MINES STATEMENT.

CONTENTS.

APPENDICES TO THE MINES STATEMENT—*continued.*

1933.

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, 1932.

GOLD-MINING.

As forecasted by me in the statement for the preceding year, there has been a satisfactory increase in the quantity of bullion produced during the year 1932 when compared with the previous twelve months.

During the year 1932 729,146 oz., valued at £1,019,814, was produced, an increase in quantity of 164,275 oz., and in value of £362,625, as compared with the previous year. The quantity produced is the greatest recorded since 1918, and the value the greatest since 1917.

The gold content of the bullion for 1932 is estimated at 166,354 oz., valued at £974,734, as compared with 129,861 oz., valued at £627,451, for 1931.

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 1932 and 1931 :—

Mineral.	1932.		1931.	
	Quantity.	Value.	Quantity.	Value.
		£		£
Gold and silver*	729,146 oz.	1,019,814	564,871 oz.	657,189
Platinum	..	..	½ ,,	5
Iron	..	..	3,460 tons	17,300
Stone	..	241,920	..	316,366
Pumice	3,166 tons	11,812	2,321 tons	7,589
Coal	1,842,022 ,,	1,842,022	2,157,756 ,,	2,157,756
Silica-sand	..	..	35 11/20 ,,	18
Quicksilver	..	..	15 5/20 ,,	7,296
Totals	..	£3,115,568	..	£3,163,519

* 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 £2,883,211, as compared with £2,913,798 during 1931. The total value of such minerals exported to the end of 1932 amounted to £181,939,560.

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 1932 and 1931 :—

Class of Gold-mining.	Production of Bullion.				Dividends paid by Registered Companies.		Number of Productive Claims and Dredges.	
	1932.		1931.		1932.	1931.	1932.	1931.
	Oz.	£	Oz.	£	£	£		
Quartz	684,272	758,231	538,070	532,152	177,230	106,087	49	32
Alluvial	27,214	151,054	15,306	70,110	3,465	470	1,907	726
Dredging ..	17,660	110,529	11,495	54,927	7,000	..	4	5
Totals ..	729,146	1,019,814	564,871	657,189	187,695	106,557	1,960	763

GOLDFIELDS REVENUE AND GOLD DUTY.

The amount of goldfields revenue received and payable to local bodies during the year ended 31st March, 1933, was £15,823 5s. 6d., and the amount received and payable to Native and European owners and special endowments was £220 18s. 9d.

During the same period the sum of £30,432 7s. was received by way of duty on gold exported, of which £22,225 16s. was credited to the Consolidated Fund, and the balance of £8,206 11s. 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 £24,029 16s. 6d. 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, 1933, 1,982 licenses for mining privileges were granted under the provisions of the Mining Act, 1926, as compared with 1,276 for the previous year. Out of this number 383 were licenses for claims authorizing the holders to mine for gold. For the same period 154 mining privileges including twelve licenses for claims, were struck off the registers under the provisions of section 188 of the Act.

The efficient handling of this greatly increased activity has added enormously to the work carried out by the officers of the Mines Department, including the Wardens and their respective staffs, and I think that it is not out of place here for me to express to all of them my personal appreciation of the cheerful and efficient manner in which they have performed their duties, often under severe pressure, and necessitating the working of long hours.

A great mass of information relating to gold-mining areas has been disseminated by the Department during the past twelve months, and has been found helpful by many persons who are taking an interest in mining.

PROSPECTING FOR OIL.

During the year two companies (one in the North Island and one in the South Island) were engaged in boring for oil in the Dominion, the aggregate footage bored being 1,145 ft.

A production of 228,061 gallons of oil was obtained from the Moturoa No. 2 well at New Plymouth. The total production of crude petroleum oil to the 31st December, 1932, is estimated at 1,897,789 gallons.

COAL-MINING.

The production of coal during 1932 again fell away and was less than the 1931 figures by 315,734 tons, or approximately 700,000 tons less than the record output of 1930. It is almost as low as that of 1907 when 3,910 men were employed in the industry whereas 4,636 men were at work in or about the coal-mines in 1932. In 1931 there were 5,745 men so employed.

The increasing use of electricity and of fuel oil has greatly reduced the demand for coal for power and other purposes. The displacement of steam plants, used to generate power, by the Arapuni hydro-electric plant again being put into commission was chiefly responsible for the decrease in the output of brown coal in the Waikato district, and the decline in the requirements of railways and the reduced demand of shipping companies for bunker coal is reflected in the reduced production of bituminous coal on the West Coast.

The requirements of coal for railways, shipping, and gasmaking constitute the greatest outlet for bituminous coal, and to illustrate the position the following statement shows the tonnages used by these services yearly from 1928–29 to 1931–32 inclusive, also the relative position based on the 1928–29 figures, using 100 as index figure for that year.

	1928–29.		1929–30.		1930–31.		1931–32.	
	Tons.	Index Figure.	Tons.	Index Figure.	Tons.	Index Figure.	Tons.	Index Figure.
Railways ..	409,677	100	476,268	116·25	433,004	105·69	369,044	90·08
Shipping ..	319,204	100	315,672	98·89	246,239	77·14	176,811	55·39
Gasworks ..	220,825	100	227,521	103·03	239,788	108·58	220,101	99·67
Totals ..	949,706	100	1,019,461	107·34	919,031	96·77	765,956	80·65

It will be seen from these figures that by comparing the consumption of 1931–32 with that of 1928–29 the use of coal on the Railways declined by about 10 per cent., bunkers declined by about 45 per cent., and gasworks by less than ½ per cent.

As showing the decreasing market in New Zealand for coal, the following table, giving the consumption of coal, is illuminating :—

Year.	Tons consumed.	Population.	Consumption per Head.
			Tons.
1914	2,853,684	1,140,172	2·50
1924	2,757,690	1,352,618	2·04
1929	2,751,520	1,472,925	1·86
1932	1,945,497	1,526,115	1·27

Decrease per head since 1914, 1·23 tons, or 49·2 per cent.

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

Class of Coal.	Output of Coal during 1932.				Total Output to the End of 1932.
	Northern District (North Island).	West Coast District (South Island).	Southern District (South Island).	Total.	
	Tons.	Tons.	Tons.	Tons.	Tons.
Bituminous and sub-bituminous	118,127	810,107	..	928,234	46,476,955
Brown	489,342	33,242	283,813	806,397	26,707,377
Lignite	..	661	106,730	107,391	4,656,237
Totals for 1932 ..	607,469	844,010	390,543	1,842,022	77,840,569
Totals for 1931 ..	834,899	890,494	432,363	2,157,756	75,998,547

The quantity of coal imported during the year 1932—namely, 103,531 tons—shows a reduction of 75,529 tons when compared with the quantity imported during the previous year, and it is the lowest quantity imported since 1899, when 99,655 tons were imported.

LOW-TEMPERATURE CARBONIZATION.

The coal carbonizing and briquetting plant, having a total capacity of 150 tons throughput of raw coal per day of eight hours, established at Rotowaro in 1931 by the Waikato Carbonization, Ltd., at a cost of approximately £160,000 for the treatment of surplus slack coal has continued to make steady progress.

During the year 1932 the raw coal treated amounted to 19,957 tons, from which 10,500 tons carbonettes were manufactured, 134,380 gallons of tar treated, and 204 tons of pitch and 87,950 gallons of oil made.

The pitch was used by the company in the manufacture of the carbonettes, while some of the light oil was sold as fuel, and the balance, after further treatment, was disposed of as a weed-killer.

It is the intention of the company to subject the oils to a further cleansing or refining process so as to produce a high-grade Diesel oil and other products.

INVESTIGATIONS, NEW ZEALAND COALS.

Owing to the termination of the activities of the Coal Research Association, caused by the present trade depression, the programme of investigations on New Zealand coals has necessarily been considerably curtailed.

The briquetting investigation carried out with the aid of a semi-commercial experimental plant erected on the State Coal premises at Wellington has been completed. The results have been published in bulletin form (Bulletin No. 39, New Zealand Department of Scientific and Industrial Research) and embody experiments on the briquetting of a number of New Zealand coals and blends, and practical domestic-firing and steam-raising trials have demonstrated the suitability of briquettes for these purposes. The work has shown that in some localities there is a possibility of commercial success, and as a result it is probable that briquetting may be undertaken on a commercial scale in the near future.

The Department has recognized the possible danger of accumulations of hydrogen sulphide gas in coal-mines, and work is at present being carried out at the Dominion Laboratory with a view to providing a convenient means for its detection and estimation. The protection of concrete stoppings in mines against the destructive action of acid mine-waters is also receiving attention, but the work has not yet been completed.

Progress abroad in connection with the utilization of coal, particularly in regard to the production of oil from coal by the hydrogenation process, has been closely followed. Although great technical advances have been accomplished, it is unlikely, owing to the present low prices of petroleum and its products, that the conversion of coal into oil could be made a commercial success in New Zealand, at any rate not in the immediate future.

PERSONS EMPLOYED IN OR ABOUT MINES AND STONE-QUARRIES.

The following table shows the number of persons employed in each inspection district during 1932 and 1931 :—

Classification.	Inspection District.			Totals.		
	Northern (North Island).	West Coast (of South Island).	Southern (rest of South Island).	1932.	1931.	Increase or Decrease.
Gold, silver, and tungsten ore	893	1,164	1,579	3,636	1,870	Inc. 1,766
Ironstone	..	..	..	..	25	Dec. 25
Cinnabar	..	..	..	..	58	,, 58
Coal	1,339	2,313	984	4,636	5,745	,, 1,109
Stone-quarries under the Stone-quarries Act	1,396	187	305	1,888	1,995	,, 107
Oil	10	..	6	16	56	,, 40
Silica-sand	..	..	..	..	1	,, 1
Totals	3,638	3,664	2,874	10,176	9,750	Inc. 426

MINING AND QUARRY ACCIDENTS.

In metalliferous mines, at which 3,636 men were ordinarily employed, two persons were killed and two persons seriously injured.

At stone-quarries under the Stone-quarries Act, employing 1,888 men, there were no fatal accidents but two serious accidents.

In coal-mines, where 4,636 persons were ordinarily employed, twelve persons were killed and eighteen persons seriously injured.

CO-OPERATIVE MINING, STATE COAL RESERVE.

Eighteen co-operative parties working portions of the State Coal Reserve near Greymouth produced during the year 1932 98,925 tons, the number of men employed being 151. During the previous year seventeen parties produced 108,220 tons, there being a decrease this year of 9,295 tons.

STATE COAL-MINES.

Through the reduced consumption of coal caused by present economic conditions and the increasing use of fuel oil and electricity the outputs from the State collieries, in common with other collieries, showed a reduction as compared with the previous year, resulting in a consequent reduction in the number of days worked by the men.

Notwithstanding the decreased business, the Department did not dismiss the excess number of men employed.

Considering the very difficult trading year, the financial results must be considered as satisfactory, the profit made for the year ended 31st March, 1933, after providing for interest and depreciation, being £11,763. Of this amount, the sum of £8,214 was transferred to the sinking fund, leaving a net surplus for the year of £3,549.

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, 1933, are briefly reviewed hereunder.

Liverpool Colliery.—The gross output for the year was 99,290 tons, as compared with 120,561 tons for last year, a reduction of 21,271 tons.

James Colliery.—The gross output for the year was 29,981 tons, as compared with 38,018 tons for last year, a reduction of 8,037 tons.

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

Mine.	Output, in Tons, 1932–33.		Output, in Tons, 1931–32.	
	Gross.	Net.	Gross.	Net.
Liverpool	99,290	93,780	120,561	114,560
James	29,981	29,020	38,018	36,622

Note.—The difference between the gross and the net output is the allowance for mine consumption and waste. In addition to the above, 3,157 tons of coal were purchased for resale, of which 2,636 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, 29,155 tons; railways, 23,162 tons; other Government Departments, 3,363 tons; shipping, 6,836 tons; gasworks, 52,769 tons; other consumers, 6,170 tons: total, 121,455 tons.

The total sales of State coal from the Liverpool Mine for the year amounted to 94,031 tons, value £114,432,* as compared with 107,944 tons, value £135,505,* for last year—a decrease of 13,913 tons, with a decrease in value of £21,073.

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

The average price realized by the mine on the total sales for the year was £1 4s. 4·1d., a decrease of 9·2d. on last year's average.

The total sales of State coal from the James Mine for the year (inclusive of coal purchased—69 tons) amounted to 27,424 tons, value £36,131,* as compared with 35,968 tons, value £43,785,* for last year—a decrease of 8,544 tons, with a decrease in value of £7,654.

The average price realized by the mine on the total sales for the year was £1 6s. 4·2d. per ton, an increase of 2s. on last year's average.

The sales of coal, &c., through the medium of the depots totalled 89,482 tons, value £158,873, as against 106,083 tons, value £190,818, 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	5,557
The cost of sea carriage of coal amounted to	32,280
The cost of railway haulage amounted to	30,818
The total wages paid for coal-winning were	68,428
The amount paid for management and office salaries (Head Office and mines) totalled	3,254
The gross capital expenditure on the whole undertaking to the 31st March, 1933, was	675,937
The total depreciation written off to date (equal to 74·4 per cent. of the gross capital expenditure) amounts to	502,923
The amount written off for depreciation for the year was	9,463
The present book value of permanent or fixed assets is	173,014
The loan capital stands at	133,733
The net profits of the State Coal-mines Account from inception to 31st March, 1933, after allowing for the special depreciation of Colliery Development Accounts, are	157,102
The net profit for the year ended 31st March, 1933, was	11,763
The Sinking Fund is in credit	8,299
The amount taken out of the Sinking Fund during the year and applied in reduction of loan capital was	7,950
General Reserve stands at	145,254
The amount at credit of Profit and Loss is	3,549
The cash in hand and in the Public Account as at 31st March, 1933, was (last year £6,784)	11,676

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. No new loans were granted during the year under review.

SOCIAL AMENITIES AT MINING TOWNSHIPS.

The amenities referred to in previous statements are being well maintained and continue to be patronized by miners and their families. Tennis and bowling tournaments have become a feature of the social life in mining townships.

At Granity the work of constructing a bowling-green has been undertaken by the Returned Soldiers' Association, and unemployed ex-soldiers are engaged in the work. It is expected the green will be completed during the coming season.

From the State Coal-mines Account grants were authorized to assist the Runanga Borough Council in maintaining streets and for street-lighting and towards the cost of painting the Seddon Memorial Institute.

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

GEOLOGICAL SURVEY.

During the 1932–33 field season the Geological Survey continued work in the Eketahuna and Amuri Subdivisions and began the systematic mapping of the Naseby district. The Eketahuna district contains numerous gas springs and other manifestations of the presence of oil; several bores have been drilled, but without success. Limestone occurs in large amount in the Amuri district, and there are bands of phosphatic material that may have local value. The Naseby Subdivision includes several old alluvial goldfields in which interest has recently revived, as well as thick deposits of lignite so far used only locally.

In addition to the systematic exploration of the subdivisions named, an officer has been in Otago throughout the summer and autumn. He has examined and mapped several gold-bearing areas, and has assisted in interpreting the data obtained by the geophysical observers working on the problems of detailed structure of particular deposits in the same region. A second officer visited the West Coast during April and May. He has examined most of the alluvial goldfields on or near the coast between Westport and Okarito, and has reported on areas suitable for testing by the magnetic method of geophysical survey.

Soil mapping has been carried out in Taranaki and in Waipa County. Six weeks were spent in Taranaki in preparing for the Department of Agriculture a reconnaissance map covering 650 square miles and showing areas covered by soils derived from several showers of volcanic ash from Mount Egmont. The chief work for the year, however, was in Waipa County where the soils of an area of 50 square miles were mapped in considerable detail.

SCHOOLS OF MINES.

Nine candidates sat at the annual Schools of Mines examinations held in November, 1932, for the six scholarships offered annually by the Department to students attending the various Schools of Mines within the Dominion, and, of these candidates, six (one each from the Waihi and Westport Schools and two each from the Thames and Dunedin 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, 1933, was £3,094, as compared with £3,641 for the previous year.

MINERS' PENSIONS.

The Pensions Act, 1926, as amended, provides for payment of pensions to miners seriously and permanently incapacitated by miner's phthisis contracted while mining in New Zealand. The rate of pension for an unmarried miner is £1 2s. 6d. a week, with 9s. a week added for his wife, if married, and a maximum of 9s. a week for each dependent child under fifteen, subject to a limit of £3 16s. 6d. a week for the family.

The widow of a miner who dies of miner's phthisis while entitled to pension is entitled to receive 15s. 9d. a week for the period of two years immediately following the husband's death.

The scheme is administered by the Pensions Department, and the following summary of operations for the year ended 31st March, 1933, has been supplied by the Commissioner of Pensions:—

	£
Payments from 1st November, 1915, to 31st March, 1932	574,257
Payments 1932–33	62,564
	£636,821
Number of new grants for year 1932–33	100
Annual value of new grants	£7,557 1s.
Number of pensions in force at 31st March, 1933	743
Annual value of pensions in force at 31st March, 1933	£56,618 7s.
Average pension per annum	£76 4s. 1d.
Number of pensions granted to 31st March, 1933	2,057
Dissections of pensions in force at 31st March, 1933:—	
Unmarried miners	182
Married miners	428
Miners' widows	133

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 rate of interest allowed on the fund was decreased from 4¾ per cent. to 4 per cent. as from the 1st April, 1932.

The interest earned for the twelve months ended 31st March, 1933, was £920 1s. 4d., as against £1,188 15s. 6d. for the previous year, while for the same periods the receipts from the ½d. per ton contributions were £3,804 17s. 8d. and £4,404 17s. 10d. respectively.

The total expenditure for the year ended 31st March, 1933, amounted to £4,722 4s. 5d., as against £6,362 3s. 2d. for the previous year.

The amount standing to the credit of the fund as at the 31st March, 1933, was £23,124 19s. 2d., as against £23,122 4s. 7d. at the 31st March, 1932.

STATE AID TO MINING.

As in previous years, considerable use was made of the Government prospecting drills. They were hired by twelve parties, and a total of 6,511 ft. was drilled.

The sum of £6,000 was voted for expenditure by way of subsidies for prospecting. The balance of unexpended authorities at the 31st March, 1932, and those issued during the year, less cancellations, amounted to £7,665 19s. 7d. Of this amount the sum of £3,032 2s. 5d. was expended by way of actual subsidies during the year, leaving a balance of £4,633 17s. 2d. authorized but not spent at the 31st March, 1933. In addition, the sum of £377 11s. 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 216.

In addition, approximately 2,500 men were assisted up to the 31st March, 1933, under the Unemployment Board's prospecting schemes, at an approximate cost of £82,000.

Provision totalling £3,146, including £2,756 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, 1932, and those issued during the year amounted to £2,061 9s. 6d. Of this amount the sum of £1,181 16s. 2d. 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 £3,094.

SUBSIDIES TO UNEMPLOYED TO PROSPECT FOR GOLD.

The figures quoted in the previous paragraph show that the assistance afforded through the Unemployment Board and the Mines Department is being availed of by increasing numbers of men.

At the beginning of the year 1931 my predecessor in office viewed with anxiety the increasing number of men thrown out of employment and the great need for finding work for them which would be profitable to themselves as well as to the Dominion. As its own vote was exhausted he made representations to the Right Hon. Minister of Finance and the Unemployment Board to make available a sum out of the Unemployment Fund to subsidize married men to enable them to go prospecting for gold. As a result of these representations, the sum of £2,000 was made available and individual subsidies were authorized by the Minister of Mines, and the prospecting was supervised by the Inspectors of Mines.

Later on, the scheme was extended to the Thames and Coromandel districts, but the subsidy was applied to men both married and single who were eligible for relief in accordance with the rules governing eligibility under the Unemployment Board's Scheme No. 5. These men worked under the control of supervisors whose salaries were paid until quite recently out of the Mines Department's vote; the subsidies being paid out of the Unemployment Fund.

The scheme was extended to other parts of New Zealand, and two qualified Mining Engineers were added to the staff of the Mines Department to examine and report on areas in order to ascertain which would be suitable for prospecting by subsidized men.

An area was set aside at the Maggie and Maud Creeks in the Howard District, and a large number of men were placed on development work and afterwards upon claims. Many of these men, as well as many in other districts, are able to supplement their subsidies by the sale of gold, the men repaying to the Unemployment Board, under arrangement, 10 per cent. of the proceeds of gold won.

As the number of subsidized men increased it became necessary to control them locally, and mining executive committees were established by the Unemployment Board in the several counties situated in mining districts.

In necessitous cases equipment is supplied to the men and the cost thereof is recovered from the proceeds of gold won.

In the event of men winning sufficient gold to provide for themselves and families their subsidies are discontinued.

The advantages of assisting men to prospect for gold are that they are provided with occupations away from the towns, they are actually working for themselves, and in many cases they are able to augment their subsidy by the winning of gold or become independent of the subsidy altogether and thus preserve their self-respect.

About fifteen hundred men were being subsidized by the Unemployment Board as at the end of December, 1932, and since then the number so assisted has been increased to about 3,700 men. The Mines Department's officials are co-operating closely with the Unemployment Board in its gold-mining activities.

Much useful and profitable work has been carried out by Miners' Prospectors Associations in several parts of the Dominion from the proceeds of several art unions which have been held, and it is hoped that it will be possible to obtain more grants from this source for that purpose.

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, 1932 AND 1931, 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, 1932.		For Year ended the 31st December, 1931.		Total from the 1st January, 1853, to the 31st December, 1932.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Precious metals—	Oz.	£	Oz.	£	Oz.	£
Gold*	167,784	925,950	139,974	577,612	24,223,812	95,962,074
Silver	517,878	40,547	551,259	34,424	28,478,094	3,264,645
Total gold and silver ..	685,662	966,497	691,233	612,036	52,701,906	99,226,719
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	..	..	..	..	$19,386\frac{11}{20}$	62,011
Hæmatite-ore	..	..	..	..	77	469
Tungsten-ore	$7\frac{14}{20}$	710	$5\frac{1}{20}$	320	$2,465\frac{17}{20}$	312,239
Quicksilver	..	..	$15\frac{3}{20}$	7,760	$33\frac{11}{20}$	17,284
Sulphur (crude)	..	..	..	..	4,927	13,241
Mixed minerals†	$3,170\frac{8}{20}$	11,832	$2,380\frac{19}{20}$	7,780	$92,041\frac{3}{20}$	378,554
Coal (New Zealand) exported	35,866	56,321	48,334	83,393	6,475,683	7,211,446
Coke exported	2	13	3	15	17,742	28,112
Coal, output of mines in Dominion (less exports)	1,806,156	1,785,701	2,109,422	2,074,363	71,364,886	51,541,162
Oil-shale	..	..	..	..	14,444	7,236
Kauri-gum	2,068	62,137	3,058	128,095	422,248	23,021,999
Pig iron	..	..	..	..	1,614	6,615
Total quantity and value of minerals	$1,847,270\frac{2}{20}$	1,916,714	$2,163,222\frac{12}{20}$	2,301,762	$78,426,706\frac{11}{20}$	82,712,841
Value of gold and silver, as above	..	966,497	..	612,036	..	99,226,719
Total value of minerals, including gold and silver	..	2,883,211	..	2,913,798	..	181,939,560

* In respect of gold, ounces of the fineness of 20 carats and upwards. † Including pumice-sand, 3,166 tons.

No. 2.

TABLE SHOWING THE QUANTITY AND VALUE OF GOLD EXPORTED FROM NEW ZEALAND FOR THE YEARS ENDED THE 31ST DECEMBER, 1932 AND 1931, AND THE TOTAL QUANTITY AND VALUE FROM 1857 TO THE 31ST DECEMBER, 1932.

