When the back north-west heading was down 10 chains below Manderson's dip it was stopped, and work was then resumed in the north-west heading. It is 8 chains below the entrance to Manderson's dip and is again stopped at the downthrow fault. From near the face a place is being driven to the west and will connect with a place being driven out of Manderson's dip. When they connect the drive will be used for a new and more direct haulage-road into Manderson's dip section. Ahead of the north-east heading and at the eastern end the levels met mushy coal and then the large fault between the old No. 1 mine and the present workings was struck. A panel will soon be completed there, and then pillaring will commence. Off the north-east heading, and a few chains to the dip of the almost completed panel, a pair of levels called the "north levels" have been driven in very disturbed country. Six feet of coal was driven through, then 4 ft. of sandstone and then good coal was again met. The lower level was stopped temporarily in about 6 ft. of coal while the upper level met a large "roll" and the place appeared to be in a lower seam than the level above. The same roll was met at the top of the deviation of the north-east heading and in a place to the east of that heading. Off the north-east heading and between the north-west heading and the "north levels" a small section of troubled coal has been worked. The bords have reached the large downthrow fault and the solid work should be completed in that area in about two months. A section of pillars between the old horse level No. 1 Mine workings and the upper portion of the north-west heading was reopened in June and four pairs of miners have been employed there, but they are now back to the barrier pillar so that section will again be sealed off.

Linton No. 2 Mine.—Owing to heating in the goaf the Nos. 2 and 3 south sections had to be sealed off in February and the Nos. 4 and 5 south sections in June. The main dip reached the barrier pillar which separates this mine from the Birchwood No. 2 mine in May. A place was then driven to the south alongside the barrier, but as the seam thinned right away the place was stopped when 4 chains in. One place to the south-east off the main dip is in stony coal 5 ft. thick. Two places are also being driven to the north to follow the line of the barrier pillar. That from No. 5 north is in stony coal 7 ft. thick. Four solid places are being worked in No. 7 north. Two pairs of miners are pillaring in No. 7 south and three pairs in No. 6 south. Total production from Linton Nos. 1 and 2 mines to end of 1931 was 822,065 tons.

Birchwood No. 2 Mine.—A downthrow fault, running east and west, was met in the main drive when it was 22 chains in from the surface. All places to the west were also cut off by a downthrow fault when only 5 chains in from the main drive. To the east the coal thinned and was very variable in quality. Later the east-side places were also cut off by a large roll or fault. Several places both on east and west sides contained many stony backs. As the area being worked was practically surrounded by faults, it was decided to put down two boreholes to prove the land to the north-east. The first hole is 5 chains ahead of the farthest inbye east place. Good coal was proved in both bores and a stone dip is being driven to the north-east to cross the downthrow fault of about 45 ft. displacement. Total output to the 31st December, 1931, was 84,886 tons.

Black Lion Mine.—The dip to the south-west was stopped at a fault when 5½ chains down. It was then about 40 yards from the Morley Stream. This fault was also met in places to the west. Off the dip, and 4½ chains down from the top, a level to the south-east is in 6 chains, and it will be stopped when it has been extended another 30 yards, as it also is approaching the Morley Stream. At the face of that level the coal is

only 5 ft. thick, but is 7 ft. thick in two levels above. The solid work in the dip section will be completed in about six months' time. The main south-east level met a downthrow fault when 9 chains in, and, as it is within a chain of the Morley Stream, no attempt was made to cross the fault. Six levels to the rise have also reached that fault. Inclines are proceeding to the north-east, one being 9 chains in length and rising in rather dirty coal at a grade of 1 in 3. About 5 chains above the main level a place to the north-west connected to old workings west of the 30 ft. downthrow fault and is used as a return airway from the rise section. Early in the year Oldham electric cap-lamps were installed and are in use by all underground workmen. Total production to the 31st December, 1931, was 68,026 tons.

Star Mine.—A small party of miners put down three shallow boreholes west of the old Birchwood No. 1 Mine workings. A seam of coal 5½ ft. thick was proved about 20 ft. below the one worked about four years ago on the flat near the Morley Stream. A dip is being driven to the south-west at a grade of 1 in 4 and is down 3 chains.

Prosecutions.

Five informations were laid during the year, and convictions were obtained in four cases, the fifth being withdrawn.

On 21st April a labourer was fined £3 and costs for acting as a manager of an opencast coalpit without being a certificated person or a person to whom a permit had been issued.

On 5th May a mine-manager was fined £6 and costs for failing to take road-dust samples within the prescribed period of three months; and for not providing trailers on jigs he was fined £1 and costs.

On 25th June a fireman-deputy was fined £3 and costs for firing a shot which was not properly prepared.

On 10th November an owner was charged with failing to pay an amount due to the Coal-miners' Relief Fund. The case was withdrawn on his paying the statutory fine for non-payment.

Fatal Accident.

Wairaki No. 1 Mine.—On 1st June Thomas Dixon, miner, was killed by a fall of top coal about ten feet thick and 30 tons in weight. He and his mate, J. Craig, were bringing back pillar-and-top coal and had bored a hole into "tops" at the end of the level. While waiting for the shotfirer they commenced to fill a tub with the small quantity of coal lying just beyond the shot. The coal, in which the hole had been bored, fell without any warning, killing Dixon instantly and just grazing Craig who was behind Dixon. The fall disclosed an almost vertical "back" and had displaced a centre prop within a foot of the "back."

Serious Non-fatal Accidents.

Mossbank Mine.—On 30th April Niven Redhead, a labourer, sustained a fractured right tibia and fibula by a very simple accident near the loading-bank. He and another labourer were carrying a box of ashes. The wooden box had a pole nailed to each side which projected beyond both ends. Redhead was ahead of the box and the other man behind it. Redhead slipped when crossing a small depression, pulling the box of ashes down with him and thus breaking his leg.

Homebush Mine.—On 21st May Fred. Hinks, horse-driver, sustained a broken right arm when spragging a rake of full tubs on the surface haulage-road. Rain had set in that day and Hinks slipped on the clayey road and, in falling, his arm went under the wheel of the last tub.

Dangerous Occurrences notified under Regulation 82.

Linton No. 1 Mine.—On 16th January an ignition of firedamp, following the firing of a shot, occurred in the stone face of Grant's working-place. No one was injured nor any damage done by the ignition. The place is 7½ ft. high and 11 ft. wide, and when rising at a grade of 1 in 3 met an upthrow fault hading about 40°. The incline was being extended into the fine-grained sandstone and the top of the face was about 8 ft. beyond the fault and the floor was about 18 ft. ahead of it. Eleven days previously 6 cubic feet of a 2-per-cent. mixture was reported there and the same quantity and percentage eight days prior to the ignition and 8 cubic feet the following day. Three shots were fired, one of 10 oz. of Samsonite No. 3, near the centre and about a foot from the floor; another of 10 oz., near the right rib and 3 ft. from the floor; and the third was a small shot near the roof and towards the left rib. The shots were totally independent of one another and the shotfirer stated that he had examined for firedamp with a Bifold safety-lamp after firing each of the first two shots and he had found the place clear. The third hole, 2 ft. long, was only 18 in. inbye the fault, and it was charged with 6 oz. of Samsonite No. 3. Cloth brattice was close to the third shot. Immediately after firing the shot from a spot 90 ft. back they saw flame running along the right rib and near the fault-line and it took a few minutes to put out the flame. The end of the shot had not pierced into the fault, but there must have been a small break leading to it, thus the explosive had ignited the small quantity of firedamp being given off at the fault. This occurrence emphasizes the need of very careful examination of all shotholes for breaks and the examination for firedamp after as well as before the firing of each shot.

Kaidale Mine.—On 9th March a Kaitangata resident reported a fire in the waste dump just outside the Kaidale Mine. Slack which had been dumped there some years ago had commenced to burn. Some of it was shovelled away and fine gravel put in its place. After a few months the fire died out.