District and County or Borough.	Year ended 31st December, 1932.		Year ended 31st December, 1931.		Total Quantity and Value from January, 1857, to 31st December, 1932.	
	Quantity.	Value.	Quantity.	Value.		
	Oz.	£	Oz.	£	Oz.	£
AUCKLAND—						
County of Ohinemuri ..	6,187	32,444	48	190		
County of Coromandel ..	242	1,431	304	1,243		
County of Thames	5	30	19	72		
County of Piako	7	41	..	..		
Borough of Waihi	77,162	438,241	81,999	343,724		
Borough of Thames ..	439	2,685	884	3,610		
	84,042	474,872	83,254	348,839	7,800,264	30,559,126
WELLINGTON	..	..	..	..	188	706
MARLBOROUGH—						
County of Marlborough ..	1,974	10,282	1,591	6,431		
County of Sounds	54	302	52	199		
	2,028	10,584	1,643	6,630	112,366	440,343
NELSON—						
County of Collingwood ..	467	2,915	195	724		
County of Murchison ..	1,757	10,611	835	3,318		
County of Waimea	43	233	8	32		
County of Takaka	6	32	..	1		
	2,273	13,791	1,038	4,075	1,746,073	6,927,693
WEST COAST—						
County of Grey	2,054	11,767	616	2,457		
County of Buller	1,112	6,384	1,169	4,652		
County of Inangahua ..	34,266	179,558	26,477	103,896		
County of Westland ..	21,533	116,623	12,511	51,581		
	58,965	314,332	40,773	162,586	6,723,273	26,768,219
CANTERBURY—						
County of Ashburton ..	3	13	..	..		
	3	13	..	..	160	633
OTAGO—						
County of Taieri	19	101	..	..		
County of Tuapeka ..	3,066	16,725	1,536	6,212		
County of Vincent	2,262	12,397	1,180	5,100		
County of Maniototo ..	3,707	21,543	3,157	13,914		
County of Waitaki	502	2,532	226	1,041		
County of Lake	2,115	11,575	1,066	4,335		
County of Wallace	673	3,574	587	2,308		
County of Southland ..	6,951	37,642	4,158	16,889		
County of Waihemo ..	1,107	5,953	318	1,406		
County of Bruce	8	39	..	..		
County of Clutha	6	30	..	..		
	20,416	112,111	12,228	51,205	7,828,575	31,213,397
Unknown	57	247	1,038	4,277	12,913	51,957
Totals	167,784	925,950	139,974	577,612	24,223,812	95,962,074

No. 3.

DIAGRAM SHOWING TOTAL VALUE OF GOLD, SILVER, AND OTHER MINERALS, COAL, AND KAURI-GUM, AND ALSO VALUE OF GOLD ALONE, EXPORTED ANNUALLY FROM NEW ZEALAND FOR THE YEARS 1854 TO 1932.

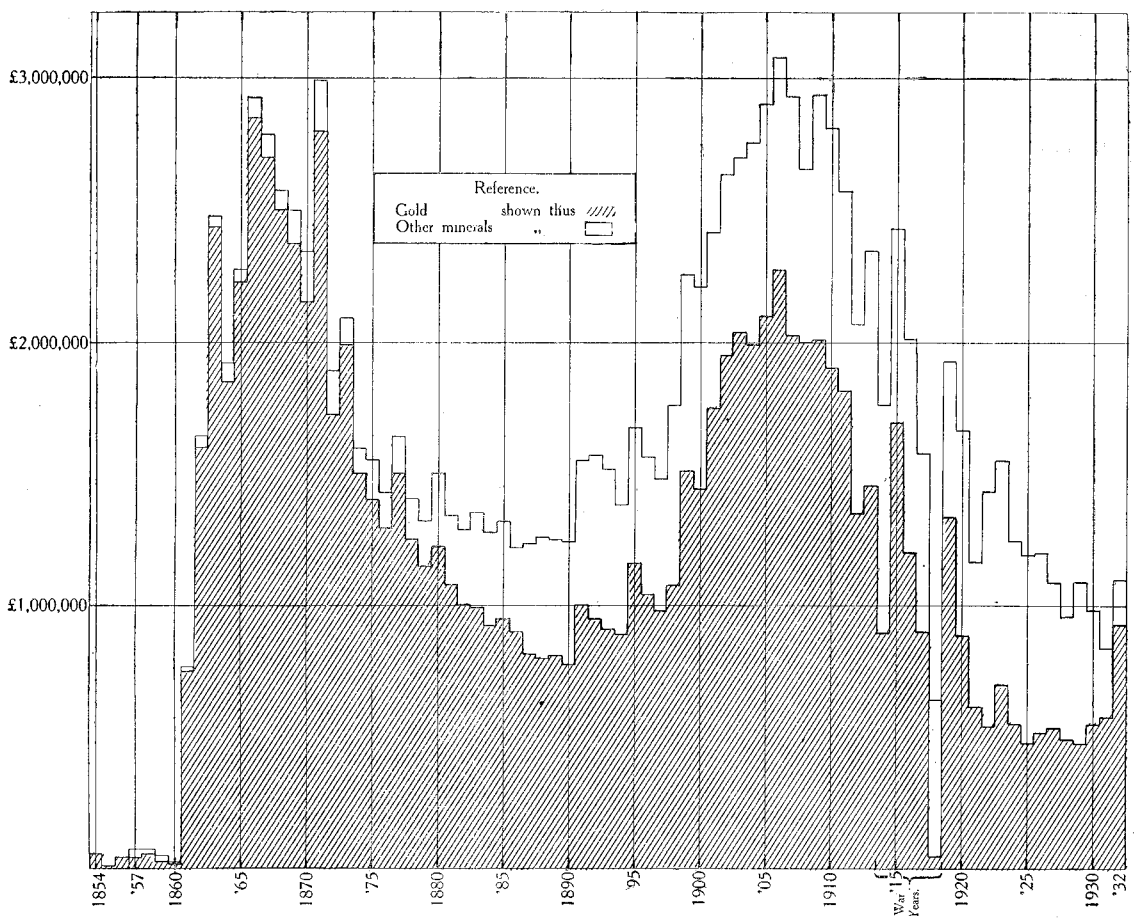

TABLE SHOWING QUANTITY OF GOLD EXPORTED ANNUALLY FROM NEW ZEALAND FROM 1857 TO 1932.

Year.	Quantity. Oz.	Year.	Quantity. Oz.	Year.	Quantity. Oz.	Year.	Quantity. Oz.
1857 ..	10,437	1876 ..	322,016	1895 ..	293,491	1914 ..	227,954
1858 ..	13,534	1877 ..	371,685	1896 ..	263,694	1915 ..	422,825
1859 ..	7,336	1878 ..	310,486	1897 ..	251,645	1916 ..	292,620
1860 ..	4,538	1879 ..	287,464	1898 ..	280,175	1917 ..	218,624
1861 ..	194,031	1880 ..	305,248	1899 ..	389,558	1918 ..	11,987
1862 ..	410,862	1881 ..	270,561	1900 ..	373,616	1919 ..	320,210
1863 ..	628,450	1882 ..	251,204	1901 ..	455,561	1920 ..	212,973
1864 ..	480,171	1883 ..	248,374	1902 ..	508,045	1921 ..	149,595
1865 ..	574,574	1884 ..	229,946	1903 ..	533,314	1922 ..	131,848
1866 ..	735,376	1885 ..	237,371	1904 ..	520,320	1923 ..	169,512
1867 ..	686,905	1886 ..	227,079	1905 ..	520,486	1924 ..	133,631
1868 ..	637,474	1887 ..	203,869	1906 ..	563,843	1925 ..	114,696
1869 ..	614,281	1888 ..	201,219	1907 ..	508,210	1926 ..	125,777
1870 ..	544,880	1889 ..	203,211	1908 ..	506,423	1927 ..	130,171
1871 ..	730,029	1890 ..	193,193	1909 ..	506,371	1928 ..	118,722
1872 ..	445,370	1891 ..	251,996	1910 ..	478,288	1929 ..	116,848
1873 ..	505,337	1892 ..	238,079	1911 ..	455,226	1930 ..	133,749
1874 ..	376,388	1893 ..	226,811	1912 ..	343,163	1931 ..	139,974
1875 ..	355,322	1894 ..	221,615	1913 ..	376,161	1932 ..	167,784

No. 4.

TABLE SHOWING THE OUTPUT OF COAL FROM THE VARIOUS COALFIELDS, AND THE COMPARATIVE INCREASE AND DECREASE, FOR THE YEARS 1932 AND 1931, 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, 1932.
	1932.	1931.			
	Tons.	Tons.	Tons.	Tons.	Tons.
North Auckland	118,127	129,725	..	11,598	5,486,577
Waikato (including Taranaki) ..	489,342	705,174	..	215,832	12,742,440
Nelson	23,007	18,578	4,429	..	529,747
Buller	331,662	380,629	..	48,967	23,336,778
Reefton	32,646	39,003	..	6,357	789,899
Grey	456,695	452,284	4,411	..	15,111,169
Canterbury	13,750	12,088	1,662	..	998,910
Otago	190,550	178,420	12,130	..	12,591,181
Southland	186,243	241,855	..	55,612	6,253,868
Totals	1,842,022*	2,157,756	..	..	77,840,569

* Decrease, 315,734 tons.

No. 5.

TABLE SHOWING THE OUTPUT OF DIFFERENT CLASSES OF COAL.

Class of Coal.	Output.		Increase.	Decrease.	Approximate Total Output to the 31st December, 1932.
	1932.	1931.			
	Tons.	Tons.	Tons.	Tons.	Tons.
Bituminous and sub-bituminous ..	928,234	979,636	..	51,402	46,476,955
Brown	806,397	1,069,749	..	263,352	26,707,377
Lignite	107,391	108,371	..	980	4,656,237
Totals	1,842,022	2,157,756	..	..	77,840,569

No. 6.

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	..
1932	1,842,022	,, 315,734	103,531	..	75,529

No. 7.

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 1932.

Imports.

Country whence imported.	Tons.	Value.
		£
United Kingdom	500	750
Australia	103,031	110,627
Totals	103,531	111,377

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	15,422	31,173	..	.
Australia	11,327	14,631	280	412
Fiji	800	1,670	..	..
Nauru Island	2,114	2,114	..	..
Canada	60	125	..	..
Tuamotu Archipelago	1,658	1,658	..	..
Gilbert and Ellice Islands	2,158	2,158	..	..
Solomon Islands	306	680	..	..
Totals	33,845	54,209	280	412

Exports: Cargo.

Country to which exported.	Produce of New Zealand.		Produce of other Countries.	
	Tons.	Value.	Tons.	Value.
		£		£
Fiji	12	51	..	..
Tutuila	2,008	2,059	..	..
Norfolk Island	1	2	..	..
Totals	2,021	2,112	..	..

No. 8.

NUMBER OF PERSONS ORDINARILY EMPLOYED AT OR ABOUT MINES OTHER THAN COAL-MINES DURING THE YEAR ENDED 31ST DECEMBER, 1932.

County or Borough.	Number of Persons ordinarily employed at				Total.	
	Gold-quartz Mines.	Gold Alluvial Mines.	Gold-dredges.	Mines other than Gold and Coal.	1932.	1931.
NORTHERN INSPECTION DISTRICT.						
County of Whangarei	..	..	..	..	..	5
,, Piako	2	..	..	..	2	1
,, Thames	27	..	..	..	27	12
,, Ohinemuri	114	..	..	..	114	33
,, Coromandel	58	..	..	..	58	27
Borough of Thames	67	..	..	..	67	30
,, Waihi	625	..	..	..	625	613
County of Taranaki	..	..	..	10	10	30
,, Waikohu	..	..	..	..	..	18
,, Whangamomona ..	..	..	..	..	..	2
,, Bay of Islands	..	..	..	..	..	53
WEST COAST INSPECTION DISTRICT.						
County of Marlborough	..	45	..	..	45	27
,, Waimea	..	12	..	..	12	..
,, Takaka	..	11	..	..	11	25
,, Collingwood	..	48	..	..	48	20
,, Murchison	..	210	..	..	210	46
,, Buller	5	74	..	..	79	27
,, Inangahua	300	66	..	..	366	206
,, Grey	..	147	..	..	147	41
,, Westland	6	176	64	..	246	140
SOUTHERN INSPECTION DISTRICT.						
County of Ashburton	..	10	..	..	10	1
,, Selwyn	..	3	..	..	3	..
,, Tuapeka	..	299	..	..	299	84
,, Vincent	4	431	4	..	439	124
,, Maniototo	20	146	..	..	166	103
,, Waihemo	28	56	..	..	84	35
,, Waitaki	..	62	..	..	62	23
,, Lake	2	132	11	..	145	77
,, Wallace	..	101	..	..	101	73
,, Southland	..	266	..	6	272	134
,, Waikouaiti	..	4	..	..	4	..
Totals	1,258	2,299	79	16*	3,652	2,010

* Employed in oil-boring operations.

Summary of Persons ordinarily employed in or about New Zealand Mines during 1932 and 1931.

——	1932.	1931.	Increase or Decrease.
Gold, silver, and tungsten mines ..	3,636	1,870	Inc. 1,766
Other metalliferous mines	16*	140	Dec. 124
Coal-mines	4,636	5,745	,, 1,109
Totals	8,288	7,755	Inc. 533

* 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, 1st September, 1933.

I have the honour to present my report on metalliferous mines and stone-quarries, together with statistical information, for the year ended 31st December, 1932.

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, 1932, to the 31st March, 1933.

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 1932 and 1931:—

Mineral.	1932.		1931.	
	Quantity.	Value.	Quantity.	Value.
	Oz. dwt.	£	Oz. dwt.	£
Gold and silver (estimated)	729,146 0	1,019,814	564,871 0	657,189
Platinum	..	..	0 10	5
	Tons cwt.		Tons cwt.	
Pig-iron	..	..	3,460 0	17,300
Stone	..	241,920	..	316,366
Pumice	3,166 0	11,812	2,321 0	7,589
Silica-sand	..	..	35 11	18
Quicksilver	..	..	15 5	7,296
Totals	..	1,273,546	..	1,005,763

The following statement shows the value of New Zealand minerals (other than coal and coke) and allied substances exported during 1932 and 1931, and since 1st January, 1853:—

——	1932.	1931.	Increase or Decrease.	Total from the 1st January, 1853, to the 31st December, 1932.
	£	£	£	£
Gold	925,950	577,612	Inc. 348,338	95,962,074
Silver	40,547	34,424	,, 6,123	3,264,645
Tungsten-ore	710	320	,, 390	312,239
Antimony-ore	..	36	Dec. 36	55,081
Kauri-gum	62,137	128,095	,, 65,958	23,021,999
Quicksilver	..	7,760	,, 7,760	17,284
Sand, lime, and building-stone	11,820	7,752	Inc. 4,068	525,518
Other minerals	12	28	Dec. 16	
Totals	1,041,176	756,027	Inc. 285,149	123,158,840

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, 1932.
	Northern.	West Coast.	Southern.	
Gold, silver, and tungsten	893	1,164	1,579	3,636
Ironstone	..	..	..	..
Cinnabar	..	..	..	..
Totals for 1932	893	1,164	1,579	3,636
Totals for 1931	774	532	648	1,954

* In addition, 16 persons were employed in oil-boring operations.

III. ACCIDENTS.

During 1932 two fatal and two serious but non-fatal accidents occurred in or about metalliferous mines, at which 3,636 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	2	2	1	1
Explosives	..	..	..	..
Miscellaneous, on surface	..	..	1	1
Miscellaneous, underground	..	..	..	..
Totals	2	2	2	2

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, 1932.* (All Mines.)		Dividends paid, 1932. (By Registered Companies only.)†	Number of Persons ordinarily employed at Productive and Unproductive Mines.	Number of Productive Quartz-mines, Alluvial Mines, and Dredges, 1932.
	Quantity.	Value.			
	Oz.	£	£		
Quartz-mining ..	684,272	758,231	177,230	1,258	49
Alluvial mining‡ ..	27,214	151,054	3,465	2,299	1,907
Dredge mining ..	17,660	110,529	7,000	79	4
Totals, 1932 ..	729,146	1,019,814	187,695	3,636	1,960
Totals, 1931 ..	564,871	657,189	106,557	1,870	763

* 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 1,907 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 1932 was greater by £362,625 than that produced in 1931. Bullion from quartz-mining increased by £226,079, from alluvial mining by £80,944, and from dredge mining by £55,602.

(1) Quartz-mining.

Inspection District.	Statute Tons of Ore treated.		Value of Bullion.		Dividends paid (by Registered Companies only).	
	1932.	1931.	1932.	1931.	1932.	1931.
			£	£	£	£
Northern	216,563	200,033	555,994	401,623	106,188	106,087
West Coast	47,887	49,619	189,802	118,567	69,198	..
Southern	5,247	1,931	12,435	11,962	1,844	..
Totals	269,697	251,583	758,231	532,152	177,230	106,087

The average value per ton of ore treated during 1932 amounted to £2 16s. 3d., as compared with £2 2s. 4d. during 1931.

At the Waihi Mine 184,254 long tons of quartz was mined, from which 70,784 oz. of gold was recovered, valued at £416,056. 485,257 oz. of silver, valued at £38,922, was obtained also. The dividends for the year amounted to £99,181, bringing the total dividends to date to £6,040,646.

No new exploratory work was done in the lower levels, but branch lodes were followed in the No. 12 and higher levels. A considerable amount of low-grade ore was sent to the mill, and, with the help of the gold premium, it paid the cost of breaking, treatment, and its share of the general expenditure.

The Waihi Grand Junction area (also worked by the Waihi Gold-mining Company) produced 22,746 long tons of ore, from which 9,912 oz. of gold, valued at £58,852, and 61,997 oz. of silver, valued at £4,973, were recovered. Intensive prospecting of the Republic, Dominion, and Martha lodes and 103 ft. reef above No. 7 level in the Grand Junction Area, and of the Dominion lode in No. 6 level, was continued during the year by the Waihi Gold-mining Company.

At the Blackwater Mine 41,402 tons of ore was crushed, yielding 24,474 oz. of gold, valued at £145,091. The total yield of gold to date is 464,554 oz., valued at £1,905,419.

At the Alexander Mine 5,527 tons of ore was crushed, for a yield of 6,680 oz. of gold, valued at £38,917.

At the Mount Greenland Mine 625 tons of ore was crushed, and yielded 526 oz. of gold, valued at £2,106.

At the Golden Progress Mine, Central Otago, 441 tons of quartz yielded 1,004 oz. of gold, valued at £6,263.

(2) Dredge Mining.

The following is a statement showing the capacity, production, and dividends declared of bucket gold-dredges during 1932. (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 1932.	Dividends declared.	
								During 1932.	Total to End of 1932.
Otago and Southland.						Ft.	£	£	£
Golden Terrace Extended..	Shotover River ..	8	18	305	E	20	3,821	..	..
West Coast.									
Rimu	Rimu Flat ..	10	19	325	E	50	92,079	..	24,622
Okarito Five-mile Beach ..	Okarito	5	10	..	H	20	13,969	7,000	7,000
Awatuna	Awatuna Beach ..	7	10	250	E	22	660	..	..
Totals, 1932 ..	..	..	..	..	..	..	110,529	7,000	Unknown
Totals, 1931 ..	..	..	..	..	..	..	54,927	.	Unknown

The Upper Nevis dredge was worked for a few weeks only towards the end of the year, a new paddock being opened up.

The Golden Terrace dredge worked 2,492 hours to the end of May. From then until the end of November it was idle. It subsequently was worked for 967 hours to the end of the year; 700 oz. of gold, valued at £3,821, was recovered.

The Rimu dredge put through over 2¾ million cubic yards of material, from which 14,524 oz. of gold, valued at £92,079, was obtained.

The Okarito dredge by the end of the year had won 2,329 oz. of gold, valued at £13,969.

The Awatuna dredge return again showed a decrease, being only 106 oz. of gold, valued at £660.

(3) Alluvial Mining.

The following is a statement showing the value of production of, and dividends declared by, alluvial gold-mines during 1932:—

Name of Owner.	Estimated Value of Gold produced.	Dividends declared.	
		During 1932.	Total to End of 1932
	£	£	£
A. Hughes and party	344	..	..
King Solomon Deep Lead	17,485	..	..
Nokomai Sluicing Co.	3,186	..	..
Paddy's Point Gold-mining Co.	3,847	..	..
Tallaburn Sluicing Co.	442	..	..
Sailor's Gully Sluicing Co.	2,935	1,050	10,985
Industries Ltd.	332	..	..
Gabriels Gully Sluicing Co.	3,268	200	20,575
W. R. Smyth	499	..	..
A. J. and R. G. Brown	1,020	..	..
J. A. Roche and W. George	1,085	520	570
Carr Bros.	1,242	..	..
Kildare Gold-mining Co.	3,481	..	..
Jones and party	1,176	75	..
J. P. Bell (Bell-Kilgour)	1,146	..	..
Moonlight Mining Syndicate	3,169	1,620	2,380
Big Beach Gold-mining Co.	845	..	..
A. E. Smith	5,295	..	..
P. T., T. P., and James Lynch	1,094	..	..
Macrae's Flat Gold-mining Co.	1,166	..	..
A. Mutch	1,808	..	..
Terrace Gold-mining Co.	2,992	..	..
Gordon Hope	690	..	..
V. I. Fenning	806	..	..
Adams and Weir	1,480	..	..
Round Hill Mining Co.	1,908	..	..
Bell, Hooper, and Co.	887	..	..
R. J. Bell			
E. J. Williams and party	339	..	..
Verdon Sluicing Co.	524	..	..
Murchison Bros.	353	..	..
B. Parker	414	..	..
M. and J. D. H. Brown	395	..	..
T. C. Hore	513	..	..
N. Nicholson	580	..	..
H. M. Quilter	365	..	..
J. A. Chisholm	494	..	..
A. and R. Brown	394	..	..
Chamberlain and Tudehope	452	..	..
Mutch Bros.	524	..	..
J. Robertson	490	..	..
Orepuki Mining Syndicate	338	..	..
W. Crowther	482	..	..
Hohonu Gold-sluicing Co., Ltd.	1,144	..	..
Stubbs and Steel	911	..	..
Callaghans Gold-mining Co., Ltd.	1,845	..	..
Golden Gate, Ltd.	468	..	..
Bell Hill Gold-sluicing Co., Ltd.	524	..	..
Mount David Sluicing Co., Ltd.	1,448	..	..
G. B. Powell	455	..	..
Powell and Dickson	357	..	..
W. Davis	375	..	..
D. Barcovsky	405	..	..
Heslop and McDowell	445	..	..
Mahakipawa Goldfields, Ltd.	10,822	..	..
All other claims	61,570	..	..
Totals	151,054	3,465	Unknown.

Prospecting on the Scotland Point section of the Kawarau River proved an old river channel to exist, underlying what is known as the Cromwell Flat.

Drives put in by Bell and Kilgour and Bell and Hooper on this deep lead proved the wash in their claims to be highly auriferous.

Up to the end of the year Bell and Kilgour had won 191 oz., valued at £1,146, and Bell and Hooper won 182 oz. of gold, valued at £887.

From the King Solomon Mine 2,912½ oz. of gold, valued at £17,485, was won, the total since work commenced being 4,411 oz., valued at £25,260.

From the Kildare Claim at St. Bathans 573 oz. of gold, valued at £3,481, was recovered, and since the present party commenced operations 1,887 oz. have been won, valued at £8,811.

Boring at Livingstone, in the Waitaki County, was rather disappointing, as, except for the 4½ ft. of wash met at a depth of 20 ft., the tailings were practically valueless, and the wash averaged only 9d. per cubic yard.

Twenty-one boreholes were put down at Macrae's Flat to an average depth of 53 ft., and, in the Vincent County, the flat at Bendigo Creek is being bored. By the end of the year nine holes varying from 62 ft. to 118 ft. in depth had been bored. The results so far are deemed to be satisfactory.

Boring was also done on the bank of the Shotover River below the Skippers Bridge. Twenty holes, averaging 22 ft. in depth, were put down.

Values stated to average 2s. per cubic yard were obtained in eleven boreholes from 14 ft. to 30 ft. in depth, put down about a mile from the Freshford Railway-station.

V. MINERALS OTHER THAN GOLD.

Iron.

No pig-iron was produced at the Onakaka Ironworks during 1932, although operations are soon to be partially resumed.

Sulphur.

No sulphur deposits were worked during the past year.

Quicksilver.

No work was done by the Kaikohe Development, Ltd., at Ngawha Springs, nor was any quicksilver produced from any other New Zealand mine during the past year.

Petroleum.

Early in the year the Southland Oil, Ltd.'s, No. 2 bore at Centre Bush was deepened from 1,552 ft. to 1,635 ft., when the rods broke.

Although much work was done in recovering the rods, drawing and replacing casing, and reaming the hole, it was not drilled any deeper.

At the end of 1932 the Moturoa Oilfields, Ltd.'s, No. 3 well was down to 1,062 ft. It was continued to 2,260 ft., and only a small showing of oil, with strong gas, was met from 2,105 ft. to 2,160 ft. As the well failed to produce commercially, drilling ceased there in May, 1933, and the plant was removed to a site for the No. 4 well.

The No. 2 well produced an average of 625 gallons of oil per day throughout 1932.

A new company has been formed to prospect for oil at Kotuku in the West Coast district by drilling fresh holes to penetrate the measures below those bored by a former company.

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 1932:—

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	171	929	317,219	..	..	63,003	92,322	..	1,200	85,118
	J. F. Downey, Mines Dept., Waihi (Hauraki Mining District only)	14	63	47,140	..	..	..	..	..	..	13,165
Hawke's Bay	James Newton, Mines Dept., Auckland	31	128	34,426	..	..	19,678	..	..	..	10,892
Taranaki ..	Ditto	14	68	21,004	..	..	4,002	..	..	..	5,297
Wellington	„	41	208	70,556	..	..	8,930	..	..	1,012	17,141
Nelson .. Westland .. Marlborough Canterbury Otago .. Southland ..	E. J. Scoble, Mines Dept., Reefton	20	187	54,881	15,888	50	6,628	25,465	..	2,808	19,846
	T. McMillan, Mines Dept., Dunedin	41	305	169,506	70,352	834	99,494	33,313	..	..	90,461
Totals, 1932	..	332	1,888	714,732	86,240	884	201,735	151,100	..	5,020	241,920
Totals, 1931	..	318	1,995	871,681	120,492	12,132	171,159	226,247	..	4,578	316,366

There were 107 fewer men employed than during the previous year, with a decrease in the value of the stone produced of £74,446.

Quarry Accidents.

The following is a summary of serious accidents during 1932 at quarries under the Stone-quarries Act:—

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

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 216 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.			
J. McNeil and Son	2	Long Trail Claim, Coromandel	17 5 0	5 5 0	10	Quartz	Driving	Driving on gold-bearing reef.
Talisman-Dubbo Co.	2	Talisman-Dubbo Claim, Karangahake	41 6 10	41 6 10	106	Quartz	Driving	Driving to intersect reef.
J. W. Evans and mate	2	Surprise (White Star) Claim, Colville	11 14 0	11 14 0	30	Quartz	Driving	Nothing of value found.
Secretary, School of Mines	..	Thames	70 0 0	45 0 0	..	Quartz	Crushing	Subsidy on crushings.
S. C. James	2	Golden Lily Claim, Colville	94 10 0	30 14 3	65	Quartz	Driving	Nothing of value yet found.
Nil Desperandum Syndicate	2	Nil Desperandum Claim, Coromandel	188 11 1	171 10 11	364	Quartz	Driving, &c.	Driving on reefs carrying a little gold.
A. J. Toogood	2	Grace's Find, Neavesville	200 0 0	..	..	Quartz	Trenching	Work not yet started.
Turner and Evans	2	Colville	52 10 0	..	..	Quartz	Driving	Work not started.
Golden Dawn Gold-mines, Ltd.	6	Golden Dawn Mine, Owharoa	210 0 0	57 15 0	110	Quartz	Driving	Driving on gold-bearing reef.
West Coast Inspection District.								
Davis and Hedwig	2	Ross	12 0 0	12 0 0	24	Quartz	Sinking	No results.
J. Eyre	1	Parapara	15 0 0	10 0 0	..	Alluvial	Development, reconditioning water-race, &c.	Satisfactory.
Thomson and Wimpenny	2	German Gully, Grey	25 0 0	..	100	Alluvial	Driving	Uncompleted.
A. Wickes	1	Wakamarina	40 0 0	..	200	Alluvial	Prospecting	Satisfactory.
Davies, Moore, and Connor	3	Maud Creek, Howard	22 10 0	22 10 0	..	Alluvial	Prospecting	Satisfactory.
Bell Hill Gold-sluicing Co.	10	Ahaura	100 0 0	100 0 0	525	Alluvial	Sinking, &c.	Satisfactory.
Big River Gold-mining Co.	14	Reefton	1,500 0 0	594 11 4	460	Quartz	Driving	Satisfactory.
Blackwater Mines, Ltd.	12	Reefton	175 0 0	175 0 0	70	Quartz	Sinking	Satisfactory.
Borings Ltd.	4	Murchison	175 0 0	63 2 6	252½	Alluvial	Boring	Unsatisfactory.
Mahakipawa Goldfields, Ltd.	20	Mahakipawa	2 10 0	2 10 0	5	Alluvial	Driving	Unsatisfactory.
Waikakaho Victory Co.	3	Waikakaho, Marlborough	103 6 8	13 6 8	40	Alluvial	Boring	Unsatisfactory.
Westland Gold Prospecting Syndicate	3	Omeroa and Waikupakupa	197 14 0	197 14 0	1,073	Alluvial	Boring	Unsatisfactory.
Westland Prospecting Syndicate	4	Awatuna	136 3 7	136 3 7	970	Alluvial	Boring	Unsatisfactory.
Howard Miners' Association	..	Howard	4 0 0	4 0 0	..	..	..	Subsidy on purchase of ambulance equipment for prospectors.
F. Morgan and party	4	"The Break," Block 12, Waimea Survey District	52 10 0	52 10 0	67	Alluvial	Driving	Satisfactory.
F. G. Blake and Sons	3	Blocks 7, 11, and 15, Mataki Survey District	12 10 0	12 10 0	..	Quartz	Prospecting	Results fair.
Cardinal and Hewitt	2	Blocks 9 and 15, Cascade Survey District	24 0 0	24 0 0	..	Quartz	Prospecting	No results.
J. Guy and mate	2	Block 3, Browning's Pass Survey District, Gold Creek	27 0 0	27 0 0	..	Quartz	Driving and prospecting	Nothing important.
A. C. Honey	2	Gladstone, Block 3, Waimea Survey District	20 0 0	20 0 0	..	Alluvial	Development	Satisfactory.
T. Kissane and party	4	Hop-pole Creek, Block 13, Linkwater Survey District	69 0 0	46 16 0	100	Alluvial	Driving	Small values proved.
W. C. and W. P. Mayne	2	Rutherglen, Block 4, Waimea Survey District	35 0 0	35 0 0	..	Alluvial	Development	Satisfactory.
Purcell and Engholt	2	Waikupakupa, Block 14, Waiho Survey District	9 0 0	9 0 0	..	Alluvial	Prospecting	Satisfactory.
T. and J. Roberts	2	Marsden, Block 4, Waimea Survey District	21 0 0	..	..	Alluvial	Driving	Not utilized.
A. Sargison and party	4	Upper Snow's River, Blocks 11 and 12, Aorere Survey District	22 10 0	22 10 0	..	Alluvial	Prospecting	Nothing to report.
Campbell and McDonald	2	Kirwan's Hill area, Blocks 12 and 16, Reefton Survey District	12 0 0	12 0 0	..	Quartz	Driving and prospecting	Nothing to report.

* Includes authorizations in previous years. The total of the subsidies granted during the year ended 31st March, 1933, amounted to £5,083 10s. 10d.

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.			
Fitzgerald and Hollingsworth	2	Specimen Creek, Block 14, Linkwater Survey District	70 0 0	36 10 0	85	Quartz ..	Driving	Nothing to report.
Worsley and Ramsden	2	Oemeroa, Block 5, Waiho Survey District	12 0 0	12 0 0	..	Reef ..	Prospecting ..	Nothing to report.
A. Donnellan (Arnold Flat Syndicate) ..	3	Minchicoff Terrace, Block 14, Mawheranui Survey District	250 0 0	65 18 4	..	Dredging..	Boring	Small values proved.
A. Donnellan	3	Nelson Creek, Block 7, Mawheranui Survey District	100 0 0	100 0 0	..	Dredging..	Boring	Small values proved.
Southern Inspection District.								
G. D. and A. G. Beale	2	Scanlon's Gully, Macetown	42 0 0	42 0 0	..	Alluvial ..	Reconditioning water-race	Now sluicing.
Ballarat Creek Syndicate	4	Head of Ballarat Creek, Skippers ..	4 10 0	4 10 0	60	Reef ..	Driving	No reef located.
Shotover Reefs Development Co. ..	2	Ballarat Creek and Sainsbury's Creek, Skippers	168 15 0	..	..	Reef ..	Driving	No report to hand.
Haast Prospecting Syndicate	2	Ballarat Creek and Sainsbury's Creek, Skippers	23 8 0	23 8 0	..	Reef ..	Prospecting ..	Very satisfactory results. Lodes located in the Lower Ballarat Creek area.
Crown Terrace Prospecting Co. ..	2	Crown Terrace, Arrowtown	20 0 0	14 18 0	148	Alluvial ..	Boring	Results unsatisfactory.
Ballingall and Purton	2	Kennedy Flat, Kawarau Gorge	2 13 8	2 13 8	..	Alluvial ..	Deep lead, buried river course	Work in progress.
R. Harding and party	4	California Gully, Longwood Survey District	12 10 0	12 10 0	50	Alluvial ..	Driving and sinking ..	Results unsatisfactory.
Bendigo Deep Lead Syndicate	4	Bendigo, near Cromwell	250 0 0	..	120	Alluvial ..	Boring	Work in progress.
J. Thompson and party	3	Rise and Shine, Head of Pomahaka River, Roxburgh	54 0 0	..	..	Alluvial ..	Prospecting ..	Work in progress.
Forest and party	6	Highlay Creek, Highlay Survey District ..	186 5 0	111 13 0	346	Deep lead, alluvial	Prospecting ..	Work in progress.
Hamer and party	2	Waikaia	55 12 6	..	..	Alluvial ..	Driving	..
Hakapoua Prospecting Syndicate ..	3	Aan River, Hakapoua Survey District ..	75 0 0	..	..	Alluvial ..	Prospecting ..	No report to hand.
Wilson's River Prospecting Syndicate ..	4	Wilson's River, Preservation Inlet ..	72 0 0	72 0 0	..	Alluvial ..	Prospecting ..	Work not completed.
J. A. McNeil	4	West Coast Sounds, Hakapoua Survey District	75 0 0	63 0 0	..	Alluvial ..	Prospecting ..	Results unsatisfactory.
G. Hope and party	4	Moke and Shotover Creeks, Queenstown..	9 13 6	9 13 6	..	Alluvial ..	Rock-cutting and driving	Work in progress.
Tripp and Thompson	2	Sawyers Gully, Skippers Survey District	67 10 0	16 17 6	50	Reef ..	Driving	Work in progress.
Otago Mining Development Co. ..	4	Symes Reef, Fruitlands, Alexandra ..	125 0 0	97 10 0	725	Reef ..	Driving	Results unsatisfactory.
Adams Flat Gold-mining Syndicate ..	2	Adams Flat, Tuapeka Survey District ..	46 15 0	16 15 4	144	Alluvial ..	Sinking	Work not completed.
J. S. Harvey and mates	3	Longwood Range, Jacob's River Hundred	36 0 0	36 0 0	100	Alluvial and reef	Prospecting, driving, and sinking	Work in progress.
G. W. Sharpe and party	3	Invincible Spur, Rees Valley, Earnslaw Survey District	40 17 6	37 10 0	175	Reef ..	Driving	Work not completed.
F. R. Whitelock and party	2	Chapman's Gully, Alexandra	11 5 0	11 5 0	50	Reef ..	Sinking	Results unsatisfactory.
Industries Ltd.	10	Wetherstones, Lawrence	250 0 0	250 0 0	350	Cement ..	Driving	Results satisfactory.
Rees Valley Syndicate	4	Two-ounce Outcrop, Rees Valley, Earnslaw Survey District	40 0 0	40 0 0	215	Reef ..	Driving	Results unsatisfactory.
Wetherstones Gold-mining Co., Ltd. ..	..	Lawrence	1,666 13 4	..	..	..	Sinking	Work not completed.
	216		..	3,032 2 5				

* Includes authorizations in previous years. The total of the subsidies granted during the year ended 31st March, 1933, amounted to £5,083 10s. 10d.

(2) Government Prospecting Drills.

The following table gives details of the drilling done and the results obtained for twelve months ended 31st December, 1932:—

Drill Superintendents: W. H. Warburton, E. Wilson, W. McLellan, D. Pettigrew, M. Murray, W. H. Gibson, G. L. Nelson, and W. Campbell.

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.	Remarks.
	Ft.	In.				s. d.	s. d.	s. d.	
3	1,839	3 & 2⅜	Coal	Shale, sandstone, and conglomerate	State Coal-mines	..	..	..	In progress.
1	323	2⅜ & 1¾	,,	Shale and sandstone	Goldlight Co-operative Party	4 2	7 1	0 1	..
3	366	3 & 2⅜	,,	Grits, shale, and sandstone	Cardiff Bridge Co-operative Party	8 10·5	7 0·1	0 0·94	..
3	709	3 & 2⅜	,,	Shale, sandstone, gravel, marl, and conglomerate	Cardiff Bridge Co-operative Party	7 0·75	1 11·06	2 4·2	..
12	604	6	Gold	Gravel ..	A. Donellan ..	9 0	2 0·5	..	..
3	320	6	,,	,, ..	Arnold Flat Syndicate	..	..	..	In progress.
2	39	3¼	,,	,, ..	Maori Gully Creek Syndicate	..	..	..	..
6	86	3¾	,,	Clay and gravel	New Zealand Mining Investments, Ltd.	16 9·25	1 3·25	..	..
8	146	3¼	,,	Gravel ..	Westland Prospecting Syndicate	5 0*	..	..	..
22	442	3¾	,,	,, ..	J. Sunderland ..	2 6*	..	..	..
37	678	6	,,	,, ..	Mataki Gold Dredging, Ltd.	6 0	2 1	..	..
9	723	6	,,	Schist and gravel	Bendigo Deep Lead Syndicate	..	..	..	In progress.
8	236	6	,,	Gravel ..	Borings Ltd. ..	..	..	..	In progress.
117	6,511								

* Includes cost per foot of transport.

(3) Subsidized Roads on Goldfields.

The expenditure in the form of subsidies and direct grants upon roads on goldfields amounted to £1,182, as compared with £2,872 during the previous year.

I desire to acknowledge the efficient help and co-operation which I have received during the year from the District Inspectors of Mines.

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 work carried out, and its results: No. 15 level (1,880 ft. below collar of No. 4 shaft): No new exploration work was carried out. Shrinkage stoping of the low-grade Cod block was continued, the roof at the end of the year being 90 ft. up. Average value of the quartz drawn off was £1 1s. 7d. It was estimated 6,494 tons of broken ore remained in the stope, with a further 5,536 tons to be broken. No. 14 level (1,752 ft. below collar of No. 4 shaft): During year 7,130 short tons of ore was broken from northern end of Trout block on Edward lode. Average value of this ore was considerably higher than had been expected, being £1 14s. 9d. per ton. At end of year the stope contained 13,874 short tons of broken ore. No. 13 level (1,578 ft. below collar of No. 4 shaft): Shrinkage stoping of Williams block on Martha lode, north section, continued. The ore was of rather low grade, but in view of the premium received on gold the working of it was justified. No. 12 level (1,447 ft. below collar of No. 4 shaft): During the year continued investigation was carried out under No. 11 level, immediately east of Bath crosscut, on the Empire lode north section and Martha lode, with the result that crosscuts from a sub-level put down to 38 ft. from a point 87 ft. east of Bath crosscut to each of the reefs mentioned revealed good runs of payable ore. Crosscuts from a winze put down from the sub-level to a further depth of 51 ft. also revealed belts of payable ore. Efforts were then made at No. 12 level to locate downward continuation of this ore. Starting at a point on south wall of south section of Martha lode, 190 ft. north in Bath crosscut, a drive was put out eastward 353 ft. With the exception of a payable block between 299 ft. and 333 ft., the reef driven on was low-grade. As it was uncertain, however, which of the two big reefs the drive was on, a crosscut was put out south at 261 ft. east, and holed through to Coutts' old block at 45 ft. Belts of payable ore were met with in this crosscut. At 24 ft. south on this crosscut a drive was put out west to Cow crosscut and extended from latter westward for 88 ft. At 51 ft. west of Cow crosscut driving was done on what was thought to be the north section of the Empire lode. This drive disclosed payable ore from 43 ft. to 68 ft. west of Cow crosscut. Investigation is being continued here. On the Royal lode further investigation was made under No. 11 level eastward of No. 4 shaft, south crosscut. Lizard winze was sunk to 65 ft. at 250 ft. east of crosscut. For first 25 ft. average values were 16s. per ton, and from 25 ft. to 62 ft., £2 7s. At 62 ft. down a drive was put out eastward for 40 ft. to Adder rise on reef averaging £3 3s. 11d. per ton. Investigation being continued. No. 11 level (70 ft. sub-level): This sub-level was opened up at 70 ft. below No. 11 with a view to extracting a block of ore north and south of Cod winze. From the sub-level a crosscut met the Empire lode at 75 ft. Where intersected the lode carried promising values, but was small, being only 5 ft. wide. Further investigation to be made. No. 11 level (1,301 ft. below collar of No. 5 shaft): Stoping of Mitchell block on Empire lode continued to 76 ft. up, when a big fall of rock necessitated temporary stoppage of work. Starting from Power north crosscut at a point 55 ft. east of Bath crosscut a promising run of ore was opened up on centre section of Empire lode from 14 ft. west of Power south crosscut to 115 ft. east of it. Values in this run ranged from £2 19s. 3d. to £3 6s. 3d. per ton. At extreme western end of this run of ore, Mitchell winze intersected payable ore a few feet below No. 11, which persisted to 110 ft. down. A rise from No. 12 level on this ore revealed payable values for 56 ft. up. On the Edward lode, west section, breaking of ore in Seath block was completed in April. To test ground below No. 10 level a winze was sunk to 104 ft., and connected with rise from No. 11 level. For first 70 ft. in winze values averaged £3 12s. 9d. per ton, but reef was only about 3 ft. wide. At 70 ft. down an intermediate level was opened. In this for a length of 82 ft. a run of stone from 2½ ft. to 5 ft. wide was driven on, which showed values averaging £2 1s. per ton; a stoping block, Berryman's, being opened on this. No. 10 level (52 ft. sub-level): The Jarvis block on Empire lode was worked out, and broken ore was drawn off. From Rokker crosscut a drive westward on the same lode showed values ranging from 17s. 10d. to £2 5s. 1d. per ton, but lode is small, varying from 2½ ft. to 5 ft. in width. No. 9 level (63 ft. sub-level): Investigation of Welcome lode was made from Richards winze, and payable ore was found to exist to 63 ft. down, at which point a sub-level was then opened. No. 9 level (1,000 ft. below collar of No. 5 shaft): Breaking of ore in Rokker block in Empire lode immediately west of No. 4 shaft north crosscut was suspended at 100 ft. up owing to pressure showing in the roof. On the Martha lode, south section, the level westward from Brooks winze was widened to 88 ft., exposing a good make of sulphide ore. Camel block was opened up on this, and at end of year had been stoped to 102 ft. up. No. 8 level (48 ft. sub-level): Shrinkage stoping of Hogan's block on Martha lode was continued to within 14 ft. of No. 8 level. Further investigation was made of ground westward from Hogan's south crosscut without revealing anything of value. On the Welcome lode, north section, the drive was continued to 203 ft. west. From 116 ft. to 147 ft. values were £2 per ton, and from 147 ft. to 191 ft., 18s. Daisy winze at 177 ft. west was then sunk to test ground underfoot. From 5 ft. down to 35 ft. ore averaging £2 17s. 3d. per ton was revealed. From 35 ft. to 50 ft. the ore was of much lower grade, but a crosscut at 55 ft. down disclosed a width of 11 ft. of ore averaging £2 12s. per ton. Another sub-level is being opened on this lode at 100 ft. down. No. 8 level (21 ft. sub-level): Extraction on square sets of high-grade ore on Edward lode from arch under No. 8 level was continued. No. 8 level (855 ft. below collar of No. 4 shaft): The most important work was the extraction on square sets and by caving of arches on Martha lode under No. 7 level. From these workings 62,327 short wet tons of ore was mined during the year. No. 7 level (50 ft. sub-level): During early part of year a good deal of high-grade ore was won from an old stope on the north section of Welcome lode. The ground underfoot was tested by a rise from No. 8 level. This showed the bottom of the payable ore to be at 42 ft. above No. 8 level, and a stoping block known as Brown's was opened at that horizon. No. 7 level (34 ft. sub-level): A footwall gangway was driven on the Empire lode for 547 ft. westward from Ivy west winze for the purpose of extraction of arches under No. 7 level. The Princess lode was cut at 137 ft. west, but was very small, and of low grade. At 378 ft. west a reef 1 ft. in width was cut, which showed value at £3 12s. 3d. per ton. This is being further investigated. No. 7 level (705 ft. below collar of No. 4 shaft): Investigation was made of north part of No 2 reef westward from Martha footwall gangway. The level was extended 172½ ft. west of the gangway. The ore ranged from 2 ft. to 5 ft. in width, and between the 37 ft. and 138 ft. marks assayed £2 10s. per ton. What is known as Red block was opened up on this run. No. 6 level (32 ft. sub-level): Extraction of ore from the arch on Empire lode under No. 6 level east of Hicks dip was completed. No. 6 level (60 ft. sub-level): Investigation was made of No. 2 reef near Whiteson Pass. In a crosscut northward from Martha main gangway the reef was cut at 32 ft., and proved to be 5 ft. wide, assaying £4 17s. 7d. per ton. Driven on eastward,

it showed a width of from 2½ ft. to 7 ft., with good average values for 59 ft., while a drive westward showed widths of from 5 ft. to 7½ ft., but of somewhat lower grade. A block, to be known as White's, was opened on this reef for 155 ft. in length. No. 6 level (545 ft. below collar of No. 4 shaft): Stoping on H reef, Moralee block, and Olsen's reef was completed, and nearly all broken ore was drawn off. No. 5 level (24 ft. sub-level): Ore was won from Martha lode east and west of Bull's south crosscut. No. 5 level (16 ft. sub-level): The H branch reef, one of a group of small reefs lying mostly on the western side of No. 2 shaft, south-east crosscut, was tested for a length of 242 ft. The average value was £2 11s. 9d. per ton. A winze disclosed ore of similar value to 55 ft. down. The reef was tested at No. 6 level, but proved low-grade. No. 5 level (432 ft. below collar of No. 5 shaft): Stoping was completed on Taylor reef, on Gordon block on No. 2 reef, and Cornes' block on Martha lode, north branch. No. 4 level: A stoping block, known as McCluskie's, was opened on a block of ore on the Welcome lode near No. 2 shaft, and at end of year was up 43 ft. A drive westward on the Surprise lode from No. 2 shaft north-west crosscut for 281 ft. showed good values between the 90 ft. and 243 ft. marks, but the lode only ranged from 2½ ft. to 5 ft. in width. A stoping block known as Gordon's is being opened on this. No. 3 level (279 ft. below collar of No. 5 shaft): An investigation westward of Martha lode from No. 2 shaft north-west deviation crosscut revealed nothing of importance. Investigation of the footwall country by a crosscut for 121½ ft. revealed 5¾ ft. of mixed quartz and country, averaging £2 9s. 3d. per ton. Driving was started east and west on this formation. Adit level and surface workings: Some 2,743 short wet tons of ore was won from ground at and above adit level. To test some ground on the Martha lode, in which several small reefs are known to exist, an adit, known as the School adit, was started on the western side of Martha Hill. To the end of the year this had been driven 115 ft. in surface formation. Exploration: Development work and driving in connection with extraction of ore from arches amounted to 12,543½ ft. Output: A total of 184,254 long tons of quartz was mined and treated, from which gold and silver to the value of £454,977 13s. 10d. was obtained. The recovery of gold amounted to 70,784 oz., valued at £416,056 2s. 1d., and of silver to 485,257 oz., valued at £38,921 11s. 9d. The company paid dividends during the year to the amount of £99,181 3s., bringing the total disbursements to £6,040,645 18s. 6d. The average number of men employed was 556. Total yield of bullion since beginning of operations, 25,198,960 oz. 3 cwt. 11 gr.; value, £17,296,542 13s. 10d.