Coal Creek Flat Opencast Pit.—An underground fire in an old adjoining mine, and which has been active for years, broke through into the opencast pit in March. The hydraulic nozzle was turned on it and its progress towards the pit was again checked.

Jubilee Mine.—On 23rd May, when making his morning inspection, the deputy found a stream of water 6 ft. wide and a few inches deep flowing through recently formed goaf in the lower south workings. It seemed to have come from the old No. 4 section which was pillared five years ago, but those workings are 5 chains away. The water rose steadily, and the pump did not commence to gain on the inflow for a fortnight. Eventually most of the water was pumped out and the inflow decreased to about 4,000 gallons per hour, but it had played havoc in the soft clay floor and in the stratum of sand above the seam. Consequently the main dip has not been extended any farther down.

Linton No. 2 Mine.—Owing to heating in the goaf, the Nos. 4 and 5 south sections were sealed off in June.

ANNEXURE B.

COLLIERY STATISTICS, 1931.

Name of Mine and Locality.	Title held (Crown Lease or otherwise).	Name of Mine-manager.	Name and Address of Owner.	Number of Years worked.	Classification of Coal.	Number of Seams worked.	Thickness of Coal-seams.	Thickness worked.	System of Underground Working.	Number of Winding-shafts.	Depth of Shaft or Length of Tunnel.	Total Output for 1931.	Total Output to 31st December, 1930.	Total Output to 31st December, 1931.	Number of Persons ordinarily employed.			Means of Ventilation.
															Above.	Below.	Total.	
NORTHERN INSPECTION DISTRICT.																		
North Auckland District.												Tons.	Tons.	Tons.				
Hikurangi Shaft, Hikurangi ..	Crown lease and freehold	J. Makinson ..	Hikurangi Coal Co., Ltd., Auckland	9	Sub-bituminous	1	7′ to 10′	7′ to 9′ ..	Bord and pillar	2 S	S. 350′, S. 340′	54,394	394,762	449,156	47	130	177	Blackman fan.
Silverdale, Hikurangi	Crown lease ..	S. G. Foot (U.) ..	S. G. Foot, Hikurangi	13½	Ditto ..	1	3′ to 5′	3′ ..	Ditto ..	1 T	T. 120′ ..	2,056	36,001	38,057	1	4	5	Natural.
Northern Co-operative, Hikurangi	,, ..	E. A.Cunningham (P.)	E. A. Cunningham and Co., Hikurangi	13	,, ..	1	4′ ..	4′ ..	,, ..	1 T	T. 60′ ..	822	32,938	33,760	1	3	4	,,
Wilson's, Hikurangi	Crown lease and freehold	R. A. Fox ..	Waro Co-operative Collieries, Ltd., Hikurangi	14	,, ..	1	6′ to 10′	8′ ..	,, ..	1 T	T. 3,900′ ..	46,857	546,142	592,999	41	143	184	Sirocco fan.
Waro, Whangarei	Way leave and freehold	J. B. Ross ..	British Standard Portland Cement, Ltd., Wellington	21	,, ..	1	5′ to 10′	9′ ..	,, ..	1 S	S. 120′ ..	4,233	59,408	63,641	3	16	19	Fan.
Ruatangata, Hikurangi ..	Freehold ..	G. Davidson ..	Kamo Potteries, Ltd., Whangarei	11	,, ..	1	8′ ..	6′ ..	,, ..	1 T	T. 400′ ..	4,863	19,697	24,560	2	12	14	,,
Phœnix, Hikurangi	Crown lease ..	W. McKinlay (D.)	McKinlay and party, Hikurangi..	4½	,, ..	1	3′ to 10′	3′ to 10′ ..	,, ..	1 T	T. 66′ ..	3,325	7,544	10,869	1	5	6	Natural.
Tauranga Block, Hikurangi ..	Sublease, Wilson's Coll., Ltd.	S. Hutchinson (P.)	Muir and party, Hikurangi ..	2½	,, ..	1	4′ ..	4′ ..	,, ..	1 T	T. 120′ ..	2,184	2,316	4,500	1	2	3	,,
,, ..	Ditto ..	G. Windress (P.) ..	Windress and party, Hikurangi ..	1	,, ..	1	2½′ ..	2½′ ..	,, ..	1 T	T. 50′ ..	140	395	535	..	3	3	,,
,, ..	,, ..	J. Jones	Orr and party, Hikurangi ..	½	,, ..	1	2′ ..	2′ ..	,, ..	1 T	T. 50′ ..	108	..	108	1	2	3	,,
Coutt's, Hikurangi	Freehold sublease, Hikurangi Coal Co., Ltd.	G. Coutts (P.) ..	Coutts and party, Hikurangi ..	2½	,, ..	1	3′ to 8′	7′ ..	,, ..	1 T	T. 50′ ..	1,921	4,186	6,107	1	3	4	,,
Laird's, Waro	Ditto ..	A. Laird (P.) ..	Laird and party, Hikurangi ..	1½	,, ..	1	4′ ..	4′ ..	,, ..	1 T	T. 16′ ..	680	461	1,141	1	2	3	,,
Cook's, Waro..	,, ..	L. Cook (P.) ..	Cook and party, Hikurangi ..	1½	,, ..	1	3′ ..	3′ ..	,, ..	1 T	T. 132′ ..	92	260	352	..	3	3	,,
Jubilee No. 3, Hikurangi ..	,, ..	J. Wilson (P.) ..	Wilson and party, Hikurangi ..	2¼	,, ..	1	2′ ..	2′ ..	,, ..	1 T	T. 30′ ..	120	765	885	1	3	4	,,
Fearnley's, Waro	,, ..	W. H. Reed (P.) ..	Fearnley and party, Hikurangi ..	2¾	,, ..	1	3½′ to 4′	3½′ ..	,, ..	1 T	T. 200′ ..	1,137	3,026	4,163	..	4	4	,,
Glen Nell, Hikurangi	Crown lease ..	E. A. Foot (U.) ..	Foot and party, Hikurangi ..	7	,, ..	1	3′ ..	3′ ..	,, ..	1 T	T. 70′ ..	1,262	5,585	6,847	2	3	5	,,