Waihi Grand Junction Gold-mining Co. (J. L. Gilmour, Manager).—The Waihi Co. continued the working of this mine under arrangement. The following is a brief summary of the work done, and its results: Waihi Co.'s No. 13 level extension (about Junction No. 10): The only work on this level was stoping the Fahey Block on Empire lode, which was carried up to 40 ft., where it was temporarily abandoned. Waihi Co.'s No. 11 level extension (below Junction No. 7): Stoping of McNamara block on Dominion lode was completed at floor of No. 10 (57 ft. sub-level), and ore was drawn off. A rise put up on the lode from No. 11 level at 267 ft. east of boundary revealed some payable ore, on which Putan block was started. Breaking of ore in Anderson block on State reef was stopped at 107½ ft. up owing to values falling. Mining of the arch on Empire lode under Grand Junction No. 7 level was continued. The greater part of the arch has now been broken. On the south part of State reef shrinkage stoping was carried out on Harvey block for a length of about 70 ft. Waihi Co.'s No. 10 (30 ft. sub-level): The Republic lode, which had been worked above No. 10 level, was cut at 101 ft. in No. 1 shaft south-east crosscut, and driven on eastward for 102 ft., where it narrowed to 1 ft. in width, and driving was stopped. To the 100 ft. mark, values ranged from 14s. to £2 2s. per ton over a width of from 3 ft. to 5 ft. In driving westward on the reef for 199 ft., the average assay value was £2 1s. 10d. per ton over widths varying from 1½ ft. to a width greater than that of the drive. On what is known as the 103 ft. reef, the west drive was continued to 220 ft. on quartz varying from 1 ft. to 5 ft. in width, but values were erratic. A small stoping-block, known as Nelson block, was opened, and carried up to 58 ft. from the level, at which point values petered out. On the Dominion lode, several small blocks were opened east and west of Harvey winze, but these had almost been completely worked out at end of year. A small stoping-block (Anderson's) was also opened on the State reef. This block was worked out to No. 10 level. Waihi Co.'s No. 10 level extension (about Junction No. 6): At about 66 ft. above this level an intermediate level was opened on the Martha lode, south section, east from Brook's block. This level was extended 200 ft. into Grand Junction ground from the boundary, on sulphide ore from 6 in. to 3 ft. wide. On the State reef, immediately east of the State block, a small block called the State east was opened, but after stoping had been carried up to 22 ft. values fell, and work there was stopped. A good deal of testing of the country along the north wall of the Empire lode was carried out without revealing anything of value. Junction No. 6 level: Breaking of ore in the shaft block on the Dominion lode was completed at 40 ft. up, where the reef split up in country. Investigation of the Martha lode, hanging-wall section, was made east of Junction shaft north-west crosscut, and a stoping block, Slevin's, was opened up. Waihi Co.'s No. 9 level: Stoping was carried out on Jamieson block on the extension of Martha lode, but at 66 ft. up the sulphide seam pinched out, and stoping was stopped. Breaking of ore on Dye block on the west part of same lode was stopped at 60 ft. up, while in the east part of the block stoping was stopped at 36 ft. up, in both cases also by reason of the pinching-out of the sulphide seam. Slevin winze, on the downward continuation of the ore stoped in Dye block, was sunk to 78½ ft. in sulphide ore of good value, and wider than the width of the winze. Junction No. 5 level: A stoping block, extending from 15 ft. east to 100 ft. west of Dillimore south-east crosscut, was carried up on Dominion lode to 57 ft., where breaking was stopped owing to values falling. Dillimore winze from Dillimore south crosscut was sunk 50 ft. To 45 ft. down the grade of ore was good, but it then narrowed to a few inches, and sinking was stopped. Exploration: The development and deadwork footage driving in connection with removal of arches amounted to 3,205 ft., while a further 238 ft. of driving was done in connection with the standby shaft. Output: The ore won from the mine amounted to 22,746 long tons, which yielded gold and silver to the value of £63,824 13s. 6d. The gold amounted to 9,912 oz., valued at £58,852 10s., and the silver to 61,997 oz., valued at £4,972 13s. 6d. The average number of men employed was sixty-nine. Dividends amounting to £6,906 5s. 4d. were paid. Total value of bullion produced since commencing work, £2,493,880 3s. 6d.

Golden Dawn Gold-mines, Ltd., Owharoa (J. H. Benney, Manager).—Work was carried out on this property continuously during the year, an average of ninety-five men being employed. The development work consisted mainly in driving north on Nos. 1 and 3 reefs on No. 3 level, the respective distances driven on each being 76 ft. and 152 ft. A crosscut east on this level from No. 3 reef was also extended for 112 ft., cutting a few small gold-bearing leaders. No. 1 reef for the distance driven on averaged 12 in. in width, and No. 3 reef, 18 in. On No. 2 level a crosscut east from No. 1 reef was extended 21 ft. to a total of 80 ft. At 70 ft. in No. 3 reef was cut, and driven on for 9 ft. north and 10 ft. south. The reef was small. A connection was also made from No. 2 level to surface. The stoping operations comprised mainly work on five blocks on No. 1 reef at No. 3 level, totalling 650 ft. in length. The average width of the reef throughout was 2 ft. 6 in. On No. 3 reef stoping was carried out on three blocks, totalling 410 ft. in length on the same level, the average width of the reef being the same as that of No. 1 reef. Stoping was also done on No. 1 reef at No. 2 level for a length of 189 ft., quartz averaging 3 ft. in width. The new treatment plant was employed continuously, and 8,998 tons treated yielded 5,191 oz. 12 dwt. 12 gr. gold, valued at £31,482 15s. 7d., and 14,766 oz. 1 dwt. silver, valued at £1,147 11s. 9d., the total value of output being £32,630 7s. 4d. The plant also treated ore for prospecting parties and others to the amount of 109 tons, which produced gold and silver to the value of £784 15s. 3d. The total yield since beginning of operations has been 21,180 oz. 3 dwt. 15 gr. bullion, valued at £34,349 0s. 5d.

Talisman-Dubbo Gold-mines, Ltd., Karangahake. — For the year this company was mainly engaged in opening up a new level on the northern side of Karangahake Mountain, on the horizon of the old Talisman No. 1

adit, to come in under its Talisman-Dubbo adit at a depth of about 100 ft. It was at first intended to reopen the old Talisman adit, but it was found so completely collapsed that the driving of an entirely new parallel adit was found necessary. To the end of the year this had been carried in for 461 ft., at which point it should nearly have reached the random of the Dubbo adit. Some 65 tons 4 cwt. of quartz previously won from the Dubbo adit was treated at the Golden Dawn plant for a return of 79 oz. 12 dwt. gold and 338 oz. 2 dwt. 19 gr. silver, valued at £461 15s. 11d. The output since beginning of operations has thus been 422 oz. 6 dwt. 19 gr. bullion, valued at £473 13s. 10d.

New Talisman Claim, Karangahake (R. Schulzki, Owner).—A little prospecting was done in surface levels on Woodstock reef, and 10½ tons of quartz was treated at the Golden Dawn plant. This yielded 13 oz. 13 dwt. 14 gr. gold and 24 oz. 18 dwt. 4 gr. silver, of a total value of £78. This is also the total yield and value since commencing work.

Imperial Prospecting Syndicate, Karangahake.—This syndicate during the year worked, under arrangement, the claims held by the Imperial Gold-mining Co. Some good float stone was found on one of the claims, and a strong effort was made to locate the reef from which it came. About 100 shallow bores were put down, and two prospecting shafts were sunk from surface, one to 32 ft. and the other to 53 ft., and from the latter a crosscut being put out for 12 ft. An adit was also driven for 28 ft. So far the work has not succeeded in its purpose.

Crown Claim, Karangahake (J. N. Cherry, Owner).—This claim has been prospected by the owner in a number of places without any satisfactory result. The owner also inadvisedly went to considerable outlay in erecting a battery of five head of stamps on the claim before sufficient ore had been proved to justify the expenditure. No quartz was treated at this plant, but 11 tons 1 cwt. 1 qr. 15 lb. won by a tributing party was treated at the Golden Dawn plant for a return of 17 oz. 3 dwt. 22 gr. gold and 76 oz. 11 dwt. 20 gr. silver, of total value of £103 17s. 1d. This is the total yield and value since commencing work.

Mount Cecil Claim, Maratoto (J. Nicol, Owner).—Little or no new development work was done, but a parcel of 18 tons 2 qr. 20 lb. of quartz mined, mainly from parts of the old Payrock reef, was treated at the Golden Dawn plant, Owharoa, for a return of 6 oz. 4 dwt. gold and 322 oz. silver, valued at £52 13s. 7d., which is also the total yield and value since commencing work.

Parker's Prospecting License.—From this license, which was on part of the old Maoriland claim, the holder sent a parcel of 3 tons 17 cwt. of quartz to the Golden Dawn plant for treatment. It yielded 14 oz. 14 dwt. 15 gr. gold and 8 oz. 2 dwt. silver, valued at £88 8s. 8d. This is the total yield and value since commencing work.

Komata Reefs and Te Ao-Marama (M. J. Houlihan, Owner).—Some surface prospecting was done on these claims, and it is reported that a promising reef was located to the east of the Te Ao-Marama workings. The Te Ao-Marama No. 1 adit was picked up and retimbered, and a start made to drive on a reef that is thought to be the one located at surface. A distance of 120 ft. has been driven on this reef. In December the claims were taken over by the Golden Crown Gold-mining Co. (N.L.).

Maratoto Consolidated, Maratoto (J. Martin, Owner).—Some work was done on this property by a syndicate, mainly by way of putting the old No. 7 adit in working-order. Several small parcels of ore are said to have been sent away for testing, but no information is available as to the results.

Remuera Claim, Neavesville (M. Grace, Owner).—This claim, formerly held by the Hauraki-Alaska Gold-mining Co., has had a little prospecting; and a trial crushing of 1 cwt. of quartz sent to Thames School of Mines battery for treatment yielded 15 oz. 11 dwt. gold, valued at £63 10s. 9d. This is the total yield since commencing work.

Golden Belt Claim, Neavesville (M. Grace, Owner).—Practically no work was done on this claim beyond a little tributing by J. Grace, who from a clean-up on one of the old battery-sites recovered 26 oz. 9 dwt. bullion, valued at £98 17s.

Huia Claim, Te Aroha (W. J. Gibbs, Owner).—The only work done consisted in surface prospecting of various reefs. The claim, together with other contiguous areas, was taken over towards the end of the year by the Te Aroha Gold Syndicate, which is endeavouring to form a large company to work them.

New Waiotahi Mine, Thames (M. Boyle, Owner).—Practically the whole of the work done on this claim during the year was carried out by Preece and party, tributers, who from several small leaders in the upper parts of the mine won 40 tons of quartz, which on treatment yielded 96 oz. 7 dwt. gold, valued at £435 11s. 2d. Total yield since commencing work, 113 oz. 3 dwt.; value, £489 19s. 2d.

Golconda Gold-mining Co. (S. G. Baker, Manager).—The principal work at this mine consisted in the retimbering of the main east crosscut for about 500 ft., sinking the incline shaft from the main east crosscut to a further depth of 75 ft., and driving from it at the bottom. A chamber was cut, and a drive put out south for 70 ft. At 40 ft. a reef 3½ ft. in width was cut, which was driven on for 30 ft. The quartz is said to have looked promising. A crosscut was then put in west from the chamber for 45 ft., when a break was intersected. The break was then followed northerly for 70 ft., at which point a crosscut was put in the western wall for 60 ft., where what was consdered to be the main reef was cut. The crosscut was carried through this, when it proved to be a formation about 25 ft. in width, composed of ribs and stringers of quartz in which a few colours of gold were seen.

Lucky Shot Mine.—This mine, which covers the Lucky Shot and Evening Star claims, was entirely worked during the year by parties of tributers, numbering in all about sixteen men, who mined 90 tons of quartz, which on treatment yielded 265 oz. 11 dwt. gold, valued at £1,034 17s. 9d. The most successful party was Cropp and Sarich, who recovered gold to the value of approximately £443. Practically all the gold came from small droppers or loops on either side of the Golden Age reef. Towards the end of the year the claims were acquired by the Dawn of Hope Gold-mines (N.L.) from previous owner—Williamson. Total yield of bullion since claim taken over by this company, 60 oz. 2 dwt., value £271 6s. 9d.

Karaka Sluicing Co.—An attempt was made by this company to recover, from the bed of Karaka Creek, values supposed to have been lost from the many old batteries formerly operated on the creek. An hydraulic elevating-plant was installed and, later, a Day's pattern gravel-pump, and a considerable amount of work was done, but as no success attended the venture the plant was dismantled and the company went into liquidation.

Mount Campbell Gold-mining Co. — This company holds the Puru and Emden claims at Puru Creek. During the year some energetic prospecting was done, an adit being driven in the footwall of the Puru big reef for a distance of upwards of 400 ft.

Ajax Claim, Thames.—Two men were employed on this claim at Waiotahi Creek. They drove a surface adit for 200 ft. in search of Foster's leader, and cleaned out the Gladstone level for some hundreds of feet with the same object in view. So far the work has not yielded any result of importance.

Monowai Gold, Copper, and Lead Mines, Ltd., Waiomo (J. Caisley, Manager).—This company was registered in July for the purpose of acquiring the assets of the Waiomo Sulphide Corporation, Ltd. The new company only started active operations towards the end of the year, the work consisting mainly of putting the workings of the Zeehan and Monowai Mines in order.

Mount Edward Mine, Thames (J. Ensor, Owner).—Two men were employed; 2½ tons of quartz was treated for a return of 7 oz. gold, valued at £32 0s. 11d. This is the total yield and value since commencing operations.

Gold Seal Claim, Thames (E. Keven, Owner).—Two men were employed. One ton of quartz was treated for a return of 5 oz. 17 dwt. gold, valued at £22 18s. 8d., which is also the total yield and value since commencing work.

Tinakori Claim, Thames (L. H. Isaacs, Owner).—Two tons of quartz was mined, which yielded 1 oz. 8 dwt. gold, valued at £5 4s. 8d., which is the total yield and value since commencing work.

Cambria Claim (A. F. Sawyer, Owner).—The only work done was some prospecting by tributing parties, who mined 8 tons of quartz, which yielded 6 oz. 13 dwt. gold, valued at £26 9s. Total yield of bullion since commencing work, 111 oz. 13 dwt.; value, £386 7s. 7d.

Anniversary Claim (Phillips and McLean, Owners).—From this claim, which was formerly part of the Alburnia Gold-mining Co.'s areas, some 35 tons of quartz, treated at Thames School of Mines battery, yielded 19 oz. gold, valued at £79 9s. 10d. This is the total yield and value since commencing work.

Blue Jumbo Claim (H. Syms, Owner).—Five tons of quartz was treated for return of 13 oz. 13 dwt. gold, valued at £59 3s. 4d. This is the total yield and value since commencing work.

North Star Gold-mining Co.—A small amount of prospecting was done, and about 20 tons of quartz was crushed for a yield of 4 oz. 16 dwt., valued at £21 16s. 3d. Total yield of bullion since commencing work, 26 oz. 2 dwt.; value, £92 16s. 1d.

Hauraki Mines Consolidated, Ltd., Coromandel.—This company did no actual work on its holdings during the year, but a few tribute parties worked surface portions of the claims. These parties mined 49 tons of quartz, which on treatment yielded 80 oz. 15 dwt. gold, valued at £304 5s. 4d. Total yield of bullion since commencing work, 549 oz. 9 dwt.; value, £1,717 9s. 5d.

Long Trail Gold-mining Co., Coromandel.—This company during the year took over the claims previously held by J. A. McNeil and Sons, and carried out a good deal of development work on the Long Trail reef, without, however, evidently meeting with any great measure of success. A few tons of ore was crushed in a battery erected by the Te Toanui Research and Development Co. during the year, but the clean-up of this crushing had not been completed at the end of the year, and no details regarding it were available. Eleven men on an average were employed.

Te Toanui Research and Development Co.—This company operated the Red Trail Mine. A lot of development work was carried out, but, as in the case of the Long Trail, no very satisfactory results seem to have been met with. During the year 39 tons of quartz for the latter was treated at the Hauraki Consolidated Co.'s battery for a return of 35 oz. 2 dwt. gold, valued at £148 15s. The company erected a small battery of its own which, it is understood, was to be taken over by the Long Trail Co. when completed, but it crushed no stone from its own mine in it.

Golden Lily Claim.—This claim, together with the adjoining Austral claim, was worked by the owner, S. James. A low level was started to cut the McKenzie reef about 80 ft. below some old workings, and to the end of the year this had been driven about 70 ft.

Four-in-Hand Mine.—Three men were employed on wages for the first six months, and for the last six months they worked the mine on tribute. About 326 ft. of rising, driving, and cross-cutting were done. The tributers crushed 11 tons from surface workings on the old Taimui section for a return of 9 oz. 3 dwt. gold, and about 180 lb. of selected stone from a surface block in the Cuirassier section for 33 oz. 11 dwt. gold, of total value of £193 3s. 8d. Total yield since beginning of operations, 191 oz. 17 dwt., valued at £785 10s. 4d.

Mount Tokatea Mineral Fertilizer Co.—During the year the big Tokatea Reef was crosscut from wall to wall, proving about 130 ft. in width. Values throughout were found to be low. Some work was also done on a small gold-bearing leader in the slates on the footwall of the reef, from which 16 tons of quartz was crushed for a yield of 24 oz. bullion, valued at £100.

Lone Hand Claim (W. J. Pearce, Owner).—This claim adjoins the Four-in-Hand. During the year two small reefs, 12 in and 6 in. in width respectively, were driven on for 70 ft. and 40 ft., from which some 2 tons of general dirt, together with 15 lb. of picked stone, yielded 19 oz. 10 dwt. gold, valued at £90 16s. 1d.

Bot Claim.—This claim adjoins the Golden Lily on the range north of the Long Trail Co.'s holdings. The owners, Messrs. McGregor and C. Wells, did a good deal of work on several small gold-bearing formations, assays from which are said to have given good results. Towards the end of the year an option was given over the property to J. T. Kinvig, who purposes putting a small battery on it. No stone was crushed.

Nil Desperandum Gold-mining Syndicate.—On this claim, near Coromandel Township, some quartz was located in surface prospect-holes, which showed good gold content on pounding and panning. Subsequently, several hundred feet of driving and crosscutting were carried out in two adits about 70 ft. to 80 ft. below where the gold was got at surface. In these quite a number of small reefs and one large formation were located and driven on, but beyond one small shoot near the southern end of the claim nothing approaching payable ore was found. From this shoot 8 tons was crushed for a return of 8 oz. 7 dwt. gold, valued at £22 10s. 1d.

Ada Claim (Boswell and Sewell, Owners).—On this claim, which is part of the old Conquering Hero, a low level was driven from Driving Creek for about 75 ft. to cut a reef which was worked years ago to some small extent in surface workings. Eight tons quartz from the old surface workings was crushed at the Hauraki Co.'s battery for 2 oz. 14 dwt. gold, valued at £13 4s. 8d.

More or less prospecting was done on other claims in the Colville area, amongst others the Surprise, Midget, Lost Trail, Colville View, Gladys, and Whitworth, but nothing of any special promise was located.

Kapowai Amalgamated Gold-mines, Ltd.—Two men were employed, and a total distance of 211 ft. was driven with a view to intersecting the reef worked in O'Connor's level about 50 ft. above.

Quicksilver and Sulphur Mines.

No work was done in any of these in the district for the year.

Oil-wells.

Moturoa Oil Fields, Ltd.—This was the only company to carry on any active drilling operations during the year. The company's No. 2 well continued to produce steadily, the output for the year being 228,061 gallons of marketable oil, valued at £3,801 0s. 4d., making the total production for this well 302,359 imperial gallons, valued at £4,993 16s. 4d. No. 3 well was started about 800 ft. east of No. 2, on the foreshore, and to the end of the year had been carried down to 1,062 ft.

Accidents.

It is satisfactory to have to report again that no fatal accidents occurred in any of the mines or quarries of the district, and that even no accidents were reported as serious.

PROSPECTING.

There has been great activity, particularly in the Thames and Coromandel districts, in the prosecution of prospecting effort under the Unemployment Board's scheme. In the former district an average of about 150 men were employed and in the latter about 100 men. At Thames the country explored stretched from Te Mata Creek in the north to Puriri Creek on the south, while at Coromandel the work has been pushed on in the Colville, Kennedy Bay, Omoho, Kaimarama, Mahakirau, Kuaotunu, and Manaia districts, as well as along the Coromandel Range from the Success Saddle northward to opposite Cabbage Bay. In the Thames district a number of tributers working under the scheme have won a good deal of gold, as have also a few at Coromandel; but there does not appear to have yet been any very promising new find as the result of the work. However, every effort is being made now to extend the work out into the more outlying portions of both districts, where it is hoped to make some valuable discoveries.

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

QUARTZ-MINING.

Buller District (Waimangaroa).

Britannia Gold Reefs, Ltd. (W. A. McLellan, Manager).—This is a new mine which is situate at Stony Creek, in the vicinity of the old Britannia Mine workings, and the crushing-plant, formerly used at same, is being operated by the present company in the treatment of its ore. Development operations have been confined to the advancing of two levels (Nos. 1 and 2). No. 1 level has been driven 116 ft. Stone was located at a distance of 23 ft. from the mouth of the drive. It was followed for 72 ft., where it faulted, and has not since been picked up, though driving work was continued for a length of 21 ft. beyond the troubled zone. No 2 level is being constructed with the object of proving the existence of the stone at a higher point. Driving operations are in progress. One hundred and sixty-seven tons of ore was produced for the period, and this yielded 185 oz. 10 dwt. of gold, worth £725 0s. 6d. The average number of men employed for the year amounted to five.

Reefton District.

Blackwater Mine (R. A. Stewart, Manager).—Development work at this mine consists of the following: Driving—No. 8 level north was extended 181 ft., of which 127 ft. was on reef (Prohibition block), over a width of 2 ft., with values averaging 16·12 dwt. per ton. No. 9 level north was advanced 286½ ft., of which 160 ft. exposed reef (Prohibition block), over a width of 1 ft. 11½ in., with average values of 12·14 dwt. per ton. No. 10 level north progressed 184 ft., of which 85½ ft. disclosed reef over a width of 4 ft. 1 in., with average values of 12·21 dwt. per ton. The last 45 ft. of driving was in country rock, and it seems, as similar conditions were met at a corresponding point on No. 9 level, but over an extended distance of 200 ft., that some 155 ft. of blank country must be penetrated before reef is again encountered. No. 10 level south was advanced 45 ft., where work was suspended, with nothing to report. No. 11 level north was extended for a distance of 301 ft., the full length being practically on reef having a width of 2 ft. 1 in., with values averaging 9·47 dwt. per ton. No. 12 north (started in June) has been advanced for a distance of 683 ft. The first 576 ft. of this work was in country rock and the balance on reef having a width of 4 ft. 4 in., with values averaging 3·7 dwt. per ton. Rising—The total rising done amounts to 309 ft., of which 194½ ft. exposed reef over a width of 2 ft. 2 in., with average values of 6·44 dwt. per ton. Winzing—The total winzing carried out amounts to 470½ ft., of which 328½ ft. was on reef over a width of 2 ft. 5 in., with average values of 14·62 dwt. per ton. Crosscutting—A total of 767½ ft. of this class of work was performed. Shaft-sinking—The main shaft was sunk for a distance of 150½ ft., making the total depth of same 1,840½ ft., measured from the portal. Sinking is in progress. The total footage of development driving amounted to 1,678½ ft., of which 739 ft. was on reef averaging 10·364 dwt. per ton over a width of 2 ft. 10·7 in. The greater part of the stoping work carried out during the year was at Nos. 10 and 11 levels, and all in a northerly direction. Prospecting south of Snowy River—Driving operations were carried in for a distance of 483 ft., measured from the mouth of the old adit mentioned in the last report. A crosscut, projected to the east at this point, located reef at 49 ft., and this line of reef was driven on to the south for 192 ft. The first 75 ft. of such work exposed bouldery stone averaging 13·24 dwt. per ton for a width of 1 ft., and the remainder of the distance—117 ft.—was on a fault-line that carried quartz boulders throughout. Work has been suspended. Battery crosscut—This crosscut is situate near the treatment plant, and is being constructed for the purpose of testing that portion of the company's area which lies to the south of the known ore-body. The crosscut was advanced for a distance of 398 ft. altogether. A reef track was encountered at 360 ft., and this is now being driven on to the north. Treatment plant—The battery crushed 41,402 tons of ore for a yield of 24,474 oz. 3 dwt. of gold, of which 19,384 oz. 2 dwt. were obtained by amalgamation, 3,266 oz. 6 dwt. by cyanidation, and 1,823 oz. 15 dwt. by the treatment of concentrates, the value of the whole recovery being £145,091 1s. 2d. These results show an increase in the tonnage treated, also in the value of the gold obtained therefrom (at standard rates), when compared with last year's operations, which may be described as highly satisfactory. The total yield of gold since the commencement of operations amounts to 464,554 oz. 3 dwt., valued at £1,905,419 4s. 9d. An average of 250 men were employed in and about the property for the year.

Alexander Mine (J. Bolitho, Manager).—Operations during the year were confined mostly to the development and extraction of ore from the McVicar block. A reasonable amount of prospecting work was carried out to the north of the Mullocky Creek and McKay blocks to prove the extent and worth of these makes of stone. Several outcrops containing values were found in the vicinity also, but were disappointing and resulted in no continuous line of reef being opened up. No. 3 north drive, McVicar block—This was advanced 322 ft. from the main crosscut, and of this distance some 242 ft. was on stone, giving a value of £5 0s. 9d. per ton over an average width of 4 ft. 5 in. A fault occurred at 360 ft. from the main crosscut, and beyond this point the lode has not yet been located. No. 3 north winze—This was started 226 ft. from the main crosscut and carried down to a depth of 51 ft.; 25 ft. of this distance was on stone worth £6 17s. 4d. per ton over an average width of 1 ft. 6 in., the balance being on reef track and boulders of stone of varying widths. New No. 4 north crosscut—This is located on the south side of Bull Creek, 63 ft. below and 190 ft. north of No. 3 main crosscut. Work has progressed to a point 317 ft. from the surface. Three lines of reef were passed through in these operations, but they contained values of from 2s. 6d. to 16s. per ton only. The last track encountered (at 300 ft.), was driven on for 150 ft., but the work failed to disclose any stone of importance. No. 4 north rise—This was started at 46 ft. from the main crosscut and continued for a distance of 23 ft., where it connected with the winze put down from No. 3 level. The rise was carried up in country rock, with no reef of any description showing. Bull tram drive—48 ft. of driving was carried out here, and the face is now 108 ft. south of the main crosscut. The drive followed lode material, but no quartz of a solid nature was met. Stoping—All operations of this description were confined to No. 3 level, where the McVicar block alone was worked, the total length of stone being 430 ft., with a width varying from 2 ft. to 10 ft. Surface—Improvements made to the treatment plant during the year consisted of the installing of a second Wilfley table and the laying-down of another run of copper plating. A canvas-covered table, for catching fine pyrites from the overflow of sizer, was also put in operation. The battery was kept running for three shifts daily over the whole period, and resulted in the treatment of 5,527 tons of ore for a yield of 6,680 oz. of gold, of which 5,156 oz. 1 dwt. was obtained by amalgamation and 1,523 oz. 19 dwt. by cyanidation, the value of the whole recovery being £38,916 14s. 5d. The total yield of gold since the commencement of operations amounts to 18,352 oz. 2 dwt., valued at £85,620 1s. 4d. Forty-two men were employed on an average during the year.

Wealth of Nations Battery (A. P. Watson, Superintendent).—This treatment plant operated on residues only, and succeeded in winning therefrom 472 oz. 14 dwt. of gold, valued at £2,527 3s. 4d. The total quantity of gold produced by the company amounts to 370,703 oz. 17 dwt. 2 gr., valued at £1,483,893 16s. 2d. Six men were employed, on an average, during the year.

Big River Mine (J. V. Lake, Manager).—The reconditioning of this mine and plant was put in hand at the beginning of January, but several months elapsed before active prospecting operations could be undertaken, and were then confined to Nos. 2 and 3 levels only. All work was carried out at what was considered to be the most favourable points for the occurrence of new or hitherto undiscovered ore-bodies, but, with two exceptions, nothing of importance has been found. The two exceptions are what is known as Jones' reef, No. 2 level, and a new make of stone found at 197 ft. in the south drive off No. 3 main east level. In the first case a winze (previously sunk on lode matter), was extended from 13 ft. to 83 ft., and this work proved payable stone over an average thickness of 4 ft. 6 in. for the last 53 ft. of sinking. The intention is to connect with the winze by an uprise from No. 3 level. In the second instance an entirely new ore-body was met with and followed for a distance of 83 ft. The stone was small at first and somewhat disturbed by faulting, but all-round improvements occurred as work progressed. There was solid stone 3 ft. wide making strongly underfoot and in the roof at 75 ft., and gold could be seen in the same. Driving is being continued. Surface works—Steps are being taken to put the treatment plant in order, and it is expected that crushing will commence about the mid-period of 1933, there being some 300 tons of ore already broken for that purpose. Fourteen men were employed on an average during the year.

Homer Mine (D. Absalom, Manager).—A total of 166 tons of ore was produced by this mine during the year, and gave a yield of 81 oz. 18 dwt. of gold, valued at £435 10s. 8d. The reef averaged 3 ft. in width, and the gold won (a cyanide plant not having been installed), was obtained by amalgamation alone. A considerable amount of surface prospecting has also taken place during the period, and the results obtained therefrom are considered to be highly satisfactory. The total quantity of gold won since the commencement of operations amounts to 140 oz. 17 dwt., valued at £667 10s. 8d. Two men were employed on an average during the year.

Westland District (Ross).

Mount Greenland Mine (W. O. Bierworth, Superintendent).—Development operations at this mine have been confined to No. 2 level, and consisted of rising and driving, all on the reef, with the total footages stated at 155 ft. and 250 ft. respectively, and the average width of stone at 4 ft. Stoping has been carried out over the full length of reef developed, and this work resulted in the production of 625 tons of stone, which gave a yield of 526 oz. 10 dwt. of gold, worth £2,106. The quantity of gold won since the commencement of operations amounts to 2,809 oz. 6 dwt. 5 gr., valued at £11,306 7s. 3d. An average of six men was employed in both mine and battery during the year.

Dredging.

Rimu Dredge (A. Archer, Dredgemaster).—The company's all-steel electrically-operated dredge worked for a total of 6,778·27 hours, or 91·1 per cent. of the possible digging period. During this time some 2,780,017 cubic yards of gravel was treated, the yield being 14,524 oz. of gold, worth £92,079, which represents an approximate winning of £13 12s. per digging-hour, or an average recovery of 7·95d. per cubic yard of gravels treated. No additions or improvements were made to the dredge outside a few minor guards and reinforcements. Operations throughout the year were practically continuous, there being no long shutdowns for repairs or breakage. There is such a small margin between gravel values and working-costs that steps are being taken to quicken the bucket-line speed so as to increase the amount of ground treated, and it is hoped, by this means, to bring the volume of gravel treated during 1933 up to, or in excess of, 3,000,000 cubic yards. The total yield of gold since the commencement of operations amounts to 133,156 oz., valued at £566,943. The operation of the new dredge has satisfied expectations in every way. There were forty-five men employed on an average for the year.

Okarito Five-mile Beach Dredging Co., Ltd. (D. Mitchell, Dredgemaster).—The company's hydraulically-operated dredge suffered no serious interruptions during the year, and succeeded in working a total of 6,780 hours, or 94·16 per cent. of the possible digging-time. 417,847 cubic yards of gravel was turned over for this period, and recoveries therefrom amounted to 2,329 oz. of gold, worth £13,969, which gives an average approximate value of 8d. per cubic yard. The installation of a new Pelton wheel during the year, together with alterations to the pressure pipe-line, gave satisfactory results, and it is considered that still further improvements can be made to the last-mentioned item of work. The dredging of a rib of somewhat heavy ground adjacent to high-water mark gave a fair amount of trouble during the mid-period of the year, and this was directly reflected in the matter of yardage treated. Recoveries, also, were affected by the impoverished nature of the ground referred to. The total yield of gold since the commencement of operations amounts to 4,462 oz. 3 dwt., worth £24,816 6s. 3d. Eleven men were employed throughout the year.

Awatuna Extended Dredging Co. (D. Pettigrew, Dredgemaster).—Operations at this company's dredge were carried out for a few weeks only, and the plant was then shut down owing to poor average values and the recoveries falling below paying point. 12,000 cubic yards of material was treated during this time, and the gold won amounted to 106 oz. 4 dwt., worth £660 3s. 11d. The yield since the commencement of operations amounts to 276 oz. 19 dwt. of gold, worth £1,343 3s. 11d. Eight men were employed on the dredge when it was working.

Alluvial Mining.

Mahakipawa Goldfields Ltd. (K. M. Barrance, Manager).—This company's mine worked continuously for the year, and produced 6,727 cubic yards of wash and bottom rock, which yielded 1,842 oz. of gold, worth £10,821 19s. 10d. Development work has been carried out to the north and to the south of the shaft crosscut, and consists in all of 710 ft. of driving and 520 ft. of crosscutting. Southwards, the pay-lead was followed for 420 ft., when a quick rise in the bottom rock occurred, and its further existence looked doubtful. Subsequent developments proved, however, that a continuation of the lead was more to the east than had been anticipated, and work progressed thereon accordingly. The lead was followed to the north by a 3 per cent. dip drive for a distance of 290 ft., with values satisfactory, and the average width of wash-dirt, 30 ft. A small centrifugal electric pump was installed for the purpose of handling inflows of water encountered in projecting the north drive. The total yield of gold since the commencement of operations amounts to 3,851 oz. 9 dwt., worth £20,248 1s. 10d. Twenty-four men were employed on an average for the year.

Bell Hill Gold Sluicing Co., Ltd. (R. C. Bell, Manager).—The yield from this company's claim amounted to 94 oz. 11 dwt. of gold, valued at £513 16s. 9d., and was obtained from the treatment of 60,000 cubic yards of gravel, valued at 2·09d. per cubic yard. An average of nine men were employed throughout the year.

Hohonu Gold Sluicing Claim (J. A. Peever, Manager).—Sluicing operations at this claim were practically continuous throughout the year, and resulted in 353,500 cubic yards of gravel being treated during a total working period of 1,450 hours, or 244 cubic yards of gravel being washed per hour. The gold won from this work amounted to 197 oz., valued at £1,144, which represents a yardage rate of 0·77d.—a considerable decrease when compared with last year's values. An improvement was shown in this respect during the closing month of the year. Five men were employed for the period.

Callaghan's Gold Sluicing Co., Ltd. (S. Havill, Manager).—369 oz. of gold, worth £1,845 2s. 4d. was won from its claim by the company named. Sluicing was suspended from a variety of causes during the latter part of the year, and it was then decided to work the claim by underground methods. The last-mentioned work is in progress. On an average, ten men were employed for the period.

Collingwood (Rocky, Aorere, and Anatoki Rivers, Takaka County, &c.).—Fifty-nine men were employed, winning 556 oz. 10 dwt. 22 gr. of gold, valued at £2,931 16s. 7d.

Waimea and Marlborough (Wangapeka, Baton, Wakamarina, Onamalutu, and Cullensville).—Fifty-seven men were employed, winning 2,057 oz. 1 dwt. 11 gr. of gold, valued at £11,931 12s. 9d. These figures are inclusive of those pertaining to the Mahakipawa Co.'s work.

Murchison (Howard, Matakitaki, and Maruia).—Two hundred and ten men were employed, winning 1,811 oz. 7 dwt. 8 gr. of gold, valued at £8,716 19s. 11d.

Buller (Charleston, Birchfield, Lyell, &c.).—Seventy-four men were employed, winning 868 oz. 5 dwt. 4 gr. of gold, valued at £4,635 13s. 6d.

Reefton (Merrijigs, Blackwater, and Ikamatua).—Sixty-six men were employed, winning 701 oz. 1 dwt. 8 gr. of gold, valued at £3,824 2s. 5d.

Grey (Ahaura, Moonlight, and Barrytown).—One hundred and forty-seven men were employed, winning 1,978 oz. 1 dwt. of gold, valued at £10,244 4s. 7d. These figures are inclusive of those pertaining to the Bell Hill Co.'s work.

Westland (Kumara, Callaghan's, Blue Spur, Rimu, and Kanieri).—One hundred and twenty-two men were employed, winning 1,612 oz. 9 dwt. 20 gr. of gold, valued at £8,484 10s. 1d. These figures are inclusive of those dealing with operations conducted at the Hohonu and Callaghan's Co.'s claims.

South Westland (Ross, Okarito, Gillespies, and Bruce Bay.)—Fifty-four men were employed, winning 661 oz. 14 dwt. 6 gr. of gold, valued at £3,316 9s. 2d.

Minerals other than Gold.

Onakaka Iron and Steel Co., Ltd. (J. A. Heskett, Manager).—No pig-iron or material of any description was produced at the company's works during the period under review. This result was due to several causes, the largest, no doubt, being the general all-round slackness of trade. Indications are to the effect that the year 1933 will see a partial resumption of operations at least.

Petroleum.—No great amount of activity has been shown in this class of work for the year. The Kotuku Oil and Goldfields Ltd. (a new company), however, has been formed with the object of testing an area at Kotuku, Hohonu Survey District, and certain preliminary operations have been undertaken thereon by the company. The same ground has been hitherto prospected (by another company), with a number of shafts and bores, but it is claimed that these were too shallow, and steps are now being taken to drill up to and beyond the ground so far penetrated with the object of testing new, and it may be more favourable strata.

Prospecting.

Operations pertaining to this class of work have been greatly increased for the year by an extended scheme of the Unemployment Board which has been responsible for alluvial work, in particular, having a widespreading growth. Results from this source have been fair in some instances, and good in others, and with prospective gains they should be considered satisfactory. The drilling of small areas situate at lower Maori Gully, Hohonu Survey District; Blackball Creek, Mawheranui Survey District; and Butler's Freehold, Mahinapua Survey District, respectively, is stated to have been successful. Areas located in Antonios, Mawheraiti Survey District; at Minchicoff Terrace, Arnold Flat, Mawheranui Survey District; and on Brown's Terrace, Hohonu Survey District, similarly investigated, did not live up to expectations. This form of prospecting cannot be too highly commended where the testing of water-logged, and any but shallow, ground is concerned, for the work is speedy and effective, and gives accurate values when properly carried out. There is every indication that considerable impetus will be experienced by drill prospecting during 1933. No extensive and prolonged search for quartz reefs has been undertaken (the rewards for such work being few and seldom immediate), but such slackened conditions are unlikely to continue, as there is every reason to believe that revived and much-needed interest will be shown towards this important branch of mining during the ensuing period.

Accidents.

There were two fatal and two non-fatal accidents during the year. The first fatal accident, in which a man named Andrew Simpson was the victim, occurred at the Slate River Sluicing Coy's claim, Collingwood district, on the 8th April. The deceased was engaged in liberating gravels from the working-face (with a bar), when some overhanging ground came away quickly and buried him. The second fatal accident, in which a Thomas William Noble Douglas was the victim, occurred at the Rough and Tumble Mine, Mokihinui, on 11th October. This was brought about by the deceased trying to force a lath over a false set of timber, standing at the face of a drive, that was being advanced through loose gravels. The roof caved in, and the deceased was caught and smothered by the fallen debris. Francis Bowey and William J. White were the victims of the non-fatal accidents. The first mentioned, employed at the Alexander Mine, was struck by a piece of rock that fell from the hanging-wall, McVicar reef. He sustained a broken left leg. The last named, working on the Mount David Sluicing Co's water-race, slipped when attempting to lift a heavy stone, and this resulted in a ruptured lower left bowel.

General Remarks.—Mining.

The gold obtained from alluvial work was considerably in advance of that won from the same source last year, the respective values being £54,085 9s., and £25,700 15s. 6d., which increase is most satisfactory. Recoveries from metalliferous mines also show a gain as to the quantity of gold won and values received for the period, the comparative figures in this respect being 32,420 oz. 15 dwt., valued at £189,801 10s. 1d., and 24,869 oz. 18 dwt., worth £118,567 6s. 2d. Dredging operations for the year have likewise resulted in enhanced returns, the amounts recovered and values received for the last and present periods being 10,435 oz. 18 dwt., worth £49,420 3s. 9d., and 16,960 oz. 4 dwt., valued at £106,708 3s. 11d., respectively. The general increase in gold won is due to the very marked and all-round livening-up experienced by mining over the whole period; and it would appear that the contributary causes to such activities must have been the continued economic depression, together with favourable values received each in an equal degree. Three new dredges and two large sluicing claims should commence operations during the ensuring year, hence it seems as if the next returns are likely to eclipse the increased ones now recorded.

Prosecutions.

Eight informations were laid during the year. Two were withdrawn and the others were successful. A mine-manager was fined £1 and ordered to pay costs, 17s., for allowing rock-drills, other than axial water-feed drills, to be used. The same person was convicted and ordered to pay costs, 17s., for being the manager of a mine where a quantity of detonators, not required for immediate use, was taken out of the covered box in the drive or chamber set apart for their storage. Two miners were each charged (1) with taking explosive substance for use into the workings of a mine in a case other than a securely covered case or canister; and (2) taking quantities of detonators, not required for immediate use, out of the covered box in the drive or chamber set apart for their storage. One was convicted and fined £1, with costs, 17s., on the first charge, and ordered to pay costs, 17s., on the other. The second was convicted and ordered to pay costs, 17s. on each charge.

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

Quartz and Alluvial Mining.

Waitaki County.

Livingstone and Maerewhenua.—The Mining House (N.Z.), Ltd., acquired the rights of Messrs. Holloway and Smith Bros. and rebored part of the Golden Gully, Livingstone. They also prospected an area in the Maerewhenua district by channel-sampling and shaft-sinking. The results were considered by them to be satisfactory, and the Maerewhenua Goldfields Development Co., Ltd., was formed. Water-race reconstruction and water-conservation is being carried out by this company.

Sixty-two men were employed in the Livingstone, Maerewhenua, Kurow, Dansey's Pass, Hampden, and Oamaru areas fossicking, prospecting, driving, and sluicing. The gold won amounted to 569 oz. 14 dwt. 6 gr., valued at £3,211 17s. 5d. The chief producers were: Adams and Weir, Maerewhenua, with 251 oz. 10 dwt. 18 gr., valued at £1,479 16s. 2d., and V. I. Fenning, Maerewhenua, with 141 oz. 9 dwt., valued at £805 17s. 6d.

All the auriferous areas in this county are being prospected. The auriferous deposit in Diggers Gully has not proved to be either rich or extensive. The water-supply is inadequate, and the construction of a water-race to command the whole of the Gully has proved to be more difficult than was anticipated.

Waihemo County.

The Ounce Mine, in Block 8, Dunback Survey District, Stoneburn.—A company named The Ounce, Ltd., took over this mine at the end of January, and a considerable amount of prospecting and repair work was done. Driving, crosscutting, and sinking operations have not proved any payable stone. Work is now discontinued.

Golden Point Gold and Scheelite Mining Co., Ltd., Deep Dell, Macraes (G. Holcombe, Superintendent; J. Williams, Manager).—Mining and treatment operations were continued until near the end of the year, when operations were closed down temporarily. Considerable driving, rising, and stoping operations were carried out during the working period. A ball mill was installed at the battery during the latter part of the year. Twenty-four men were employed in the mine and battery; 4,349 tons of quartz was crushed and treated for a return of 980 oz. 6 dwt. 8 gr. of gold valued at £5,228 18s. 3d.

P. G. Callery and Broadfoot, Round Hill (between Macreas Township and the Golden Point Mine).—This area of partially worked shallow reefs has been reopened by four working partners. Driving, rising, stoping, and opencast methods are used. Approximately 40 chains of road has been formed; loading bins have been erected. The quartz is transported by road to the five-stamp battery in Deep Dell Creek. This battery was previously operated by H. Fraser (now deceased). It has been reconditioned and a 16 h.p. kerosene engine installed to drive the plant. Four men were employed and 427 tons of quartz has been crushed and treated for a return of 113 oz. 1 dwt. 15 gr. of gold valued at £845 17s. 6d.

The Macrae's Flat Gold-mining Company (R. T. McKenzie, Manager).—This company is working the partially hand-worked ground on the Macrae's Flat opposite the township by electrically driven gravel-pump methods. The electric-power line was completed from Dunback to Macrae's, and power became available at the beginning of July. Dams were constructed for water-storage. The water is used again after being allowed to settle. Operations were carried on steadily until the water-supply was reduced in volume because of the very dry season. Six men were employed, 21,000 cubic yards of alluvial material was treated for a return of 203 oz. 11 dwt. 20 gr., valued at £1,166 5s. 11d.

Fifty men were engaged prospecting in the Hyde, Macrae's, Dunback, Shag River, Waikouaiti River, and Hillgrove areas. The gold won amounted to 124 oz. 13 dwt. 9 gr., valued at £577 5s. 10d.

Maniototo County.

Golden Progress Quartz Mining Co., Oturehua (L. E. Autridge, Manager).—Mining and prospecting operations have been carried on during the year. As the eastern extension of the reef was cut off by a fault on the 150 ft. level a crosscut was driven to the south. Leaders were cut in this crosscut and at 153 ft. a reef formation was intersected. This reef is now being tested by rising and driving. Stoping operations were carried on above the 150 ft. level until the old workings were encountered. Considerable driving and stoping work has been done on the 80 ft. and 150 ft. levels in the western section of the mine. In order to test the continuity of the reef below the 150 ft. level, a winze is being sunk in the west section of this level. It is proposed to sink the main shaft a further 100 ft. and then open out again on the 250 ft. level. Another reef is being prospected by a surface level near the head of the battery gully. Twenty men were employed at the mine and battery. 441 tons of quartz yielded 1,003 oz. 11 dwt. 12 gr., valued at £6,262 19s.

Kildare Consolidated Gold-mining Co., St. Bathan's (W. Johnsen, Manager).—During the early part of the year sluicing was carried on in the northern boundary of the claim and the block of quartz drift which previously carried the M. and E. pipe-line was taken out. Values in this locality were as follows: First half chain from schist rock, 3s. 6d. per cubic yard; remaining 2 chains 1s. per cubic yard. With the abundance of water in the spring it was considered advisable to resume operations in the southern boundary of the claim in what is known as the "Coal-pit" area. Heavy clay and coal to a depth of 100 ft. had to be removed before the Kildare lead was exposed. The lead is from 10 ft. to 25 ft. in depth along the whole line of face exposed and it is believed carries good values. The result of work carried out has proved an area of payable ground in this locality. Nine men were employed. The gold won amounted to 572 oz. 15 dwt. 7 gr., valued at £3,481 5s. 2d. The total yield of gold since commencing work amounts to 1,887 oz. 4 dwt. 7 gr., valued at £8,810 19s. 2d.

One hundred and thirty-seven men were employed prospecting, sluicing, and elevating in the St. Bathan's, Vinegar Hill, Cambrian, Blackstone Hill, Wedderburn, Naseby, Kyeburn, Patearoa, and Serpentine areas, winning 1,616 oz. 14dwt. 12 gr. of gold, valued at £8,905 10s. 3d., the chief producers being Carr Bros. and J. T. Wilson, Patearoa, with 210 oz. 19 dwt. 18 gr., valued at £1,241 13s. 3d.; Roche and George, Kyeburn Diggings, 177 oz. 13 dwt., valued at £1,085 0s. 1d.; A. and G. Brown, Naseby, 170 oz. 3 dwt., valued at £1,020; N. Nicholson, Vinegar Hill, 109 oz., valued at £580; T. C. Hore, Spec Gully, Naseby, 99 oz. 3 dwt. 6 gr., valued at £513 2s. 10d. Moses Brown and partner, Kyeburn Diggings, 71 oz. 16 dwt. 12 gr., valued at £395 3s. 5d.; and Mrs. B. Parker and Sons, Kyeburn, 68 oz. 19 dwt. 18 gr., valued at £414.