Rocks, Hikurangi	Sublease, Kerr and White	G. F. Reynell (P.)..	Reynell and party, Hikurangi ..	10½	,, ..	1	5′ ..	3′ ..	,, ..	1 T	T. 198′ ..	411	38,701	39,112	1	3	4	,,
Dunn's, Hikurangi	Crown lease ..	J. F. Dunn ..	Dunn and Steers, Hikurangi ..	1½	,, ..	1	3′ to 7′	5′ ..	,, ..	1 T	T. 40′ ..	390	420	810	1	2	3	,,
McInness's, Hikurangi ..	,, ..	H. Tipton ..	J. R. McInness, Hikurangi ..	1½	,, ..	1	3′ ..	3′ ..	,, ..	1 T	T. 198′ ..	941	550	1,491	1	3	4	,,
Cherrie's, Hikurangi	,, ..	R. C. Cherrie ..	Cherrie and party, Hikurangi ..	1½	,, ..	1	5′ ..	5′ ..	,, ..	1 T	T. 198′ ..	112	177	289	..	3	3	,,
Whareora	Freehold ..	T. J. Higgins (P.) ..	Higgins and Fox, Whangarei ..	1	,, ..	1	5′ ..	5′ ..	,, ..	1 T	T. 200′ ..	1,592	..	1,592	1	3	4	,,
Millbrook	,, ..	A. Ball (U.) ..	Ball and party, Whangarei ..	1	,, ..	1	4′ ..	4′ ..	,, ..	1 T	T. 100′ ..	50	..	50	1	2	3	,,
New Kiripaka, Kiripaka ..	,, ..	A. Brown ..	A. J. Webber, Kiripaka ..	2½	,, ..	1	5′ ..	5′ ..	,, ..	1 T	T. 120′ ..	107	600	707	2	2	4	,,
Glenbervie, Kiripaka	,, ..	C. J. Doel (P.) ..	C. J. Doel, Whangarei	3	,, ..	1	5′ ..	5′ ..	,, ..	1 T	T. 200′ ..	1,550	2,684	4,234	2	4	6	,,
Avoca, Tangowahine	,, ..	E. Collier (P.) ..	Edwards and Collier, Dargaville..	2½	,, ..	1	8′ ..	8′ ..	,, ..	1 T	T. 130′ ..	378	712	1,090	1	3	4	,,
Waikato District.																		
Rotowaro, Rotowaro	Crown lease and freehold	A. Penman ..	Taupiri Coal-mines, Ltd., Auckland	14	Brown ..	3	7′ to 27′	7′ to 15′ ..	Bord and pillar	3 T	T. 4,000′, T. 400′, T. 1,600′	130,754	1,503,102	1,633,856	73	214	287	3 fans.
Pukemiro, Pukemiro	Freehold ..	A. Burt	Pukemiro Collieries, Ltd., Auckland	16	,, ..	1	4′ to 18′	4′ to 14′ ..	Ditto ..	3 T	T. 5,000′, T. 2,200′	110,069	1,886,708	1,996,777	60	176	236	2 fans.
Wilton, Glen Massey	,, ..	T. Geddes ..	Wilton Collieries, Ltd., Auckland	1½	,, ..	1	7′ to 9′	5′ to 7′ ..	,, ..	1 T	T. 460′ ..	53,016	4,309	57,325	27	115	142	Sirocco fan.
Waikato Extended, Huntly West	,, ..	J. Honey (P.) ..	Roose Shipping Co., Ltd., Mercer	15	,, ..	1	16′ ..	14′ ..	,, ..	1 T	T. 4,800′ ..	3,321	85,350	88,671	..	6	6	Fan.
Glen Afton No. 1, Glen Afton ..	Crown lease and freehold	C. V. Molony ..	Glen Afton Collieries, Ltd., Auckland	11	,, ..	1	4′ to 16′	9′ ..	,, ..	1 T	T. 4,800′ ..	185,202	1,180,373	1,365,575	96	334	430	Sirocco fan.
Glen Afton No. 2 (MacDonald), Waikokowai	Crown lease ..	J. W. Glendenning	Ditto	1	,, ..	1	6′ to 20′	10′ ..	,, ..	2 T	T. 500′, T. 300′	91,905	..	91,905	45	148	193	2 fans.
Pukemiro Junction, Pukemiro ..	,, ..	R. L. Godden ..	Clare and partners, Pukemiro Jn.	11	,, ..	1	2′ to 25′	2′ to 14′ ..	,, ..	1 T	T. 100′ ..	5,096	105,824	110,920	3	4	7	Natural.
Taupiri East, Kimihia ..	Auckland University lease	J. Holland (P.) ..	Holland and party, Huntly ..	10	,, ..	1	10′ to 15′	12′ ..	,, ..	1 T	T. 300′ ..	1,995	12,789	14,784	1	4	5	,,
Campbell, Whatawhata ..	Crown lease ..	T. Cowan (U.) ..	Whatawhata Campbell Coal Co., Ltd., Hamilton	10	,, ..	1	12′ ..	9′ ..	,, ..	1 T	T. 300′ ..	4,834	27,970	32,804	2	6	8	,,
Renown, Renown	Freehold ..	T. L. Andrews ..	Renown Collieries, Ltd., Auckland	3½	,, ..	1	15′ ..	7′ to 9′ ..	,, ..	1 T	T. 3,400′ ..	82,749	187,880	270,629	43	140	183	Fan.
Graham, Glen Afton	,, ..	M. J. Tansey ..	Graham Coal Co., Pukemiro ..	8	,, ..	1	4′ to 6½′	4′ to 6′ ..	,, ..	1 T	T. 1,900′ ..	8,352	80,311	88,663	3	15	18	,,
Rangitoto, Te Kuiti	Native lease ..	J. Chevins (P.) ..	A. Morgan and party, Te Kuiti ..	5	,, ..	1	7′ ..	6′ ..	,, ..	1 T	T. 600′ ..	121	684	805	..	2	2	Natural.
Okoko, Te Rauamoa	Crown lease ..	T. Wall (P.) ..	Wall and party, Te Awamutu ..	1½	,, ..	1	7′ ..	7′ ..	,, ..	..	.. ..	5	20	25	1	1	2	,,
Taranaki District.																		
Paparata, Tatu	Crown lease ..	W. Ridsdale (P.) ..	Taranaki Coal-mining Co., Ltd., Stratford	4	Brown ..	1	3½′ ..	3′ ..	Bord and pillar	1 T	T. 70′ ..	522	1,541	2,063	1	4	5	Natural.
Egmont, Tangarakau	,, ..	A. W. Whittleston	Egmont Collieries, Ltd., Stratford	5	,, ..	1	5′ ..	5′ ..	Ditto ..	1 T	T. 1,320′ ..	26,557	16,297	42,854	14	42	56	,,
Old Stockman, Mokau ..	Freehold ..	C. Wright (P.) ..	Chambers Bros., Havelock North	11	,, ..	1	4½′ ..	4½′ ..	,, ..	1 T	T. 400′ ..	421	3,841	4,262	1	1	2	,,
Gilberd's, Tatu	Crown lease ..	T. Marsh (D.) ..	Gilberd, Brown, and Cairns, Tatu	1	,, ..	1	6½′ ..	5½′ ..	,, ..	1 T	T. 100′ ..	255	81	336	1	2	3	,,
Output of collieries included in previous statements at which operations are abandoned or suspended												..	10,532,259	10,532,259	..	..	..	..