Tuapeka County.

Gabriel's Gully Sluicing Co., Lawrence (J. Hore, Manager).—This company was sluicing and elevating old tailings on the line of the old tail-race in Gabriel's Gully during part of the year, the plant was then removed to the opposite side of the Gabriel's Gully–Blue Spur Road, where a partially worked area was opened up, also a small area of virgin ground adjoining, which could not be worked in the early days, being then a residence-side. Six men have been employed. The gold won amounted to 544 oz. 2 dwt., valued at £3,267 10s. 5d.; total yield of gold since commencing work being 21,489 oz. 9 dwt. 10 gr., valued at £85,861 1s. 9d.

Golden Crescent Sluicing Co., Wetherstones.—An option had been granted to Industries Ltd. (Mr. G. W. Thomson, Superintendent), and active operations were carried on during the first six months of the year in mining and treating cement for test purposes. The tunnel driven by the Golden Crescent Mining Co., with the aid of financial assistance from the Mines Department, was enlarged and securely timbered where necessary; the tunnel track was relaid with heavier rails, the surface tramway track was relaid, strengthened, and extended to provide for a dump. An experimental crushing-plant, gold-saving tables and boxes, electrically-driven compressor haulage winch and Sirocco fan were erected, together with the necessary buildings for housing this plant. Air, water, and ventilation pipes were installed in the dip. A main tunnel was driven to the south for a distance of 130 ft., and from this tunnel uprises were driven to the west. This development work uncovered an area of 410 square yards of bottom, and yielded about 66 oz. of gold, giving a value of 3·2 dwt. per square yard. The results being considered satisfactory, a company, known as the Wetherstones Gold-mining Co., Ltd., has been formed to work this and the Golden Rise areas by modern mining methods. During the latter part of the year a borehole was being drilled on the Wetherstones Flat to ascertain the depth of the schist-conglomerate contact in order to obtain data for the driving of the main inclined shaft and a knowledge of the values of the upper layers of cement. This borehole was completed during February, 1933, and was drilled to a depth of 412 ft., the schist bedrock being reached at a depth of 405 ft. The values for the upper layers of cement were low, being under 2d. per cubic yard, while the bottom 2 ft. averaged 3s. 8d. per cubic yard. The bottom few feet of the hole was in very crumbly rock; this, combined with the pebbles liberated from the cement, made it very difficult to clean up the bottom efficiently as the pebbles jammed in the valve of the pump. On this account it is possible that the full value of the bottom 2 ft. was not recovered.

The Golden Rise Claim, Wetherstones.—Work has been carried on during the year. The block of ground alongside the Lawrence–Waipori Road was worked out, and the plant was then dismantled and re-erected on the opposite side of the valley. The main pipe-line was extended and sluicing operations are now in progress. The yield of gold amounted to 97 oz. 17 dwt., valued at £499 5s. 10d. Four men have been employed.

Paddy's Point Gold-mining Co., Forsyth (R. Webb, Manager).—Work has been carried on continuously during the year. The mining reserve section, which had previously been worked, was finished and the sluicing and elevating operations are now being carried on in the freehold land alongside the Waitahuna–Lawrence Main Road. Eight men have been employed. The yield of gold amounted to 633 oz., valued at £3,847. Total yield of gold since commencing work, 1,426 oz., valued at £7,378.

The Sailor's Gully Sluicing Co., Waitahuna (A. W. Eaton, Manager).—Sluicing and elevating operations have been continued during the year in the cement deposit in the Waitahuna Gully. Seven men were employed. The yield of gold amounted to 484 oz. 13 dwt., valued at £2,934 11s. 1d. Total yield of gold since commencing work amounted to 13,624 oz. 15 dwt. 23 gr., valued at £55,197 1s. 8d.

Tallaburn Sluicing Co., Horse Shoe Bend, above Beaumont (W. Meyer, Manager).—Sluicing and elevating operations have been carried on during the year for a yield of 85 oz. 6 dwt. 7 gr., valued at £441 11s. 4d.

Tuapeka (including Lawrence, Waitahuna, Waipori, Tuapeka Mouth, Beaumont, Roxburgh, Table Hill, and Tokomairoro, and Pomahaka and Kaka Point).—Two hundred and sixty miners and prospectors won gold amounting to 1,060 oz. 10 dwt. 8 gr., valued at £5,893 11s. 4d. The largest producers were J. A. Chisholm (Section 8, Block 8, Teviot Survey District), with 84 oz. 16 dwt. 2 gr., valued at £494; H. M. Quilter (S.A.C. 263, Waitahuna), with 59 oz. 4 dwt., valued at £364 16s. 5d.; and A. and R. Brown (Tuapeka Mouth), with 67 oz. 5 dwt. 6 gr., valued at £393 17s. 2d.

Lake County.

Glenorchy Gold and Scheelite Mining Co., Ltd., Mount Judah, Glenorchy.—On account of the prevailing low price of scheelite no productive work has been carried out at this mine.

Big Beach Gold-mining Co., Shotover River, below Arthur's Point, Queenstown (J. McMullan, Manager).—Sluicing operations have been carried on with a reduced staff, five men being employed. The gold won amounted to 146 oz. 4 dwt., valued at £845 8s. 4d. The total yield of gold since starting operations is 2,814 oz. 13 dwt., valued at £11,479 7s. 1d.

Moonlight Mining Syndicate, Moonlight Creek, Queenstown (— Soper, Manager).—Sluicing operations have been carried on vigorously. The gold won amounted to 584 oz. 17 dwt. 4 gr., valued at £3,168 18s. 3d. The total yield of gold since commencing work is 1,697 oz. 5 dwt. 16 gr., valued at £7,671 14s. 8d.

The New Skippers Sluicing Co., Skippers (E. Sainsbury, Manager).—Sluicing operations have been carried on in an area which was driven out in the early days. The gold won amounted to 42 oz. 18 dwt., valued at £247 8s. 1d.

A. E. Smith and Party, Maori Point, Skippers.—Vigorous sluicing and elevating operations were carried on during the year on the beaches of the Shotover River at Maori Point. The low-river period, coupled with the mild winter season, assisted the operations of this party. The gold won amounted to 823 oz. 0 dwt. 6 gr., valued at £5,294 14s. 10d.

Hope, Oxenbridge, and Party (operating in the Shotover River below its junction with the Moke Creek).—Work has been carried on whenever river conditions were suitable by wing dam and elevating. Attempts have also been made to work the lead by sinking and driving. The low river period during the winter months assisted this party. The gold won amounted to 122 oz. 19 dwt. 19 gr., valued at £690 2s. 8d.

Atley Bros.—Mining operations have been carried on in the special river claim, Shotover River, about two miles above the junction of the Shotover and Moke Creek. The gold won amounted to 31 oz. 18 dwt. 17 gr., valued at £196 11s. 9d.

P. T. Lynch and Party (P. T. Lynch, Manager).—Mining operations have been carried on in the Upper Shotover above the Sandhills. The gold won amounted to 193 oz. 4 dwt. 15 gr., valued at £1,094 6s. 8d.

James E. Smith and Partners.—This party has been working in the old bed of the Arrow River at the bend near Scales Tunnel. The gold won amounted to 51 oz. 1 dwt. 1 gr., valued at £318 12s. 1d.

J. A. Wilson, J. Thornton, and Partner (Buckleburn Creek, Glenorchy).—Sluicing operations have been carried on steadily. The gold won amounted to 62 oz. 16 dwt. 11 gr., valued at £365 13s. 7d.

Macetown, Shotover, Glenorchy, Skippers, Arrow River, and Rees River.—One hundred and two men have been employed prospecting, cradling, sluicing, and elevating for a return of 292 oz. 12 dwt. 9 gr., valued at £1,462 18s. 5d. The largest producer was John Walsh, McChesney Creek, Arthur's Point, with 49 oz. 2 dwt., valued at £250 9s. 3d.

Crystal Mine, at Head of Sawyer's Gully, Skippers (J. R. Tripp, Manager).—Work has been continued and the reef is being prospected by trenching and driving. Thirty tons of quartz yielded a return of 15 oz. 6 dwt. 1 gr., valued at £97 8s. 6d.

Considerable prospecting work has been done by the *Shotover Reefs Development Co., Ltd.*, at Ballarat Creek and Sainsbury Creek in the Skippers district. Several hundred feet of driving and crosscutting has been carried out on the reefing system in these areas. Work is being continued.

Vincent County.

Symes Reef, Old Man or Obelisk Range, Fruitlands, Alexandra (G. Carson, Manager).—The Otago Mining Development Co. took an option over this area and drove a low-level adit for a distance of 725 ft. The country driven through was very broken and heavy, and the results obtained proved that payable stone does not live down to the horizon of this adit.

Murchison Bros., Fourteen Mile Beach. — This claim is situated in the gorge of the Molyneux River, midway between Roxburgh and Alexandra. The deposit contains a very large percentage of heavy boulders. The gold won amounted to 60 oz. 7 dwt. 18 gr., valued at £352 13s. 5d. This claim has been purchased by the Fourteen Mile Beach Gold-mining Co., which has installed an electric crane to replace the hydraulic crane. This will be used to haul away the heavy boulders, and will allow the water-supply (which has always been insufficient to work the area thoroughly) to be used for sluicing, elevating, and treatment purposes. The electric power is obtained from the Teviot Power Board, and a line has been extended from the Roxburgh–Alexandra Main Road to the claim.

Central Mines, Ltd., near Victoria Bridge, Kawarau Gorge (J. Gordon, Manager).—Prospecting and sluicing operations were carried on for several months, but nothing of importance was located. Operations were suspended for some time, then another final effort was made to locate payable deposits under the management of G. Thomson. This effort failed, and operations have been definitely concluded.

Cornish Point Gold-mining Co., Ltd., Cornish Point, Cromwell.—No work has been done during the year.

Jones and Party, Whitton's Creek, Upper Nevis (lately known as Graham and party), (F. Jones, Manager).—Active sluicing and elevating operations have been carried on during the year. The gold won amounted to 206 oz. 14 dwt., valued at £1,176 2s. 7d.

Bell and Kilgour.—This party has been prospecting at Clay Point on the Scotland Point section of the Kawarau River, a short distance below the Kawarau Gorge, Cromwell. After driving in the neighbourhood of previous drives they decided to tunnel through the clay-sandstone formation at Clay Point and, after driving a considerable distance, alluvial material was intersected. Further driving located an old auriferous river-channel. Many previous attempts had been made, during recent years, to locate this lead. The gold won amounted to 191 oz., valued at £1,146.

Bell and Hooper.—This party drove a tunnel through the same clay sandstone formation a short distance down river. They had to drive much further than Bell and Kilgour before intersecting the auriferous channel. The gold won amounted to 182 oz. 2 dwt. 23 grs., valued at £887 8s. 5d. A company, named the Bell-Hooper Cromwell Gold, Ltd., has been formed to work this area.

Kawarau Gorge, Cromwell, Bannockburn, Bendigo, Luggate, Clutha, Clyde, Waikerikeri, Blackman's, Conroy's, Matakanui, Drybread, Devonshire, Cardrona, Matatapu, and Lindis.—Four hundred and thirteen men were engaged fossicking, prospecting, sluicing, elevating, driving, and sinking. The gold won amounted to 1,670 oz. 1 dwt. 7 gr., valued at £8,783 16s. 4d., the chief producers being E. J. Williams and party, Lower Nevis, with 89 oz. 11 dwt. 21 gr., valued at £524 0s. 8d.; D. Adie, Mid Nevis, with 46 oz. 12 dwt. 22 gr., valued at £230 1s. 7d.; Murray and party, Scotland Point, with 55 oz. 15 dwt. 13 gr., valued at £315 10s. 3d.; Fountain and party, Clyde, with 39 oz. 15 dwt. 8 gr., valued at £232 2s.; P. McElligott, Blackman's Gully, with 36 oz. 3 dwt. 9 gr., valued at £208 10s. 3d.; S. E. H. Johnsen, Molyneux, Alexandra, with 30 oz., valued at £171; Parker Bros., Fourteen Mile Beach, with 30 oz. 6 dwt. 21 gr., valued at £176 13s. 10d.; Verdon Sluicing Co., Matakanui, with 55 oz. 17 dwt. 16 gr., valued at £339 5s. 8d.; J. H. Harpur and party, Matakanui, with 51 oz. 18 dwt. 21 gr., valued at £293 8s. 1d.; and G. Glassford, Drybread, with 37 oz. 14 dwt., valued at £203 6s.

Southland County.

Nokomai Sluicing Company, Nokomai.—This company has been actively employed during the major portion of the year sluicing and elevating the alluvial gravels to a height of 90 ft. The gold won amounted to 573 oz. 19 dwt., valued at £3,186 7s. 2d. The new power-house machinery and drag-line excavator, together with the necessary transport and treatment plant were also in course of erection. During the latter part of the year the extensive water-races were reconditioned and put in order. The following is a brief description of the V.S.C. excavator plant installed: (A) Power-house—The generating-plant, installed to supply electric power for the operation of the drag-line equipment, consists of a 700 B.h.p. Boving turbine of the Pelton-wheel type directly coupled to a British Thomson Houston alternator to supply 540 k.v.a. at 415 volts. An exciting generator of 110 volts D.C. is also coupled to the main shaft. The equipment includes the governor of the turbine and the switch-gear necessary to regulate and meter the power generated, and to protect the machinery against faults. The amount of water flowing is controlled by needle valve and seat in each inlet pipe. The speed of the turbine is controlled by an oil-pressure governor, which is extremely sensitive over the full range of the turbine's capacity. The governor opens and closes the two needle valves and also operates deflectors over each jet; these latter are operated very rapidly, giving fast and efficient control of the speed of the turbine, as the demand of power fluctuates. The needle valves, while opening up rapidly, are, however, arranged to close slowly, so that the water-pressure in the pipe-line will not be increased to dangerous values. The governor is assisted in its control of the machine by the fly-wheel, which has been designed to give the maximum possible stabilizing effect at rapid and large fluctuations of the load. The generator is connected to the switchboard where the control and measurement of the power take place. Here also are situated the main switch and the protective devices. The voltage of the generator is automatically and efficiently controlled by means of a Tirrill regulator. The whole plant is fully protected against such faults as overloading, short circuits, leakage of current, lightning, internal trouble in the generator, overheating of bearings, failure of belt, &c. These automatic protective devices are so arranged that any fault outside the power-station disconnects the supply at the main switch, but leaves the generator running, while any fault inside the power-station automatically shuts the water off as well. This arrangement enables the station to run efficiently and safely with no attention other than a daily inspection of a few minutes. A storage battery with charging apparatus is installed to supply the necessary power for the protective devices, also to light the power-house independently of the main power-supply. (B) Transformers—The current of 415 volts thus generated is augmented through the primary transformer to 6,600 volts, which permits an economical transportation of energy to the various consuming units. At these latter the current is again reduced to the original 415 volts by means of three secondary transformers—namely, one on the excavator, which travels with the structure, one stationary, at the conveyers, and one on the site, for lighting and sundry purposes. (C) Excavator: (1) Structure—The structure consists of powerfully constructed steel members, carefully designed to withstand the heavy stresses and shock loads they may be subjected to, with a liberal safety-factor allowance. The complete structure is portable. It reposes on four trolley carriages, each trolley possessing four wheels, running on a four-line rail track. The weights of the structure itself, as well as of the numerous heavy units installed therein, are judiciously distributed, so that the centre of gravity of the whole system is most advantageously situated, with a view to counteract the powerful overturning moment due to normal loads as well as any possible accidental loads, and again with a generous safety-factor. The overall height of the structure exceeds 60 ft. The traverse movement of the excavator can be effected by means of either a small hand winch with suitable reduction blocks, or by using the spare drum provided in the main winch. A powerful chain, anchored at both ends, is laid all along the rail track, and this chain in itself serves as an anchorage for the pulling ropes for moving the structure. (2) Motor—The motor is of 310 h.p., and is provided with a solenoid brake, which comes into immediate operation, as soon as the current is severed. The motor is connected by flexible coupling to the driving-shaft of the winch. (3) Winch—The sundry primary production gears are encased in a gear-box, where they operate in a permanent oil bath. All the bearings, with only one exception, are of the ball or roller type. The clutches are of the friction band type and are pneumatically operated. Both hauling and tensioning drums are machine grooved, to assure a uniform winding-on of the ropes, and are liberally dimensioned, so that all the required length of rope could be wound on in one layer. The hauling-sheave has also a traverse motion which coincides with the coiling or

uncoiling of the rope, and thus obviates irregular winding. There is also a spare drum with independent control, for any other hauling or hoisting jobs that may be required. A heavy equalizing weight, fulcrumed to the structure, takes care of the even and smooth tensioning of the track rope, and neutralizes any shock loads. To obviate the precipitous downward movement of the weight, two formidable dashpots are installed, on which the weight reposes and lowers gently. (4) Hopper—The main hopper, into which the bucket discharges the dirt, is erected on the front of the structure, and is provided with grizzly bars, preventing any exceptionally large stones from entering the conveyer and washing systems. (5) Automatic feeder—An automatic agitating feeder with independent motor is installed at the throat of the hopper, which assures a regular and uniform feed of the spoil into the conveyer. (6) Compressor—An Ingersoll-Rand compressor with independent motor is installed in the winch-house, which generates the necessary supply of compressed air for the receiver, feeding the various cylinders of the pneumatic control system. (7) Bucket—The capacity of the bucket is 5 cubic yards. The bucket is suspended from the head carriage, which travels on the track-rope. Bridal ropes and chains are provided, and are so adjustable as to obtain the most advantageous angle of repose of the teeth to the ground, which angle varies with the contour of the surface and hardness of ground. The bucket performs a multitude of operations—viz., (*a*) Teeth biting in; (*b*) digging; (*c*) teeth emerging from ground; (*d*) hauling in at increased speed; (*e*) opening of bucket at tipping; (*f*) releasing bucket; (*g*) running out; (*h*) lowering bucket; (*i*) closing bucket, &c. All these operations are easily and simply controlled from the driver's cabin. (8) Controls—Two hand-levers and one foot-pedal are the main controls, which, when correctly manipulated, enact all the numerous operations of the bucket. Besides these principal control units, there are a number of additional devices for special purposes: an arrangement with fly-wheel control for minute variations of the tension: a separate hand-lever and foot-pedal for independent control of the spare drum. All these controls are mounted together on one operating-table, every unit being within easy reach of the driver. The starting and stopping of the main motor are effected by means of two push buttons installed in the cabin, and two similar ones in the winch-house. (9) Indicators and safety devices—To prevent an excessive overtensioning of the track ropes beyond the permissible limits, double safety contrivances are introduced — mechanical and electrical. The former throws the tension clutch out of gear, and the latter cuts out the main motor. The second device operates in case of failure of the first one, and both are entirely automatic. Over and above these, there is the limit overload switch. Similar mechanical and electrical protective devices operate in the hauling-systems, which prevent any damage consequent upon inadvertent overhauling of the bucket. Further, an overturning safety-switch (electric) is fitted to the foot of the structure. There is also a "limit run-out" device, which will permit the run-out of the bucket only to a certain limited distance previously set, in accordance with the maximum length of span to be worked at the time. Two indicators (mechanical and electrical) show the extent of the tension in the track-rope. Another indicator gives the location of the bucket along the span at any moment of the operation. Two bell signals (of different tone) respectively warn the driver when the maximum tension is reached and when the bucket tips. Volt and ampere meters, as well as pressure-gauge, are fitted in the cabin for the guidance of the driver. (10) Trailing cable and drum—During the frequent travels of the excavator, the power-supply remains uninterrupted by means of a trailing cable, which is alternatively being wound on and off a large steel drum, in accordance with the movement of the structure to or from the permanent connecting-point. (D) Conveyers, washhouse, screens, and gold-tables—A cross-traverse conveyer of considerable length transports the spoil to the far end of the site, whence the material is picked up by an elevator-conveyer and dumped on to the roller screens. The conveyers are of substantial width, and run on troughing idlers and return idlers, all on ball bearings. Each conveyer is driven by separate motor, controlled from the main switchboard in the washhouse. A system of high-pressure-water pipes provides a constant spray over the screen rollers, so that the spoil is thoroughly washed during the process of screening. The oversize stones drop into a third conveyer, which carries them back to the completed excavation, while the smaller material is deposited into a "V" trough, and thence thrown into the gold-boxes. The latter are duly provided with carbon steel riffle-bars and matting. The tables are four in number, and of very considerable length. A separate motor operates the screen rollers. A special safety stop is fitted to the elevator-conveyer to prevent the running-back in case of stoppage under full load. (E) Pipe-line—The water is supplied to the site by two pipe-lines. The water used for power is of 348 ft. head, the capacity being fairly constant, at 20 cubic feet per second. The supply for the washhouse is of 560 head, with a varying capacity of 10 to 20 cubic feet per second.

King Solomon Deep Lead, Ltd., Winding Creek, Waikaia (R. C. Ruffin, Manager).—Active operations have been continued during the year. The second outlet was completed in April, with a consequent improvement of the mine-ventilation. Considerable prospecting-work has been done in Radford's section. The wash in this section is low-grade. Trucking and ventilation levels have been driven and development drives were pushed ahead in the northern and eastern sections. In the former section a considerable amount of blocking-out has been done, and in the latter section a nice body of alluvial wash was opened up running in the direction of the Winding Creek Mine. Blocking-out has also been done in the mid-east section. The drives are timbered with sets close-lathed where necessary. Blocking-out sets and timber chocks are used when blocking-out. The floor of this deposit is irregular. Electrically driven auxiliary pumps are used when it is necessary to drive to the dip. A large amount of timber is used, the majority of which is obtained from the bush five miles up river from the mine. An average of forty-four men has been employed at the mine during the year. The gold won amounts to 2,912 oz. 10 dwt. 9 gr., valued at £17,484 13s. 7d. The total yield of gold since commencing work is 4,411 oz. 6 dwt. 21 gr., valued at £25,260 4s. 4d.

A. Mutch, Happy Valley, Waikaia.—Five men have been actively employed sluicing a shallow mixed deposit in Happy Valley in the neighbourhood of the first Waikaia Township. The gold won amounted to 305 oz. 11 dwt. 12 gr., valued at £1,808 3s. 8d.

Dome Creek Syndicate, Right-hand terrace, Dome Creek, in Mr. Sutton's Run, Waikaia.—Intermittent operations have been carried on during the year. The gold won amounted to 81 oz. 8 dwt. 9 gr., valued at £451 12s. 8d.

The Terrace Gold-mining Company, Waimumu, Gore (J. Kubala, Manager).—This claim is situated on the left-hand terrace of the Waimumu Stream below the bridge on the Gore–Hedgehope Road. Five men have been employed sluicing an auriferous deposit by pumping methods. A 7 in. centrifugal pump, belt-driven by a 75 h.p. electric motor, is used as a nozzle pump. The electrical power is supplied by the Southland Power Board. The gold won amounted to 462 oz. 14 dwt. 3 gr., valued at £2,991 18s. 2d.

The Rand Mining Co., Ltd., Little Waikaka Valley, Southland (R. T. Stewart, Superintendent).—Five men have been employed prospecting, cutting water-races, constructing dams, and erecting plant preparatory to working a considerable area of auriferous ground—the flat land by gravel-pump methods and the terraces by sluicing methods. The water for sluicing purposes will be pumped into reservoirs. The power required will be generated by a Diesel engine. The original engine installed proved unsuitable and a new Ruston-Hornsby engine of 114 h.p., together with a new pump by the same makers, is being sent out from England. This plant is expected to arrive in May, 1933.

Waikaia, Gore, Waikaka, Mataura River, Waimumu, Athol, Nokomai, Riversdale, Wyndham, Bush Siding, Haldane, Wallace, Otara, Waituna, and Te Wae Wae Beaches.—One hundred and seventy-nine men were fossicking, prospecting, sluicing, and elevating for a return of 937 oz. 9 dwt. 23 gr., valued at £4,947 14s. 1d. The chief producers were Mutch Bros., with 88 oz., valued at £524 3s. 10d.; J. Robertson and party, Te Wae Wae, with 89 oz. 7 dwt. 20 gr., valued at £489 15s. 1d.; and Crowther and party, Lees Creek, Otara, with 84 oz. 5 dwt. 1 gr., valued at £482 0s. 2d.