COLLIERY STATISTICS, 1931—*continued.*

Name of Mine and Locality.	Title held (Crown Lease or otherwise).	Name of Mine-manager.	Name and Address of Owner.	Number of Years worked.	Classification of Coal.	Number of Seams worked.	Thickness of Coal-seams.	Thickness worked.	System of Underground Working.	Number of Winding-shafts.	Depth of Shaft or Length of Tunnel.	Total Output for 1931.	Total Output to 31st December, 1930.	Total Output to 31st December, 1931.	Number of Persons ordinarily employed.			Means of Ventilation.
															Above.	Below.	Total.	
WEST COAST INSPECTION DISTRICT.																		
Nelson District.												Tons.	Tons.	Tons.				
Broxbourne	Freehold	W. I. Jones	W. and A. Jones, Motupipi	2½	Lignite	1	5′	5′	Bord and pillar	1	T. 1½ ch.	54	197	251	..	2	2	Natural.
Motupipi	Crown lease	D. Winter	J. and D. Winter, Motupipi	4	,,	2	2′ and 3′	2′ and 3′	Opencast	..	..	120	698	818	1	..	1	Open.
O'Rourke's	Freehold	A. O'Rourke	A. O'Rourke, Murchison	12	,,	1	2′	2′	Bord and pillar	1	T. 2 ch.	182	1,311	1,493	..	1	1	Natural.
Puponga	Crown lease	A. Thompson	Puponga Syndicate, Puponga	28	Sub-bituminous	1	3′ to 6′	3′ to 6′	Ditto	..	T. 28 ch.	15,203	301,188	316,391	10	28	38	,,
Seymour	Crown lease	C. Blackburn	Owen Collieries, Ltd., Nelson	2	Ditto	1	6′	6′	Double-stall	..	T. 13 ch.	2,514	1,178	3,692	4	6	10	Fan.
Abbotsford	Freehold	G. Bartlett	H. V. Irvine, Takaka	..	Lignite	3	3′ 9″	3′	Stripping	..	3⅓ yd.	10	..	10	2	..	2	Open.
Mount Burnett	Crown lease	J. Boyd	Onakaka Iron and Steel Co., Ltd., Onakaka	2	Sub-bituminous	1	1′ to 12′	10′	Bord and pillar	..	T. 4 ch.	495	216	711	4	12	16	Natural.
Buller District.																		
Allan's	Crown lease	T. D. Allan	T. D. Allan, Charleston	3	Lignite	1	42′	10′	Opencast	..	..	6	28	34	1	..	1	Open.
Cardiff Bridge	,,	M. Forsyth	Cardiff Bridge Co-operative Pty., Westport	11	Bituminous	1	5′ to 25′	9′	Bord and pillar	..	..	20,624	190,280	210,904	7	22	29	Natural.
Cascade	,,	H. McAvoy	Cascade-Westport Coal Co., Ltd., Westport	5	,,	1	20′	8′	Ditto	..	..	12,565	47,931	60,496	8	12	20	,,
Charming Creek	,,	C. D. Buist	Charming Creek-Westport Coal Co., Ltd., Westport	4	,,	1	8′ to 20′	9′	,,	..	T. 20 ch.	8,408	10,034	18,442	10	14	24	Fan.
Chester's	,,	R. Chester	Penberth and Chester, Seddonville	12	,,	1	3′	3′	,,	..	..	1,166	19,895	21,061	..	3	3	Natural.
Coal Creek	,,	W. McGuire	McGuire and party, Seddonville	16	,,	1	18′	8′	,,	..	T. 30 ch.	601	97,309	97,910	2	17	19	Fan.
Glasgow	,,	D. Q. O'Brien	Glasgow Co-operative Pty., Seddonville	7	,,	1	6′ to 12′	10′	,,	..	T. 9 ch.	2,456	32,004	34,460	3	4	7	Natural.
Mitchell's	,,	F. T. Mitchell	F. T. Mitchell, Charleston	8	Lignite	1	8′	8′	Opencast	..	..	139	226	365	1	..	1	Open.
Powell's	,,	J. H. Powell	J. H. Powell, Charleston	3	,,	1	8′	8′	,,	..	..	14	31	45	1	..	1	,,
Quinn's	,,	T. Quinn	Quinn and party, Seddonville	8	Bituminous	1	5′	5′	Bord and pillar	..	..	695	7,937	8,632	1	1	2	Natural.
Warne's	,,	G. N. Warne	G. N. Warne, Charleston	..	Lignite	1	6′	5′ to 6′	Opencast	..	..	17	52	69	1	..	1	Open.
Millerton	,,	W. Lowden and J. Pfeffer	Westport Coal Co., Ltd., Dunedin	40	Bituminous	1	4′ to 40′	12′	Bord and pillar	..	T. 298 ch.	71,757	8,071,556	8,143,313	70	319	389	Fan.
Denniston	,,	J. McArthur and A. Smith	,, ,,	51	,,	2	3′ to 30′	Full	Ditto	..	T. 421 ch.	133,762	9,973,114	10,106,876	140	347	487	,,
Westportmain	,,	H. Brady	Westport-Granity Coal-mines, Ltd., Westport	7	,,	1	10′	10′	,,	..	..	14,758	157,340	172,098	22	23	45	Natural.
Westport-Mokihinui	,,	P. Bird	McIntosh and Willman, Seddonville	11	,,	1	4′ 6″	4′ 6″	,,	..	..	1,768	40,601	42,369	..	4	4	,,
Westport-Stateville	,,	R. Mulholland	Westport-Stateville Co-operative Coal Pty., Westport	7	,,	1	10′	10′	,,	..	..	119	13,054	13,173	2	4	6	,,
Westport-Stockton	,,	T. McGhie	Westport-Stockton Coal Co., Ltd., Christchurch	23	,,	2	4′ to 20′	10′	,,	..	..	107,356	2,795,042	2,902,398	110	196	306	Fan.
Wynn's	,,	G. Wynn	G. Wynn, Seddonville	8	,,	1	4′ 4″	4′ 4″	,,	..	T. 1 ch.	442	5,984	6,426	..	2	2	Natural.
St. Helens	,,	W. McGuire	Roger Bros., St. Helens	2	,,	1	2′ to 6′	2′ to 6′	,,	..	..	2,938	150	3,088	..	6	6	,,
Brighton (Hunter's)	Freehold	L. J. McKendry	Price Bros. (leased to Hunter and party), Brighton	3	Lignite	1	8′	8′	,,	..	T. 3 ch.	120	444	564	..	2	2	,,
Bowater and Bryan	Crown lease	L. Husband	Bowater and Bryan, Charleston	2	,,	1	12′ to 25′	Full	Opencast	..	..	97	280	377	2	..	2	Open.
Rocklands	,,	J. P. Burley	J. P. Burley, Berlins	29	Brown	1	27′	8′	Bord and pillar	..	..	243	10,099	10,342	..	2	2	Natural.
Whitecliffs	,,	J. H. Burley	J. H. Burley, Berlins	9	,,	1	18′	9′	Ditto	..	T. 14 ch.	578	2,527	3,105	..	2	2	,,
Reefton District.																		
Archer's	Freehold and Crown lease	F. W. Archer	F. W. Archer, Cronadun	36	Brown	4	4′ to 18′	8′ to 14′	Bord and pillar	..	T. 10 ch.	3,229	43,238	46,467	1	7	8	Natural.
Clele	Crown lease	C. McMasters	V. W. Alborn, Reefton	45	,,	1	5′ to 6′	5′ to 6′	Ditto	..	..	3,931	43,281	47,212	2	6	8	,,
Coghlan's	Freehold	J. L. Banks	J. Coghlan, Reefton	34	,,	1	12′	9′	,,	..	T. 5 ch.	3,107	18,562	21,669	1	4	5	,,
Coghlan's	Crown lease	A. Harris	,, ,,	5	,,	1	12′	9′	,,	..	T. 5 ch.	420	3,913	4,333	..	3	3	,,
Collin's	,,	N. Collins	N. Collins, Reefton	39	,,	1	8′	8′	,,	..	..	501	58,829	59,330	1	2	3	,,
Terrace	,,	C. Svenson	W. Blackadder, Reefton	11	,,	1	9′	8′	,,	..	..	839	5,845	6,684	..	3	3	,,

Burke's Creek		,,	W. Parsonage	Burke's Creek Collieries, Ltd., Wellington	30	,,	1	10′ to 14′	8′	,,	1	T. 10 ch.	10,670	190,223	200,893	9	28	37	Fan.
Times Street		,,	H. A. Honey	H. A. Honey, Reefton	3	,,	1	35′	8′	,,			563	1,517	2,080		2	2	Natural.
Morrisvale		,,	W. Wood	W. J. Morris, Reefton	19	,,	2	12′	8′	,,		T. 14 ch., S. 14 ch.	12,460	88,611	101,071	6	14	20	,,
White Rose		,,	W. Osborn	W. Osborn, Merrijigs	8	,,	1	4′	4′	,,			23	169	192		1	1	,,
Waitahu		,,	A. D. Williams	A. D. Williams, Reefton	22	,,	1	8′	5′	,,	1	T. 6 ch.	858	6,169	7,027	1	3	4	,,
Lankey's Creek		,,	J. Bolitho	Wealth of Nations, Ltd., Reefton	20	,,	1	1′ to 10′	1′ to 10′	,,	1	T. 1½ ch.	2,402	28,537	30,939		4	4	,,
Grey District.																			
Baddeley's	State Reserve		J. Rowse	Baddeley and party, Runanga	11	Sub-bituminous	1	5′	5′	Bord and pillar			5,349	37,650	42,999	1	7	8	Fan.
Bellbird	,,		F. Fauth	Fauth and party, Greymouth	4	Ditto	1	9′	9′	Ditto	1	T. 10 ch.	2,966	8,569	11,535	1	3	4	Natural.
Bellvue	,,		J. Hadcroft	Bellvue Co-op. party, Greymouth	5	,,	1	7′	6′	,,			10,025	27,515	37,540	1	7	8	Fan.
Blackball	Freehold		J. G. Quinn	Blackball Coal Mines Pty., Ltd., Christchurch	40	Bituminous	2	17′	15′	,,	2	T. 9 ch.	12,171	3,897,427	3,909,598	20	27	47	,,
Blackball Creek	,,		,,	Blackball Creek Coal Co., Ltd., Blackball	½	,,	1	17′	15′	,,	1	T. 4 ch.	4,093		4,093	5	34	39	,,
Braehead	State Reserve		J. Watson	Boote and party, Dunollie	11	Sub-bituminous	1	9′	9′	,,	1	T. 14½ ch.	6,236	52,974	59,210	3	9	12	Natural.
Briandale	Crown lease		T. Howard	Briandale Collieries, Ltd., Christchurch	5	Ditto	1	4′ to 7′	Full	,,			9,032	43,208	52,240	4	10	14	,,
Brunner (Wallsend)	Crown lease and freehold		G. Smith	Brunner Collieries, Ltd., Wellington	8	Bituminous	1	18′	8′ to 10′	,,	2	T. 10 ch.	58,861	314,999	373,860	36	137	173	Fan.
Cain's	State Reserve		E. Cain	J. and E. Cain, Rapahoe	7	Sub-bituminous	1	4′ to 7′	Full	,,	1	T. 8 ch.	1,031	3,461	4,492	1	3	4	Natural.
Castlepoint	,,		S. Hewison	Castlepoint Co-op. party, Runanga	5	Bituminous	1	5′ 6″	5′ 6″	,,	1	T. 26 ch.	9,669	29,742	39,411	2	13	15	Fan.
Cox Creek	Crown lease		C. Kaye	T. E. Coates, Greymouth	5	Sub-bituminous	1	4′ 3″	4′ 3″	,,			2,116	2,139	4,255	1	5	6	Natural.
Curtis and Party	,,		C. Curtis	Curtis and party, Greymouth	½	Ditto	1	4′ 6″	4′ 6″	,,	1	T. 3 ch.	391		391	1	4	5	,,
Dennehy's	,,		R. Scott	J. M. Dennehy, Barrytown	3	,,	1	4′	4′	,,			77	67	144		2	2	,,
Duggan's	State Reserve		W. Richmond	Duggan and party, Rewanui	10	Bituminous	1	4′ 6″	3′ 9″	,,	1	T. 6 ch.	4,682	37,226	41,908	1	7	8	,,
Goldlight	,,		J. Kelly	Goldlight Co-op. party, Runanga	4	Sub-bituminous	1	7′	6′ to 7′	,,			9,966	19,265	29,231		9	9	Fan.
Fiery Cross	,,		J. Sharp	Currie and party, Dunollie	3	Ditto	1	6′	6′	,,	1	T. 9 ch.	4,349	7,160	11,509	1	9	10	,,
Dobson	Crown lease and freehold		C. Hunter	Grey Valley Collieries, Ltd., Christchurch	9	Bituminous	1	9′ to 16′	9′	Panel and bord and pillar	1	T. 18 ch.	66,432	445,538	511,970	49	239	288	,,
Hilltop	State Reserve		V. Armstrong	Armstrong and party, Runanga	1	Sub-bituminous	1	4′ to 16′	9′ 6″	Bord and pillar			7,362		7,362	1	9	10	,,
Hunter's	,,		J. Neilson	Hunter and party, Greymouth	11	Ditto	1	5′	5′	Ditto			9,806	38,210	48,016	1	11	12	,,
Jubilee	,,		W. Wallwork	Grey-Jubilee Co-op. party, Christchurch	4	,,	1	4′ 6″	4′ 6″	,,			3,698	9,909	13,607	1	3	4	Natural.
Moody Creek	,,		T. Heyes	Moody Creek Co-op. party, Dunollie	9	,,	1	5′ 6″	5′ 6″	,,			6,243	37,850	44,093	3	8	11	Fan.
New Point Elizabeth	,,		P. Manderson	New Point Elizabeth Co-op. party, Dunollie	5	,,	1	10′	10′	,,			10,133	25,242	35,375	2	9	11	Natural.
Old Runanga	,,		E. W. Kennedy	Old Runanga Co-op. party, Rewanui	5	Bituminous	1	6′ to 8′	6′ to 8′	,,			6,208	20,721	26,929	3	8	11	Fan.
Paparoa	Crown lease		A. O'Donnell	Paparoa Coal Co., Ltd., Wellington	23	Semi-bituminous	2	5′ to 25′	8′ to 25′	,,	1	T. 48½ ch.	26,608	652,995	679,603	8	28	36	,,
Schultze Creek	,,		M. Fowler	Marshall and party, Rapahoe	7	Sub-bituminous	1	3′	3′	,,	1	T. 4½ ch.	4,248	16,071	20,319	1	9	10	,,
Liverpool (State)	State Reserve		T. King	N.Z. Government, Wellington	19	Bituminous	5	6′ to 34′	Full	,,	2	T. 38 ch. and 36 ch.	120,840	2,163,947	2,284,787	96	251	347	,,
James (State)	,,		J. Armstrong	,, ,,	9	Sub-bituminous	1	4′ to 8′	,,	,,	1	T. 15 ch.	38,783	269,421	308,204	19	60	79	,,
Stillwater	Crown lease		T. H. Boustridge	T. H. Boustridge, Greymouth	4	Bituminous	1	7′	7′	,,			120	1,630	1,750		3	3	Natural.
Smith's	State Reserve		A. Ferguson	Smith and party, Dunollie	11	Sub-bituminous	1	7′	7′	,,			6,508	47,674	54,182	2	9	11	Fan.
Spark's	,,		J. Unwin	Spark and party, Rewanui	10	Bituminous	1	6′	6′	,,	1	T. 1 ch.	3,989	30,806	34,795	2	6	8	
United Brunner	Crown lease		W. Richardson	United Brunner Coal-mines, Ltd., Christchurch	½	,,	1	6′ to 20′	8′	,,	1	T. 2 ch.	131		131	6	4	10	Natural.
Tyneside	,,		J. Strang	Tyneside Collieries, Ltd., Christchurch	2	,,	1	12′	8′	Opencast			161	1,213	1,374	3		3	Open.
Output of collieries included in previous statements at which operations are abandoned or suspended														7,411,809	7,411,809				

SOUTHERN INSPECTION DISTRICT.