Wallace County.

Round Hill.—The seven tributers have worked steadily sluicing and elevating island blocks barrier pillars left in the old workings. The gold won amounted to 304 oz. 8 dwt. 12 gr., valued at £1,908 9s. 11d.

The Round Hill Mining Co. bored an area between the Riverton–Orepuki Main Road and railroad; the results being satisfactory, it was decided to recondition the dams and water-races, also to disconnect the old pipe-line, provide a direct track, together with a satisfactory pipe-line to the area to be opened out. This work was commenced in September.

Orepuki, Round Hill, Longwoods, Riverton, Tuatapere, Waiau, Te Oneroa, West Coast Sounds, and Stewart Island.—Ninety men have been employed fossicking, prospecting, driving, sluicing, and elevating the alluvial and sea-beach deposits. The gold won amounted to 567 oz. 16 dwt. 4 gr., valued at £2,980 9s. 3d. The largest producers were J. H. Sorenson and party, with 59 oz. 6 dwt. 15 gr., valued at £337 11s. 10d.

Preservation Inlet and West Coast Sounds.—Several parties have been prospecting during the year, but no discoveries of importance have been made.

Canterbury and Various.

Canterbury.—Some prospecting and beach-mining were done on the Ashburton, Rakaia, and Taumutu beaches during the year. Large-scale operations were tried out on the Taumutu–Rakaia Beach, but the results were unsatisfactory, and operations were suspended. Seventeen men won 26 oz. 8 dwt. 12 gr. of gold, valued at £138 6s. 1d.

DREDGING.

Upper Nevis Gold-dredging Co., Upper Nevis, Vincent County.—This company's electrically-equipped dredge was standing for the greater part of the year. During this period some of the water-races were reconditioned and the plant overhauled. Operations were resumed in November, working a single shift daily. A new paddock was opened up. The pontoons of the dredge are 138 ft. long, 35 ft. wide at the bow, and 25 ft. at the stern. They are built of jarrah and ironbark. The ladder is 105 ft. between centres, and is equipped with fifty-seven buckets of 7 cubic feet capacity, which discharge at the rate of ten per minute into a sluice-box 96 ft. long by 6 ft. wide, lined with ripples and perforated plates for saving the gold. Electric power for working the dredge is generated by water from the company's race. A 100 h.p. motor is installed for driving the buckets; one, of 30 h.p., for the winches; and two, of 50 h.p. and 25 h.p., for the pumps. The dredge is capable of dredging to a depth of 60 ft.

Golden Terrace Extended Gold-dredging Co., Ltd., Lower Shotover, Queenstown, Lake County.—Dredging operations were carried on by the abovenamed company until the end of May. During this period the dredging-time was 2,492 hours, and 548,000 cubic yards of material was dredged and treated for a return of 441 oz., valued at £2,684 3s. 3d. The dredge was idle from the 30th May to the 7th November. Operations were then resumed by Joseph Sparrow and Sons, Ltd. From the 7th November to the 31st December the dredging-time was 967 hours, and 232,560 cubic yards of material was dredged and treated for a return of 259 oz. 0 dwt. 1 gr., valued at £1,137 0s. 11d. The pontoons of this dredge are 107 ft. long, 40 ft. wide, and 9 ft. deep. They are made of $\frac{5}{16}$ in. steel plating, braced and stayed with steel sections, and fitted with a series of bulkheads, making each compartment watertight. The tumbler-framing and gantry are manufactured of steel. The gantry is of the hinged type, secured to the deck at four points, the deck at these points having been reinforced with heavy steel plating, 1 in. thick. The whole of the framing from the stern to the bow is thoroughly tied and braced with rolled-steel channels and joists, thus ensuring rigidity. The digging-ladder is 73 ft. long between centres, and is fitted with semicircular and sloping well-plate bulkheads, riveted to the web-plates, making it secure against side bending; when in position it will have an overhang of 15 ft. to enable the dredge to thoroughly dig out the corners of the paddock. The top tumbler is of chrome steel, six-sided, and fitted with steel wearing-plates. The lower tumbler is circular, with hollow shaft and renewable rim. The chain of buckets is manufactured from manganese steel, and the buckets are of the close-connected type. There are seventy-two buckets, each of 8 cubic feet capacity, which will discharge at the rate of eighteen per minute. The bucket-pins are 5¼ in. diameter, each pin having a special-shaped head sunk into a recess in the bucket so as to avoid excessive wear of the tumbler-cheeks and to prevent the pins from turning. The sluice-box is 90 ft. long by 8 ft. wide. The water-supply for the sluice-box and tables is obtained from two 12-in.-diameter Rees centrifugal pumps. The main winch has six drums of cast steel for operating the head and side lines, and a separate ladder-hoisting winch is also provided. A pilot-house is situated at the bow of the dredge, 20 ft. above the deck, and in it all the operating-levers for working the dredge are situated, in control of a man who will have a full view of the dredge and claim during operations. All the machinery on the dredge is electrically driven, each part having a separate motor. The power is developed at Wye Creek, ten miles from the claim, and transmitted across the Kawarau River to the dredge. A total of 500 h.p. will be developed.

Freshford Dredging Co., Ltd. (Part of Block I, Wendonside Survey District, Freshford, Waikaia, Southland).—A company has been formed to dredge this area. They purchased the No. 1 dredge from McGeorge Bros., of Waikaka. This steam-driven dredge has been dismantled and transported to the dredging-area, where it is being rebuilt. The pontoons are 80½ ft. overall length by 29 ft. wide. The main engine is a 16 h.p. Marshall compound, fitted with condenser, feed-water heater, and other auxiliaries. The boiler is a 20 h.p. marine internally-fired, return-tube type. The winches are driven by two 5 h.p. Marshall engines. A new bucket-line equipped with thirty-one buckets of 6 cubic feet capacity has been fitted. The sluice-box is 79 ft. in length. The dredge will be completed and operating in March, 1933.

MINERALS OTHER THAN GOLD.

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

Oil Wells, Southland Oil Ltd.—Boring operations were continued at the No. 2 bore situated on Section 737, Block 59, Hokonui Survey District, near Centre Bush. Between the 12th and 22nd February the bore was drilled from 1,552 ft. to 1,630 ft. The drilling-rods parted at 560 ft., leaving 1,070 ft. in the bore, and a protracted fishing job ensued, extending over a period of five months. A successful issue rewarded the combined tenacity and skill of the drilling staff. During the work the bore was widened to 5 in. for 1,000 ft., the 5 in. conductor (cemented) was raised, and a shaft of 93 ft. 6 in. deep and 3 ft. 6 in. diameter was sunk. In July 3 in. casing was run to a depth of 994 ft. Drilling, which had been carried on in a series of contracts, was carried to 1,635 ft. Slight gas shows were met with and oil was showing on the sumps during the period of drilling; a marked oil show occurred at 1,560 ft. Operations were suspended on the 31st July. It is stated that boring operations will be resumed on the arrangement of a further contract. The stratum passed through from 1,552 ft. to 1,630 ft. was fossiliferous hard claystone. At about 1,630 ft. arenaceous claystone was met. Work at the Kauana bore is held over until the successful completion of boring at Centre Bush.

ACCIDENTS.

It is pleasing to be able to record that no fatal or serious accidents occurred in any of the mines and quarries in the district.

General Remarks.

Great activity still prevails in this district and all the old mining fields are being prospected; island blocks and barrier pillars are being sluiced, and areas which were considered to be too poor during previous workings driven out in many old fields. The sea-beaches are being reworked from the Taieri Mouth to the Waiau, also the Ashburton and Rakaia beaches in Canterbury. The various reefing areas are being prospected, but no discoveries of any importance have been disclosed. The increase in the quantity of gold won by alluvial mining amounted to 7,647 oz. 18 dwt. 11 gr., with an increase in value of £53,351 16s. The number of men increased by 935. Several causes have helped to increase the production of gold in this district. The rise in the price of gold has stimulated ordinary producers, and the continued state of depression has caused many unemployed to take on fossicking and prospecting. The season has been satisfactory from a sluicing point of view in all the alluvial districts. The winter was mild and the Shotover, Kawarau, Clutha, and Molyneux Rivers were flowing at a very low level. The Kawarau Dam gates were closed from 3rd July to 20th August, and had the effect of lowering the Kawarau and Molyneux Rivers still further, thus enabling many men to work on the banks by cradling and crevicing methods. The King Solomon Deep Lead Mine, at Waikaia, has been a steady producer during the whole year. Subsidized fossicking and prospecting have also largely increased the number of men, and thus helped to increase the production of gold.

The decrease in the quantity of gold won by quartz-mining amounted to 196 oz. 16 dwt. 3 gr., with an increase in value of £473 8s. 2d. The number of men employed increased by one.

The quantity of gold won by dredging decreased by 525 oz. 13 dwt. 17 gr., with a decrease in value of £2,479 6s. 4d. This drop can be accounted for by the low values obtained and the intermittent working of the Golden Terrace dredge, and to the non-operation of the Upper Nevis dredge until November. The number of men employed decreased by four.

Subsidized Mining and Prospecting.

During the early part of the year schemes were launched to enable unemployed men to undertake prospecting work in this district with the aid of money provided by the Unemployment Board. In the North Otago, South Otago, and Southland areas the 8A Scheme is administered by Advisory Committees—one in Dunedin and one in Invercargill—acting in conjunction with the Labour Department in each centre. The prospecting parties consist of two or more members, one of whom must be an experienced miner or prospector. Married men receive £1 10s. per week, single men 15s. per week, and they pay back 10 per cent. of any gold won. They are prospecting in the auriferous areas of the Waitaki, Waihemo, Taieri, Table Hill, and Southland and Wallace Counties. In the Vincent, Lake, Maniototo, and Tuapeka Counties the County 5A Scheme is administered by the four County Council Mining Executives, acting in conjunction with Mr. George Burrows, Postmaster, of Cromwell, who has been appointed Certifying and Investigation Officer by the Unemployment Board. Mr. George Lowes, Mining Engineer, has also been appointed to investigate suitable areas and to advise the Unemployment Board and Mining Executives. Camps have been established at Cardrona, Devonshire, Matakanui, Matatapu, Luggate, Quartz Reef Point, Nevis, Lindis, and many other areas are being prospected by individual parties. On account of the inexperience of many of the men working under the County scheme, practical supervisors have been appointed to control and advise the prospectors. The work is healthy and interesting and the men are generally enthusiastic. Returns are being won, and records are being obtained from the many areas now being prospected and tested, but only one discovery of importance has been located—viz., at Scotland's Point, near the mouth of the Kawarau Gorge, Cromwell Flat—where two parties of subsidized men (Bell and Kilgour, and Bell and Hooper) drove through a clay-sandstone formation until they intersected an old buried auriferous river-channel.

On the 31st December, 1932, 788 men were employed under the County mining scheme in Vincent, Lake, Maniototo, and Tuapeka Counties. The gold won amounted to 956 oz. On the 31st March, 1933, the number of men had increased to 1,188, and the total amount of gold won to 1,281 oz. On the 31st March, 1933, 63 men were employed under the 8A Scheme in the Waitaki, Waihemo, Taieri, and Table Hill Counties. The gold won since the commencement amounted to 91 oz. In the Southland and Wallace Counties 60 men were employed under the 8A Scheme, and the gold won since the commencement amounted to 55 oz.

Boring.

The following boring operations have been carried out in the various alluvial areas during the year:—

In the Waitaki County, Livingstone, the Mining House (N.Z.), Ltd., of Christchurch, bored seventeen holes in the lower section of the Golden Gully through an average depth of 25 ft. of tailings overlying an average depth of 4·5 ft. of virgin alluvials. The tailings bored through were practically valueless, therefore the average values here given—9d. per cubic yard—represent the values for the average depth of the 4½ ft. of virgin alluvials only. A 6 in. Keystone-type power boring-machine was used, D. Murray acting as drill superintendent.

In the Waihemo County the Macrae's Flat Gold-prospecting Co., Ltd., drilled six holes in Sections 41 and 49, Block I, and fifteen holes in part Sections 71 and 74, Block I, Sections 1 to 16, Block III, and Block IV, Town of Macraes. Twenty-one holes, with a total footage of 1,113 ft. were bored, with an average depth of 53 ft. in the deep section of the Macrae's Flat alluvial deposits. An oil-driven Keystone-type drilling-machine, using 6 in. casing, was used. G. E. D. Seale, drill superintendent.

In the Vincent County the Goldlight Mining Co. sunk a prospecting-shaft to a depth of 72 ft. on the flat near the Bendigo Creek about 7 chains below the mouth of the Bendigo Creek Gorge. The results obtained being satisfactory, the Government No. 2 Keystone drilling-machine was rented and a series of holes are being bored. Nine holes had been bored to depths varying from 62 ft. to 118 ft. up to the 31st December in order to test the values and locate the course of the lead. Drill superintendents, G. Nelson and W. Campbell. The results obtained were reported to be satisfactory, and boring operations are being continued.

In the Lake County Messrs. Murray and Robertson, on a special river claim in the Shotover River, immediately above and below the Skippers traffic-bridge, bored a stretch of the river with a 6 in. boring-plant, during a low-river period. Twenty holes were put down, averaging 22 ft. in depth. Drill superintendent, J. O'Brien.

In the Southland County William McKinnon and a Christchurch syndicate bored an area on part of Section 14, Block I, Wendonside Survey District, about one mile from the Freshford Railway-station. Eleven holes were bored to depths varying from 14 ft. to 30 ft. by hand-boring methods, using 2½ in. casing. The average values are stated to be 2s. per cubic yard.

In the Wallace County the Round Hill Gold-mining Co., Ltd., bored an area on Claim No. 1539 in Block 7, Longwood Survey District, Round Hill, between the Riverton–Orepuki Main Road and railroad. Eight holes were bored with a power-driven boring-machine, using 4 in. casing, to depths varying from 36 ft. to 53 ft., with an average depth of 48 ft. The results were reported to be satisfactory, and preparations are being made to bring the water on to this area for sluicing and elevating purposes. J. J. Hall, drill superintendent.

ANNEXURE B.

STONE QUARRIES.

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

(James Newton.)

The total output of stone in the Auckland, Hawke's Bay, Taranaki, and Auckland Provinces shows a decrease of 185,512 tons, as compared with the previous year, the only class of stone showing an increased output being that won for agricultural purposes.

The number of working quarries increased by twelve, whilst nineteen more men were intermittently employed. The quarries for the most part operated for short periods only.

There have been no very serious accidents during the year under review, those requiring notification under section 4 of the Stone Quarries Amendment Act, 1922, being as follow: On the 23rd March, J. Greig, quarry manager of the Wellington City Council's Karori Quarry received a severe bruising, the result of being struck by a runaway truck on the incline between the quarry and metal-bins. On the 26th July, P. Yakich, employed in the Te Kuiti Agricultural Limestone Quarry, received a slight fracture of his shoulder. Yakich was at the time clearing away a clay "vug" situated approximately half-way up the quarry face, when a piece of stone rolled off the upper portion of the quarry breast and, in stepping aside to allow the stone to pass, he slipped on the clay and fell, the stone striking him on the shoulder.

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, 1932.

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. ..	556	184,254 0 0 0	..	556,041 0 0	454,977 13 10
Waihi Grand Junction Gold Co.	69	22,746 0 0 0	..	71,909 0 0	63,824 13 6
	625	207,000 0 0 0	..	627,950 0 0	518,802 7 4
Ohinemuri County.					
Karangahake—					
Talisman-Dubbo	2	65 4 0 0	..	417 14 19	461 15 11
New Talisman	2	10 10 0 0	..	38 11 18	78 0 0
Crown	3	11 1 1 15	..	93 15 18	103 17 1
Maratoto—					
Mount Cecil	1	18 0 2 20	..	328 4 0	52 13 7
Owharoa—					
Golden Dawn	95	8,998 0 0 0	380 12 0	19,577 1 12	32,630 7 4
Waitekauri—					
Old Maoriland	1	3 17 1 0	..	22 16 15	88 8 8
Prospectors	2	10 0 0 0	23 8 0	..	59 8 2
	106	9,116 13 1 7	404 0 0	20,478 4 10	33,474 10 9
Thames Borough.					
Thames—					
Anniversary	3	35 0 0 0	19 0 0	..	79 9 10
Evening Star	16	90 0 0 0	265 11 0	..	1,034 17 9
Lucky Shot					
Cambria	2	8 0 0 0	6 13 0	..	26 9 0
Commissioner	2	13 12 0 15	40 13 0	..	178 1 5
North Star	2	20 0 0 0	4 16 0	..	21 16 3
Mount Edward	2	2 10 0 8	7 0 0	..	32 0 11
School of Mines Battery ..	..	..	0 10 0	..	3 4 7
Waiotahi	2	40 0 0 0	96 7 0	..	435 11 2
Hopeful	2	22 10 0 0	41 2 0	..	173 13 11
Gold Seal	2	1 0 0 0	5 17 0	..	22 18 8
Aitken's	2	5 0 0 0	17 7 0	..	76 5 2
Hit-or-Miss	2	2 10 0 0	2 8 0	..	10 16 3
Blue Jumbo	1	5 0 0 0	13 13 0	..	59 3 4
Tinakori	1	2 0 0 0	1 8 0	..	5 4 8
White's	..	10 0 0 0	1 10 0	..	3 14 4
Prospectors	11	15 0 0 0	37 4 0	..	142 18 6
Collections	..	..	21 10 0	..	78 6 8
	50	272 2 0 23	582 9 0	..	2,384 12 5

Table 1—*continued.*

STATEMENT SHOWING THE QUANTITY OF QUARTZ CRUSHED AND BULLION OBTAINED IN THE NORTHERN INSPECTION DISTRICT FOR THE YEAR ENDED 31ST DECEMBER, 1932—*continued.*

Locality and Name of Mine.	Average Number of Men employed.	Quartz crushed.	Bullion obtained.		Value.
			Amalgamation.	Cyanidation.	
THAMES COUNTY.					
Komata—					
Komata Reefs	4	..	3 7 4	..	8 2 5
Neavesville—					
Remuera	2	0 1 0 0	15 11 0	..	63 10 9
Golden Belt	1	..	26 9 0	..	98 17 0
Tapu Creek—					
Hector McDonald	2	0 3 1 0	2 5 0	..	7 18 7
Prospectors	10	17 14 0 0	44 19 0	..	200 10 5
	19	17 18 1 0	92 11 4	..	378 19 2
COROMANDEL COUNTY.					
Coromandel—		Tons cwt. qr. lb.	Oz. dwt. gr.	Oz. dwt. gr.	£ s. d.
Hauraki	10	49 0 0 0	80 15 0	..	304 5 4
Nil Desperandum	2	8 0 0 0	8 7 0	..	22 10 1
Four-in-Hand	3	11 1 2 12	42 14 0	..	193 3 8
Aida	2	8 0 0 0	2 14 0	..	13 4 8
Tiki—					
Iris	..	..	1 19 0	..	8 19 0
Mahakirau—					
Day Dawn	1	3 0 0 0	2 2 0	..	9 18 10
Waikoromiko—					
Lone Hand	1	2 0 0 15	19 10 0	..	90 16 1
Tokatea—					
Mount Tokatea	3	16 0 0 0	24 0 0	..	100 0 0
Success	2	..	2 11 0	..	7 7 2
Colville—					
Red Trail	4	39 0 0 0	35 2 0	..	148 15 0
Renown	..	..	1 0 0	..	4 13 11
Prospectors	8	14 5 0 25	6 13 0	..	29 6 6
Collections	..	..	3 14 0	..	16 17 7
	36	150 6 3 24	231 1 0	..	949 17 10
PIAKO COUNTY.					
Te Aroha—					
Huia	2	5 18 0 0	1 0 0	..	4 0 0
SUMMARY.					
Waihi Borough	625	207,000 0 0 0	..	627,950 0 0	518,802 7 4
Ohinemuri County	106	9,116 13 1 7	404 0 0	20,478 4 10	33,474 10 9
Thames Borough	50	272 2 0 23	582 9 0	..	2,384 12 5
Thames County	19	17 18 1 0	92 11 4	..	378 19 2
Coromandel County	36	150 6 3 24	231 1 0	..	949 17 10
Piako County	2	5 18 0 0	1 0 0	..	4 0 0
Totals, 1932	838	216,562 18 2 26	1,311 1 4	648,428 4 10	555,994 7 6
Totals, 1931	705	200,032 16 0 17	818 3 18	510,072 11 12	401,622 19 0

STATEMENT SHOWING THE QUANTITY OF QUARTZ CRUSHED AND BULLION OBTAINED IN THE WEST COAST INSPECTION DISTRICT FOR THE YEAR ENDED 31ST DECEMBER, 1932.

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	166 0 0	81 18 0	..	435 10 8
Waiuta—					
Blackwater Mine	250	41,402 0 0	19,384 2 0	5,090 1 0	145,091 1 2
Crushington—					
Wealth of Nations	6	..	..	472 14 0	2,527 3 4
Alexander River—					
Alexander	42	5,527 0 0	5,156 1 0	1,523 19 0	38,916 14 5
BULLER COUNTY.					
Stoney Creek—					
Britannia	5	167 0 0	185 10 0	..	725 0 6
ROSS BOROUGH.					
Ross—					
Mt. Greenland	6	625 0 0	526 10 0	..	2,106 0 0
Totals, 1932 ..	311	47,887 0 0	25,334 1 0	7,086 14 0	189,801 10 1
Totals, 1931 ..	199	49,619 0 0	19,625 5 0	5,244 13 0	118,567 6 2

STATEMENT SHOWING THE QUANTITY OF QUARTZ CRUSHED AND BULLION OBTAINED IN THE SOUTHERN INSPECTION DISTRICT FOR THE YEAR ENDED 31ST DECEMBER, 1932.