Canterbury District.																			
Homebush, Glentunnel	Freehold		W. Leeming (P.)	Homebush Brick and Tile Co., Glentunnel	58	Brown	1	7′	7′	Bord and pillar			1,964	356,584	358,548	1	3	4	Natural.
Bush Gully, Coalgate	,,		E. Charles (P.)	J. Dean's Estate, Coalgate	14	,,	1	4′	4′	Ditto		T. 330′	1,317	41,662	42,979		3	3	,,
Clearview, Glenroy	,,		Geo. Aitken (D.)	Clearview Coal Co., Glenroy	12	,,	1	10½′	9½′	,,			1,665	21,545	23,210	1	2	3	,,
Tripps, Mount Somers	,,		M. Menaglio (F.D.)	Mount Somers Coal Co., Mount Somers	65	,,	3	10′ to 20′	10′	,,		T. 594′	1,410	87,891	89,301		3	3	,,
Woodbank, Albury	Crown lease under Lands Act		J. H. Smillie (D.)	Duncan Ross, Albury	7	Lignite	1	24′	8′	,,		T. 110′	1,218	3,492	4,710	1	2	3	,,
Klondyke, Bush Gully	Freehold		J. Campbell (D.)	Klondyke Collieries, Ltd., Whitecliffs	3	Brown	1	24′	12′	,,		T. 1,236′	1,830	1,591	3,421	1	4	5	,,
Springfield	,,		J. Taylor (P.)	J. Taylor, Springfield	48	,,	2	1½′ to 3½′	3½′	,,		T. 120′, T. 210′	151	92,882	93,033	1	2	3	,,

COLLIERY STATISTICS, 1931—*continued.*

Name of Mine and Locality.	Title held (Crown Lease or otherwise).	Name of Mine-manager.	Name and Address of Owner.	Number of Years worked.	Classification of Coal.	Number of Seams worked.	Thickness of Coal-seam.	Thickness worked.	System of Underground Working.	Number of Winding-shafts.	Depth of Shaft or Length of Tunnel.	Total Output for 1931.	Total Output to 31st December, 1930.	Total Output to 31st December, 1931.	Number of Persons ordinarily employed.			Means of Ventilation.
															Above.	Below.	Total.	
SOUTHERN INSPECTION DISTRICT—*continued.*																		
Canterbury District—contd.												Tons.	Tons.	Tons.				
Blackburn, Mount Somers	Crown lease	R. McDonald (2nd C.)	Blackburn Coal Co., Mount Somers	2	Brown	1	25′	8′	Bord and pillar		T. 330′	2,353	9	2,362	2	5	7	Natural.
Sheffield	Freehold	Jas. McQueen (P.)	McQueen Bros., Sheffield	2	,,	1	2¾′	2¾′	Ditto		T. 25′	85	8	93	1	3	4	,,
Bonanza, Sheffield	,,	,,	,, ,,	..	,,	1	8′	8′	,,		..	95	..	95				,,
North Otago District.																		
St. Andrews, Papakaio	Freehold	T. Nimmo, jun. (U.)	Duncan Cameron, Papakaio	52	Lignite	1	6′ to 9′	6′	Bord and pillar		T. 198′	2,254	66,909	69,163	1	4	5	Natural.
Airedale, Papakaio	Crown lease	A. Beardsmore, jun. (D.)	A. Beardsmore and Son, Papakaio	5	,,	1	7′ to 10′	6′ to 7′	Ditto		..	1,376	3,822	5,198	1	3	4	,,
Ngapara, Ngapara	Freehold	Wm. Nimmo (U.)	Wm. Nimmo, Ngapara	53	,,	1	25′	8′ to 10′	,,		T. 50′	979	45,168	46,147	1	2	3	Fan.
Shag Point (old mine), Shag Point	Crown lease	Wm. McLaren (P.)	Bruce Railway and Coal Co., Dunedin	17	Brown	1	5′	All	,,		T. 450′	684	420,335	421,019	1	2	3	Natural.
Shag Point Coal-mining Co., Shag Point	Freehold	A. S. Gillanders (1st C.)	Shag Point Coal-mining Co., Dunedin	23	,,	1	3′ to 3½′	3′ to 3½′	,,		T. 500′	17,011	284,624	301,635	10	50	60	Fan.
Diamond Hill, Herbert	,,	T. Green (D.)	G. Anderson, Herbert	4	,,	1	3′ 6″	3′ 6″	,,		T. 150′	40	223	263	..	1	1	Natural.
Oakdene, Maheno	,,	P. Campbell (1st C.)	J. P. Watson, Maheno	1	,,	1	3′ to 4′	3′ to 4′	Opencast		..	122	..	122	1	1	2	Open.
Malmanche's, Awakino	,,	W. B. Walker (P.)	J. Malmanche, Kurow	1	,,	1	10′	6′ to 7′	Bord and pillar		T. 120′	40	..	40	..	1	1	Natural.
Central Otago District.																		
Rough Ridge, Oturehua	Crown lease	E. Beck (P.)	Margaret Beck, Oturehua	44	Lignite	1	20′	All	Opencast		..	24	35,677	35,701	..	..	..	Opencast.
Idaburn, Oturehua	Freehold	J. W. Cuthbertson (D.)	C. L. Fisher, Oturehua	61	,,	1	20′	,,	,,		..	1,273	54,742	56,015	2	..	2	,,
Oturehua, Oturehua	Crown lease	A. Brown (P.)	Becker Bros., Oturehua	37	,,	1	20′	6′	Bord and pillar		T. 600′	490	6,431	6,921	1	1	2	Fan.
Cambrian, Cambrian	,,	D. Jones (P.)	Vinegar Hill Hydraulic Sluicing Co., St. Bathan's	70	,,	1	22′	22′	Opencast		..	395	52,456	52,851	2	..	2	Opencast.
Coal Creek Flat	,,	N. Harliwich (P.)	N. Harliwich, Coal Creek Flat	61	,,	1	26′	12′	,,		..	2,453	97,866	100,319	2	..	2	,,
Bannockburn, Bannockburn	,,	J. Hodson, jun. (2nd C.)	J. Hodson, Bannockburn	54	,,	1	6′ to 20′	4′ to 8′	Bord and pillar		T. 200′	1,912	124,249	126,161	1	2	3	Natural.
Nevis Crossing, Nevis	,,	R. Ritchie (P.)	Robt. Ritchie, Nevis	28	Brown	1	13′	6′	Drive		T. 50′	60	18,216	18,276	..	1	1	,,
Parfit's, Upper Idaburn	,,	I. Parfit (P.)	Parfit and Marslin, Naseby	6	Lignite	1	13′	13′	Opencast		..	181	695	876	1	..	1	Open.
South Otago District.																		
Freeman's, Abbotsford	Freehold	W. Evans (U.)	Freeman's Coal Co., Green Island	51	Lignite	1	8′ to 10′	All	Bord and pillar		..	4,778	618,299	623,077	2	5	7	Natural.
Jubilee, Fairfield	,,	J. Hadcroft (1st C.)	Jubilee Coal Co., Dunedin	34	,,	1	5′ to 9′	4′ to 7′	Ditto		T. 1,518′	16,240	563,524	579,764	5	26	31	Fan.
Jubilee (under roads)	Crown lease	,,	,, ,,	..	,,	..	..	..	..		..	..	..	..	..	..	..	..
Willowbank, Riccarton	Freehold	W. Robertson (U.)	Geo. Scurr and Co., Ltd., Mosgiel Junction	11	,,	1	14′	6′	Bord and pillar		T. 462′	6,327	33,713	40,040	2	10	12	,,
Auchmeddon, Fairfield	,,	H. Orr (2nd C.)	H. Orr, Fairfield	6	,,	1	4′	4′	Opencast		..	8	57	65	..	..	..	Open.
Saddle Hill	,,	W. McLellan (P.)	G. McMaster, Fairfield	1	,,	1	8′	6′	Bord and pillar		T. 165′	796	236	1,032	..	2	2	Natural.
Brighton, Brighton	,,	N. McColl (P.)	N. McColl, Brighton	16	,,	1	6′	5′	Ditto		T. 132′	524	9,485	10,009	..	2	2	Natural.
Brighton (under roads)	Crown lease	,,	,, ,,	..	,,	..	..	..	..		..	..	..	..	..	..	..	..
Taratu, Lovell's Flat	Freehold	A. Morris (1st C.)	Sargood and Cheeseman, Dunedin	30	Lignite	1	25′ to 40′	7′ to 30′	Bord and pillar		T. 205′, 180′, and 924′	13,515	718,949	732,464	16	16	32	Fan.
Lakeside (late Tuakatito)	,,	J. Throp (P.)	J. Throp, Kaitangata	21	,,	1	8′	8′	Ditto		T. 150′	1,389	9,055	10,444	1	2	3	,,
Wangaloa, Kaibrook—Kaitangata	Crown lease	W. Barclay (D.)	Wm. Barclay, Kaitangata	9	,,	1	10′	8′	,,		T. 66′	1,256	2,587	3,843	1	3	4	Natural.
													2,844	2,844				
Kaitangata No. 1	Freehold	F. Carson (1st C.)	Kaitangata Coal Co., Kaitangata	55	Brown	2	8′ and 25′	All	,,		T. 1,188′, T. 4,620′	92,773	4,792,036	4,884,809	43	202	245	Fans.
Kaitangata No. 2	,,			19	,,	2	8′	,,	,,		T. 1, 386′, T. 957′							
Kaitangata (under roads)	Crown lease			..	..	..	..	..	..		T. 1,155′							
Benhar, Benhar	Freehold	J. Walls (2nd C.)	McSkimming and Son, Ltd., Benhar	68	Lignite	3	14′	10′	Bord and pillar		T. 820′	6,713	287,768	294,481	1	6	7	Fan.
Elliotvale, Moneymore	,,	J. M. Robertson (P.)	W. Cockburn, Milton	2	,,	1	30′	7′	Ditto		T. 264′	1,524	1,048	2,572	1	2	3	Natural.
Kaituna, Kaitangata	,,	R. S. Burgess (D.)	R. S. Burgess, Kaitangata	22	,,	1	4′	4′	,,		T. 95′	36	26,136	26,172	..	1	1	,,

Essbank, Milton	„	E. Beardsmore (P.)	Beardsmore Bros. and Adams, Milton	1	„	1	8′	8′	„	T. 132′	2,021	..	2,021	1	3	4	Natural.
Salisbury	„	R. Penman (F.D.)	Penman and Jackson, Surrey St., Caversham	5	„	1	7′	6′	„	..	195	4,738	4,933	1	1	2	„
Kai Point, Kaitangata	„	S. Newburn (2nd C.)	S. Newburn, Kaitangata	4	„	1	17′	8′	„	T. 180′	336	3,089	3,425	..	2	2	„
Riverside (late Tres Bon)	Crown lease	H. O. Kear (P.)	H. O. Kear, Waronui	10	„	1	16′	7′	„	T. 190′	675	32,400	33,075	1	2	3	„
Summerhill, Kaitangata	Freehold	T. Gage (D.)	T. Gage, Kaitangata	6	„	1	16′	7′	„	T. 360′	20	938	958	..	..	..	„
Southland District.																	
Green's, Gore	Freehold	F. Barclay (2nd C.)	Ex estate late T. Green, Gore	43	Lignite	1	19	10′	Bord and pillar	T. 1,100′	7,801	363,203	371,004	3	6	9	Fan.
Glenlee, Waikaka	„	F. W. Edge (P.)	A. A. Edge, Waikaka	38	„	1	14′	7′	Ditto		1,162	33,652	34,814	..	2	2	Natural.
Landslip, Waikaia	Crown lease	T. Northcoat (P.)	T. Northcoat and Lahey, Waikaia	32	„	1	3′ to 10′	All	Opencast		179	37,579	37,758	2	..	2	Open.
Lawrence's (formerly McIver's), Waikaia	„	B. Lawrence (P.)	B. Lawrence, Freshford	8	„	1	5′ to 7′	„	„		250	1,275	1,525	2	..	2	„
Argyle, Waikaia	„	T. Woodward (P.)	Thos. Woodward, Waikaia	40	„	1	12′	„	„		427	11,736	12,163	1	..	1	„
Princhester Creek, The Key	„	J. A. Denton (P.)	J. A. Denton, private bag, Lumsden	29	Brown	1	5½′	„	„		255	3,650	3,905	1	..	1	„
Boghead, Mataura	Freehold	Thos. Gaudion (P.)	C. E. Rowe, Mataura	26	Lignite	1	20′	12′	Bord and pillar	T. 495′	5,846	64,501	70,347	..	4	4	Natural.
Mataura Lignite, Mataura	„	A. E. Barnes (2nd C.)	Beattie, Coster, and Co., Mataura	55	„	1	18′	10′	Ditto	T. 1,320′	12,866	357,689	370,555	2	6	8	Fan.
Hamilton and Randall's, Waimumu	„	A. Maxwell (P.)	Hamilton and Randall, Gore	3	„	1	15′	All	Opencast		2,225	650	2,875	1	..	1	Open.
Ota Creek	Crown lease	E. Genge (P.)	E. Genge, Wyndham	51	„	1	8′	„	„		256	30,834	31,090	1	..	1	„
Diamond Lignite, Asher's	„	A. McMillan (P.)	S. McMillan, Invercargill	29	„	1	38′	„	„		993	35,732	36,725	1	..	1	„
Black Diamond, Nightcaps	„	R. W. Duncan (1st C.)	Black Diamond Coal Co., Invercargill	16	Brown	1	25′	„	Bord and pillar		6,551	218,376	224,927	4	8	12	Fan.
Mossbank Nos. 1 and 3, Ohai	„	J. McLelland (1st C.)	Mossbank Coal Co., Invercargill	17	„	1	6′ to 24′	„	Ditto	T. 462′	45,669	314,495	360,164	19	57	76	„
Wairaki No. 1, Ohai	„	J. T. Mosley (1st C.)	Wairaki Coal Co., Gore	18	„	1	15′	„	„	T. 1,980′	29,030	366,415	395,445	18	46	64	„
Wairaki No. 2, Ohai	Freehold	„	„	13	„	1	16′	„	„	T. 900′							
Linton, Ohai	Crown lease	Geo. Gilbert (1st C.)	Linton Coal Co., Invercargill	16	„	1	30′ to 40′	„	„	T. 2,640′	90,516	731,549	822,065	40	140	180	Fans.
„	Freehold	„	„	..	„	1	30′ to 40′	„	„								
Black Lion, Ohai	Crown lease	Ed. Mason (2nd C.)	Black Lion Coal Co., Invercargill	10	„	1	10′	7′	„	T. 264′	11,308	56,718	68,026	5	15	20	Fan.
Smithvale, Nightcaps	Freehold	Wm. Dyet (D.)	McSkimming and Son, Benhar	5	„	1	8′	All	Opencast		942	1,355	2,297	3	..	3	Open.
McSkimming and Son	Coal prospecting license	„ „	„ „	..	„	..	..	..	..	..	198	..	198	..	1	1	Natural.
Wendon, Wendon	Crown lease	E. Radford (P.)	J. E. Radford, Wendon	7	Lignite	1	20′	12′	Bord and pillar	T. 150′	479	1,341	1,820	..	2	2	„
Otikerama	Freehold	Jos. Hoffman (P.)	A. McDonald, Otikerama	42	„	1	20′	12′	Ditto		1,584	47,369	48,953	1	2	3	„
Hakatea, Waimumu	„	Jas. Milne (P.)	A. P. Cowie, Gore	3	„	1	15′	All	Opencast		1,123	1,206	2,329	1	..	1	Open.
Lobb's Hill, Ohai	Coal prospecting license	A. Marelich (P.)	Russell and Marelich, Ohai	2	„	1	3′ to 5′	„	Bord and pillar	T. 264′	440	643	1,088	1	2	3	Natural.
Rosedale, McNab	Freehold	Jas. McCord (P.)	A. Reinke, Howe	6	„	1	10′	„	Opencast		1,062	1,371	2,433	2	..	2	Open.
Croydon Coal Co.	„	D. McAskill (P.)	Croydon Coal Co., Gore	16	„	1	12′	„	„		1,174	23,256	24,430	2	..	2	„
Birchwood No. 2, Ohai	Crown lease	Jas. Lewis (1st C.)	Birchwood Coal Co., Dunedin	8	Brown	1	25′	7′	Bord and pillar	T. 1,485′	18,682	66,204	84,886	12	34	46	Fan.
Whiterig Opencast	Freehold	J. S. Wilks (P.)	G. B. Paterson, Gore	1	Lignite	1	4′ to 8′	All	Opencast		423	..	423	1	..	1	Open.
Kingdon's, Mataura	„	P. Larking (P.)	P. Larking, Mataura	1	„	1	..	8′	„		308	..	308	1	..	1	„
Terrace, Mataura	„	J. Buchols (F.D.)	A. Perry, Mataura	1	„	1	8′	8′	„		106	..	106	1	..	1	„
Output of mines included in previous statements at which operations have been abandoned or suspended				..		..	..	..	..		..	7,138,632	7,138,632	..	..	..	..
Totals, Southern District, South Island											432,363	18,833,410	19,265,773	232	705	937	
Totals, West Coast District, South Island											890,494	37,924,038	38,814,532	698	2,049	2,747	
Totals, Northern District, North Island											834,899	16,786,669	17,621,568	484	1,577	2,061	
Grand totals											2,157,756	73,544,117	75,701,873	1,414	4,331	5,745	
Output of collieries prior to 1890 not included in the above statement											..	..	296,653				
Shale exported, 1914											..	..	21				
													75,998,547				

APPENDIX C.

REPORT OF BOARDS OF EXAMINERS.

SIR,— Geological Survey Office, Wellington, 1st August, 1932.

On behalf of the Boards of Examiners under the Mining and Coal-mines Acts, I have the honour to submit the following brief report on the work of the Boards during 1931 :—

It is with very great regret that I record the death on the 1st January of this year of the late Mr. J. A. C. Bayne, Chief Inspector of Coal-mines and Inspecting Engineer of Mines, who had been an active member of both Boards since his appointment, by virtue of his office, on the 30th January, 1923. His death was a great loss to the Boards.

The annual examination of candidates for mine-managers' certificates under the Coal-mines Act, 1925, was held at Waihi, Huntly, Reefton, Westport, Greymouth, and Dunedin on the 20th, 21st, and 22nd October. In addition, candidates were examined at Huntly and Greymouth for mine-surveyors' certificates under the Coal-mines Act. On the same dates two candidates were examined at Dunedin for mine-managers' certificates under the Mining Act, 1926. Four examinations of candidates for certificates as underviewers and firemen-deputies under the Coal-mines Act were also held—one at Dunedin on the 1st September, one at Greymouth on the 17th and 18th November, one at Westport on the 21st November, and one at Huntly on the 26th and 27th November. One candidate was also examined at Dunedin on the 18th May for a dredgemaster's certificate, and one at Thames on the 18th December for a battery superintendent's certificate.

The following is a summary of the various examinations held and the results obtained :—

Act and Examination.	Number of Candidates.			Number of Certificates issued.	
	Examined.	Passed.	Partial Pass.	By Examination.	By Recognized Credentials.
1. *Coal-mines Act, 1925*—					
Mine-manager's certificate—					
(*a*) First class	..	..	..	..	1
Written examination	13	1	3	1	..
Oral examination	4				
(*b*) Second class—					
Written examination	13	1	7	1	..
Oral examination	11				
Underviewer's certificate	24	9	5	9	..
Fireman-deputy's certificate	47	36	9	36	..
Mine-surveyor's certificate	2	..	..	..	..
2. *Mining Act, 1926*—					
Battery superintendent's certificate—					
Written examination	..	..	..	..	..
Oral examination	1*	1	..	1	..
Mine-manager's certificate—					
Written examination	2	..	2	..	..
Oral examination	2				
Dredgemaster's certificate	1	1	..	1	..

* Passed the written examination last year.

Under the Coal-mines Act, 1925, seventy-nine gas-testing certificates were also issued as well as one duplicate fireman-deputy's certificate and one duplicate gas-testing certificate. Under the Mining Act, 1926, two service permits as oil-well managers were granted. Under section 11 (6) of the Mining Amendment Act, 1927, two dredgemasters' certificates granted prior to the passing of that Act were endorsed as Class A certificates. With the exception of gas-testing certificates the number of persons who applied for certificates both under the Coal-mines Act and the Mining Act was the same as last year. The standard of the work of the candidates who sat for examination was up to the average of previous years.

A list of the certificates issued since my last report and which have been confirmed by the Boards is appended :—

COAL-MINES ACT, 1925.

FIRST-CLASS MINE-MANAGERS' CERTIFICATES.

Issued after Examination.—Wearn, Richard John, Collingwood.

Issued on Production of Certificate from a Recognized Authority outside the Dominion.—Blackburn, Christopher, Greymouth.

SECOND-CLASS MINE-MANAGER'S CERTIFICATE.

Issued after Examination.—Lees, Thomas Wilson, Glen Massey.

UNDERVIEWERS' CERTIFICATES.

Issued after Examination.—Anderson, James, Denniston; Bird, Robert William, Ohai; Brown, William, Glen Afton; Burchfield, Walter, Granity; Cowan, Thomas, Huntly; Gardner, Matthew, Pukemiro Junction; Gaskell, Gilbert, Westport; Jenkinson, Alfred, Runanga; Joines, Frank Edward, Pukemiro; Mackay, Donald, Ohai; McEwen, Harold Wallace, Stockton; McLean, Roderick, Reefton; Simpson, James Cochrane, Runanga; Strang, James, Blackball; Todd, Stephen, Glen Afton; Turner, George Thomas, Reefton; Whitelaw, James, Kaitangata; Wilkinson, Herbert, Pukemiro.

FIREMEN-DEPUTIES' CERTIFICATES.

Issued after Examination.—Allen, Richard Thomas, Reefton; Banks, James Lewis, Reefton; Barclay, James, Kaitangata; Berry, Willis, Dunollie; Briggs, William Henry, Renown, via Huntly; Cockfield, John, Denniston; Coppersmith, William John, Denniston; Featherstone, Joseph Lovell, Pukemiro Junction; Ferguson, John Leishman, Ohai; Forsyth, Neil, Westport; Gaudion, Thomas Shade, Mataura; Heineger, Thomas, Greymouth; Honey, John Ralph, Huntly; Hunter, Robert, Ohai; Johnstone, John Braidwood, Nightcaps; Lennox, Andrew Lightbody, Renown, via Huntly; Mitchell, James, Glen Afton; Mitchell, John, Seddonville; Menaglio, Marten, Mount Somers; McMaster, Cecil Stanley, Reefton; McNeish, John Alexander, Brunner; Nimmo, John Haddo, Peebles; O'Callaghan, William John, Huntly; Phair, James, Nightcaps; Potter, George, Millerton; Prescott, Joseph, Kaitangata; Ridley, William, Pukemiro Junction; Robson, Thomas, Huntly; Rothera, James William, Taylorville; Scott, Robert, Runanga; Smith, Edward Walker, Hikurangi; Smithson, Albert C. L., Dunollie; Svenson, Carl August, Reefton; Tatley, Ernest, Reefton; Thomson, Thomas Gordon, Whangarei; Tyson, William, Dunollie; Vaux, John Robert, Westport; Young, Daniel, Denniston.

MINING ACT, 1926.

OIL-WELL MANAGERS' SERVICE PERMITS.

Bisset, George, Glen Massey; Brown, Nathaniel Isaiah Wilhelm, Kauana.

BATTERY SUPERINTENDENT'S CERTIFICATE.

Issued after Examination.—Rollinson, Harold George V. Blyth, Waikino.

MINING AMENDMENT ACT, 1927.

DREDGEMASTER'S CLASS A CERTIFICATE.

Issued after Examination.—Chapman, Samuel, Christchurch.

DREDGEMASTERS' CERTIFICATES ENDORSED AS CLASS A CERTIFICATES.

Mitchell, David Alexander, Okarito; Wood, William Wilson, Okarito.

I have, &c.,
J. HENDERSON, Chairman of Boards.

The Under-Secretary, Mines Department, Wellington.

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