Locality and Name of Mine.	Average Number of Men employed.	Quartz crushed.	Bullion obtained by		Value.
			Amalgamation.	Concentration.	
LAKE COUNTY.					
Skippers—		Tons cwt. qr.	Oz. dwt. gr.	Oz. dwt. gr.	£ s. d.
Crystal	2	30 0 0	15 6 1	..	97 8 6
WAIHEMO COUNTY.					
Macrae's Flat—					
Golden Point	24	4,349 0 0	980 6 8	..	5,228 18 3
P.G. Callery	4	427 0 0	113 1 15	..	845 17 6
MANIOTOTO COUNTY.					
Oturehua—					
Golden Progress	20	441 0 0	1,003 11 12	..	6,262 19 0
Totals, 1932 ..	50	5,247 0 0	2,112 5 12	..	12,435 3 3
Totals, 1931 ..	53	1,931 0 0	2,309 1 15	..	11,961 15 1

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)	838	216,563	649,739 5 14	555,994 7 6
West Coast (South Island)	311	47,887	32,420 15 0	189,801 10 1
Southern (Otago and Southland)	50	5,247	2,112 5 12	12,435 3 3
Totals, 1932	1,199	269,697	684,272 6 2	758,231 0 10
Totals, 1931	957	251,583	538,069 14 21	532,152 0 3

In addition, 59 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.	£	£	£	£
Gold Exploration, Ltd.	18/11/32	2,750	462	2,500	5,250	5/- and 2/6	225	29	6	Nil	Nil	267	Nil	Nil
Hauraki Mines Consolidated, Ltd...	28/11/25	87,355	55,809	28,750	349,419	Various	Nil	1,101	Nil	353	1,548	44,761	Nil	414
Golconda Mines, Ltd.	12/5/32	7,167	2,526	2,867	200,691	Various	12	160	8	Nil	Nil	2,435	Nil	131
Talisman-Dubbo Gold-mines, Ltd.	31/10/29	7,064	6,981	Nil	28,257	Various	Nil	42	2	..	473	7,324	Nil	20
Golden Dawn Gold-mines, Ltd.	20/11/29	20,000	15,962	1,406	80,000	5/- and 3/-	Nil	273	95	..	34,961	50,268	Nil	3,975
Boswell Gold-mining Co., Ltd.	31/5/31	406	406	Nil	812	10/-	Nil	13	3	149	629	933	99	14
Mount Campbell Gold-mining Co., Ltd.	5/5/31	6,710	2,210	Nil	6,710	20/-	Nil	25	4	Nil	Nil	1,791	Nil	34
Long Trail Gold-mining Co., Ltd...	30/6/32	2,737	2,502	5,250	79,876	Various	235	236	11	Nil	Nil	1,487	Nil	95
NELSON DISTRICT (INCLUDING WEST COAST.														
Gillespie's Beach Gold-dredging Co., Ltd.	10/2/32	24,250	12,125	Nil	600,000	1/- and 6d.	Nil	450	14	Nil	Nil	6,803	Nil	150
Waitahu Gold-mining Co., Ltd.	17/3/32	40,000	20,218	..	160,000	3/-	217	342	64	Nil	Nil	14,151	Nil	Nil
Mount David Sluicing Co., Ltd.	2/9/30	30,000	30,000	20,000	200,000	5/-	Nil	237	14	240	1,499	40,393	Nil	8,750
Okarito Five-mile Beach Gold-dredging Co., Ltd. ..	29/10/28	35,000	30,500	4,500	140,000	5/-	Nil	431	11	4,820	26,676	46,395	6,997	459
Brian Boru Gold-dredging Co., Ltd.	29/9/31	18,000	16,026	9,000	27,000	20/- and 17/6	Nil	169	6	Nil	Nil	15,751	Nil	2,445
New Taitapu Gold-prospecting Co., Ltd.	23/12/31	8,529	3,648	3,000	8,529	17/6	38	89	1	..	..	3,284	Nil	290
Golden Sands, Ltd.	1/2/32	6,000	4,000	Nil	120,000	1/-	Nil	96	5	3	15	4,492	Nil	542
Moonlight Extended Gold-sluicing Co., Ltd. ..	20/8/30	9,749	5,585	3,000	97,490	3d., 1/3, and 1/6	84	62	8	Nil	Nil	5,373	Nil	18
New Zealand Mining Investments, Ltd.	12/8/31	2,137	1,480	500	42,750	Various	156	75	3	Nil	Nil	1,712	Nil	144
Snowy River Sluicing Co., Ltd.	10/12/31	24,603	11,855	9,000	98,415	Various	3,748	248	Nil	Nil	Nil	Nil	Nil	777
Mahakipawa Goldfields, Ltd.	12/10/23	42,804	33,362	15,603	856,089	Various	107	1,013	30	3,841	20,154	66,144	Nil	281
Mataki Gold-dredging, Ltd.	15/1/32	23,309	12,479	8,500	240,340	2/-	2,632	419	17	Nil	Nil	13,684	Nil	762
Orion Gold Reefs Syndicate, Ltd.	9/11/31	2,700	1,502	700	270	Various	54	28	4	Nil	Nil	1,470	Nil	Nil
Bell Hill Gold-sluicing Co., Ltd.	16/9/30	11,999	11,969	3,000	47,996	5/-	30	177	8	94	523	11,738	Nil	1,212
New River Alluvials, Ltd.	8/9/32	3,000	1,572	700	230	£10	90	48	Nil	Nil	Nil	1,390	Nil	40
New Big River Gold-mining Co., Ltd.	19/8/07	2,400	2,400	Nil	24,000	2/-	Nil	69	Nil	93,687	396,173	296,708	112,800	2,487
Alexander Mines, Ltd.	9/3/26	75,000	31,507	29,000	75,000	13/6	Nil	302	44	17,702	86,920	90,247	21,500	4,074
Rimu Gold-dredging Co., Ltd.	20/7/20	213,572	142,863	70,709	213,572	20/-	Nil	35	45	133,243	567,308	384,574	24,622	Nil
Big River Gold-mines, Ltd.	29/9/31	18,855	16,000	2,855	377,100	1/-	Nil	449	13	Nil	Nil	5,726	Nil	3,005
Gold Options, Ltd.	1/3/32	2,500	554	750	2,500	Various	58	38	Nil	Nil	Nil	352	Nil	Nil
Buller Diversion Gold-mining Co., Ltd.	13/3/28	10,634	6,343	Nil	49,910	Various	1,005	155	Nil	Nil	Nil	7,846	Nil	194
Moutapu Gold-mining Co., Ltd.	25/11/30	3,584	1,595	1,989	71,680	1/-	13	57	Nil	Nil	Nil	1,477	Nil	Nil

OTAGO DISTRICT.

Golden Progress Quartz-mining Co., Ltd.	26/10/28	14,755	10,805	3,950	147,550	2/-	1	173	17	2,993	16,394	25,683	1,844	38
Kildare Consolidated Gold-mining Co., Ltd. ..	19/6/28	8,000	4,000	4,000	80,000	2/-	Nil	173	11	1,887	8,810	11,042	Nil	7
Paddy's Point Gold-mining Co., Ltd.	4/8/28	14,010	11,500	2,500	56,040	5/-	Nil	224	8	1,426	7,378	19,002	Nil	30
Wairarapa Gold Claims, Ltd.	18/11/24	10,200	6,546	500	10,200	13/6	Nil	138	Nil	Nil	Nil	6,707	Nil	120
Round Hill Gold-mining Co., Ltd.	3/10/32	31,128	2,325	..	31,128	5/-, 10/-, £1	1,300	25	5	Nil	Nil	1,688	Nil	1,500
King Solomon Deep Lead, Ltd.	14/11/29	13,000	10,237	2,762	260,000	1/-	Nil	458	51	4,411	25,260	26,138	Nil	538
Shotover Reefs Development Co., Ltd.	20/5/32	2,500	2,320	Nil	10,000	5/-	180	62	2	Nil	Nil	2,153	Nil	370
Golden Point Gold and Scheelite Co., Ltd.	6/8/30	32,000	12,000	20,000	640,000	1/-	Nil	515	1	1,330	7,250	21,775	Nil	8,618
Macrae's Flat Gold-prospecting Co., Ltd.	28/9/31	1,100	497	Nil	1,100	Various	52	37	Nil	Nil	Nil	440	Nil	59
Cornish Point Gold-mining Co., Ltd.	21/12/28	9,033	4,529	4,500	180,663	3d. and 1/-	3	245	Nil	24	104	5,146	Nil	378
Nokomai Gold-mining Co., Ltd.	17/3/32	60,414	40,226	20,000	241,656	5/-	Nil	539	50	573	3,186	28,004	Nil	250
Lady Ranfurly Gold-mining Co. (Kawarau), Ltd. ..	12/6/28	6,748	Nil	6,748	134,976	1/-	Nil	47	1	Nil	Nil	248	Nil	Nil
Deep Lead, Ltd.	9/3/32	3,000	2,600	400	30,000	2/-	Nil	28	4	5	23	4,485	Nil	1,318
Tallaburn Hydraulic Sluicing Co., Ltd.	3/12/04	1,200	1,200	Nil	12	£100	Nil	9	2	3,583	12,982	15,014	1,380	Nil
McGeorge Bros., Ltd.	27/3/12	11,400	11,400	Nil	11,400	£1	Nil	6	1	29,939	..	80,048	48,419	Nil
Upper Nevis Gold-dredging Co., Ltd.	20/9/26	38,968	35,373	5,000	43,968	£1 and 16/6	150	148	4 to 6	2,535	10,444	52,237	Nil	5,196
Skipper's Sluicing Co., Ltd.	20/11/11	3,450	345	3,105	3,450	£1	Nil	37	*	2,379	9,823	10,214	Nil	2,104
Gabriel's Gully Sluicing Co., Ltd.	2/5/07	600	600	Nil	600	£1	Nil	9	..	21,489	85,861	75,353	20,575	60
Sailor's Gully (Waitahuna) Gold-mining Co., Ltd. ..	3/6/96	8,400	4,400	4,000	8,400	£1	Nil	24	7	13,624	55,197	45,149	10,985	116
Golden Crescent Sluicing Co., Ltd.	26/11/98	3,500	3,500	Nil	3,500	£1	Nil	19	Nil	13,761	55,027	49,218	14,175	2,898
St. Bathan's Channel Co.	4/1/82	4,590	4,590	Nil	81	£100, £40, £30	Nil	3	Nil	1,507	5,817	11,154	Nil	Nil
Aotearoa Gold-prospecting Co., Ltd.	16/8/32	3,405	1,213	1,500	68,100	Various	101	72	4	Nil	Nil	392	Nil	25
Vinegar Hill Hydraulic Sluicing Co., Ltd.	23/9/00	6,000	6,000	Nil	6,000	£1	Nil	16	3	5,493	21,099	22,409	1,050	1,109

* 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 Gold-mining Co., Ltd.	7/12/87	247,953	4,803	53,333	410,885	5/-	Nil	1,837	625	24,936,310	17,587,109	10,621,670	1,340,230	51,776
Waihi Grand Junction Gold Co., Ltd.	22/12/97	41,437*	40,494†	112,500	267,860	2/-	Nil	970	2	..	2,392,593	2,354,893	156,886	645

* Written down to 2s. per share. † On basis of £1 per share.

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, 20th June, 1933.

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, 1932, 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 at which Permitted Explosives are used ; (*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 1932.				Total Output to the End of 1932.
	Northern District (North Island).	West Coast District (South Island).	Southern District (South Island).	Totals.	
	Tons.	Tons.	Tons.	Tons.	Tons.
Bituminous and sub-bituminous	118,127	810,107	..	928,234	46,476,955
Brown	489,342	33,242	283,813	806,397	26,707,377
Lignite	..	661	106,730	107,391	4,656,237
Totals for 1932 ..	607,469	844,010	390,543	1,842,022	77,840,569
Totals for 1931 ..	834,899	890,494	432,363	2,157,756	75,998,547

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	1932 ..	1,842,022	103,531	1,945,553

* Includes 21 tons shale.

The output of coal for 1932 (1,842,022 tons) was 315,734 tons less than that of the previous year. It was almost as low as the 1907 output, but then only 3,910 men were employed in the industry, whereas in 1932 there were 4,636 men at work in or about coal-mines, and in 1931 there were 5,745 men so employed.

Over two-thirds of the decrease was in the Northern District, due chiefly to the Arapuni hydro-electric plant again being put into commission and displacing the steam plants used to generate power while Arapuni was under repair. The Waikato output decreased by 211,592 tons, and, at several mines in that district, large sections (from which the output could have been doubled) were sealed, and they may not be reopened for years.

From the West Coast mines the output decreased by 46,484 tons, and, owing to lack of trade, several of the small mines had to be closed. Slight increases were recorded in the Grey and Nelson districts; that in the Grey district being due to more constant work at the Blackball Mines and that in the Nelson district to increased outputs from the Mount Burnett and Seymour Mines.

In the Southern District the output decreased by 41,820 tons, despite the fact that there were forty-seven more men employed in the Southern mines than in 1931. Five of the principal mines in the Ohai-Nightcaps field were idle from August owing to a labour dispute, which continued until April, 1933. Other mines, chiefly those at Kaitangata, were able to supply all requirements—in fact, they could have produced much more than the demand even then. Places could not be found for half the former employees, at the mines involved in the dispute, when work was resumed there.

Many farmers continue to cut down trees on their properties for fuel, and lignite mine-owners gained many customers who in former years used higher-grade fuels.

The consumption per head of population in 1914 was 2·50 tons, but in 1932 it was only 1·27 tons, or a fall of 49·2 per cent.

The decreasing use of coal by ocean-going vessels is very noticeable. Of those fitted up in Great Britain in 1931–32 a tonnage of only 57,120 used coal, but vessels of 858,144 tons were fitted to use oil. Ten years ago, of all existing vessels of 100 tons and upward 73·9 per cent. used coal to 26·1 per cent. using oil. Now only 55·9 per cent. use coal, and 44·1 per cent. are oil-driven.

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 1932.	Total Output to 31st December, 1932.	Total Number of Persons ordinarily employed.
			Tons.	Tons.	
Northern District.					
Hikurangi	Hikurangi	Sub-bituminous	52,644	501,800	135
Wilson's	,,	,,	38,581	631,580	139
Rotowaro	Huntly	Brown	90,415	1,724,271	175
Pukemiro	,,	,,	65,904	2,062,681	164
Wilton	Glen Massey	,,	66,801	124,126	109
Glen Afton	Glen Afton	,,	65,102	1,430,677	131
MacDonald	Waikokowai	,,	99,722	191,627	175
Renown	,,	,,	52,762	323,391	105
Egmont	Tangarakau	,,	21,409	64,263	42
West Coast District.					
Westport-Stockton	Ngakawau	Bituminous	104,920	3,007,318	290
Millerton	Millerton	,,	63,947	8,207,260	170
Denniston	Denniston	,,	106,440	10,213,316	427
Cardiff Bridge	Seddonville	,,	21,395	232,299	20
Paparoa	Roa	Semi-bituminous	30,570	710,173	38
Blackball	Blackball	Bituminous	41,922	3,951,520	69
Blackball Creek	,,	,,	21,010	25,103	40
Liverpool (State)	Rewanui	,,	98,846	2,383,633	341
James (State)	Rapahoe	Sub-bituminous	30,793	338,997	79
Dobson	Dobson	Bituminous	63,737	575,707	183
Wallsend	Brunnerton	,,	49,887	423,747	150
Southern District.					
Shag Point	Shag Point	Brown	12,867	314,502	60
Kaitangata (2 collieries)	Kaitangata	,,	107,589	4,992,398	297
Linton (2 collieries)	Ohai	,,	52,303	874,368	100
Wairaki (2 collieries)	,,	,,	16,451	411,896	79
Mossbank (2 collieries)	,,	,,	28,626	388,790	78
Birchwood No. 2	,,	,,	23,280	108,166	60
183 other collieries	All coalfields	Various	414,099	8,428,693	980
Collieries abandoned or suspended, &c.	Various	,,	..	25,198,267	..
Totals	..	..	1,842,022	77,840,569	4,636

SECTION II.—PERSONS EMPLOYED.

Inspection District.	Average Number of Persons employed during 1932.		
	Above Ground.	Below Ground.	Total.
Southern	255	729	984
West Coast	634	1,679	2,313
Northern	368	971	1,339
Totals, 1932	1,257	3,379	4,636
Totals, 1931	1,414	4,331	5,745

The following statement shows the tons of coal raised, persons employed, lives lost by accidents in or about collieries, &c., to 1932 :—

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
1932 ..	1,842,022	1,257	3,379	4,636	545	6·51	2·59	12
Totals ..	77,840,569	..	..	..	..	..	..	463

* 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 1932, 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	6	7	7	7
Explosives	..	..	2	3
Haulage	2	2	5	5
Miscellaneous—Underground	2	3	3	3
On surface	..	..	..	..
Totals	10	12	17	18

The fatal accidents for the year under review were at the rate of 2·59 per thousand persons employed, and at the rate of 6·51 per million tons of coal produced.

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

SECTION III.—ACCIDENTS.

The death-rate from accidents in coal-mines increased from 0·69 to 2·59 per thousand persons employed, and, of the twelve deaths, seven were due to falling coal or stone. One man was electrocuted by a defective relay "shorting" to a 400-volt circuit; two died of hydrogen-sulphide poisoning; one was killed by a runaway mine-tub, and one by stepping in front of a descending rake of mine-tubs.

At least two of the fatalities could have been avoided: The underviewer who went in front of the moving tubs was warned of their approach, and the putting-up of one or two props near the working-face would have saved the life of the miner working in that place.

The most regrettable accident was on the 11th June, when the two managers of the Millerton Mines, William Lowden and Joseph Pfeffer, were poisoned by sulphuretted hydrogen. Twelve yards behind a concrete fire-stopping another one, 25 ft. high, had been built. A hole 2 ft. square had been left at the top and two drain-holes near the floor. Lowden went through the top hole and down the inside of the 25 ft. stopping with the intention of blocking up the drain-holes. He had lowered a safety-lamp previously, and all appeared safe. Immediately he reached the floor he was overcome by the deadly hydrogen-sulphide gas. While help was being sought in other directions Pfeffer arrived and got ropes. He sent out of the mine for a "Proto" apparatus and, in the meantime, he lowered a safety-lamp, and later a naked carbide pit-lamp. Lowden was seen lying on the floor and it appeared as if he was still breathing. Pfeffer, thinking that Lowden was only stunned, climbed through the hole to go down to Lowden. When Pfeffer reached the floor he called out to be drawn up. After being lifted about 6 ft. he fell away from the rope to which he had not been secured. The Denniston Mine manager, Mr. McArthur, who had been sent for, donned the "Proto" apparatus and went through and recovered the bodies.

Of the serious non-fatal accidents seven were caused by falls of coal or stone, and four occurred on haulage-roads. A trucker's eyes were injured and his face was burned by an ignition of acetylene gas.

Greater care should be taken when tins of calcium carbide are being opened. No naked lights should be nearby. After the pit-lamps have been charged with fresh carbide the tins should be tightly closed to prevent the entrance of moisture.

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 1932:—

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) ..	78,777	..	..	86,168	3	29	22	54	330,995
West Coast (of South Island) ..	104,586	..	125,312	286,742	10	172	90	272	842,584
Southern (*i.e.*, Canterbury, Otago, and Southland)	2,450	..	47,736	91,657	..	17	16	33	225,605
Totals	185,813	..	173,048	464,567	13	218	128	359	1,399,184

Approximately 76 per cent. of the coal produced in the Dominion during 1932 was broken down by permitted explosive, and the average production of coal per pound of explosive used was 3·90 tons, and per shot fired 3·01 tons.

(*b*) List of Mines at which Permitted Explosives are used.

The following is a list of mines as at the 31st December, 1932, at which permitted explosives are used:—

Northern Inspection District.

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

West Coast Inspection District.

Puponga, Puponga.
O'Rourke's, Murchison.
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.
Rocklands, Berlin's.
Whitecliffs, Berlin's.
Archer's, Capleston.
Clele, Merrijigs.
Coghlan's, Capleston.
Collins, Murray Creek.
Morrisvale, Reefton (Perfection, Matchless, and Surprise).
Defiance, Reefton.
Burke's Creek, Reefton.
Waitahu Colliery, Reefton.
Honey's, Reefton.
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, 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.

Southern Inspection District.

Kaitangata No. 1, Kaitangata.
Kaitangata No. 2, Kaitangata.
Wairaki, Ohai.
Birchwood, Ohai.
Linton, Ohai.
Black Diamond, Ohai.
Black Lion, Ohai.
Star, 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, 1932, required by law to use safety lamps :—

Northern Inspection District.

Pukemiro, Pukemiro—Throughout south mine section.
Rotowaro, Rotowaro—Throughout No. 1 and No. 3 Mines.
Glen Afton, Glen Afton—Main headings.
Renown, Waikokowai—Main headings.

West Coast Inspection District.

Dobson, Brunnerton.
Spark's, Rewanui.
State Mine (Liverpool No. 2).
Paparoa, Roa.
Wallsend, Brunnerton.

Southern Inspection District.

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

(*d*) Dangerous Occurrences reported.

(Regulation 82.)

A full account of these is given in the reports of the District Inspectors (Annexure A).

The Millerton Mine fires are an ever-present source of anxiety. Some of the concrete stoppings, put in to seal off the fire areas can, by damming back bodies of water, become sources of danger also. After two days' heavy rain one of those stoppings held back the inflow of water to a height of 50 ft., and, on 10th January, it was forced out, and the water swept throughout the No. 2 section workings. At the time there was no one in the mine.

Two sections of the Hikurangi Coal Co.'s mine had to be sealed off through underground fires, the first on 1st September, and the other on 23rd November.

Through neglect to make a proper inspection before work commenced, a manager and a miner were seriously burned by an ignition of firedamp.

(*e*) Electricity at Collieries.

(Regulation 243.)

The following is a summary of the annual returns, in accordance with Regulation 243 (*c*), 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	44
Number of collieries electrically lighted	40
Number of collieries using electrical ventilating-machines	40
Number of collieries using electrical pumping plants	33
Number of collieries using electrical haulage plants	40
Number of collieries using electrical screening plants	24
Number of collieries using electrical coal-cutting machines	4
Number of collieries using electrical miscellaneous plants	24
Number of collieries using electrical locomotives	1
Total horse-power employed from motors on surface	7,696
Total horse-power employed from motors below ground	4,133

(*f*) Prosecutions.

Twenty-nine informations were laid by the District Inspectors during the year for breaches of the Coal-mines Act and regulations ; one information was dismissed, two were withdrawn, and twenty-six 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.

I desire to acknowledge the ready assistance given by the District Inspectors of Coal-mines and their continued co-operation for better and safer mining methods. Results are not always apparent from such persistent efforts, but there is a steady trend towards safer and more economical coal-mining.

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 coal-mining industry in the Northern District experienced many difficulties during the year 1932. The production of brown coal from the mines in the Waikato district declined by 211,592 tons, due to the extended use of hydro-electric power, and to the fact that firewood, readily obtainable in town and country, could be purchased at prices well under the cost of coal. The number of unemployed miners increased rapidly during the summer months. With the view of reducing costs, many fully developed working-sections in the mines were temporarily abandoned, and intensive machine-mining in favoured areas has resulted in increasing the daily output per miner from 6 to 12 tons, in effect to an extent that only half of the coal-miners are now required in the mines where machines are employed. The six large producing coal-mines in the Waikato district only worked half-time, and each of the mines could produce double the quantity of coal now being raised from the reduced areas. There is little likelihood of trade improving, and it would appear that the only salvation for some of the recently established companies lies in some scheme, yet to be formulated, for the amalgamation of the mines with a central sales agency to control the markets. Many advantages are to be obtained from amalgamation, and if a scheme could be established in the Waikato district, it might lead to cheaper and a better demand for coal, and to the re-engagement of a number of the idle miners.

Waikato Carbonization Plant.—The coal carbonizing and briquetting plant situated at Rotowaro and established for the treatment of surplus slack coal has continued to make steady progress, and the quality of the chief product, carbonettes, has been greatly improved as reflected in an increased demand as compared with the previous year. The carbonettes are being railed to all parts of the North Island in satisfaction of a demand for domestic and industrial use. The New Zealand Railways are using carbonettes on the locomotives running on the heavy spiral section of the Main Trunk line, and, with the economy obtained in operating the locomotives, it is confidently predicted that the Department will make more extensive use of this fuel. The by-products recovered are pitch and light and heavy oils, the pitch being all used in the manufacture of the carbonettes, while the light oil is sold as fuel and, after further treatment, is commanding a ready sale as a weed-killer. It is the directors' intention, at a later date, to subject the oils to a further cleansing or refining process to produce a high-grade Diesel oil and other products. The following figures show the totals of production during the year 1932: Raw coal treated, 19,957 tons; carbonettes manufactured, 10,500 tons; tar treated, 134,380 gallons; pitch made, 204·4 tons; oil made, 87,950 gallons.

North Auckland District.

Hikurangi Coal Company, Ltd. (Shaft Colliery).—Mining operations during the year were confined to the extraction of the pillars in No. 2 section and to the development of first workings in No. 4 east section, where numerous small faults have been encountered in opening out to the west and east of the haulage-road. During the month of May a strike occurred, due to the dismissal of fifty miners, whose services were not required owing to a reduced demand for steam coal. The strike lasted eight weeks, and it cost the company fully £2,000 for pumping during the enforced idleness. The mine-workings fell into disrepair, and, following a resumption of work, the output steadily fell to 200 tons per day. Two disastrous mine fires occurred during the latter end of the year, resulting in the shaft level and No. 4 sections being sealed off at the entrances, leaving only a small section to the east available for coal-production. The mine is heavily watered, and at least 15 per cent. of the daily output is retained for generating electric power for the pumping-machinery. The water lodgment advised, and constructed under Government loan, has been completed, and the excavated area holds 700,000 gallons of water. An area of coal to the north under the Hikurangi Swamp can be conveniently worked from the shaft-level, and mine-development in this direction is to be pushed ahead during the coming year. Several schemes have been advanced for the remodelling of the mine plant, but they have been held in abeyance pending the results of the development in the remaining areas.

Wilson's Collieries Ltd. (Waro Colliery).—During the year the Waro Colliery was operated by the 180 workmen who had entered into a contract with the owners to mine the coal and supply Wilson's Portland Cement Works with 800 tons per week. Many difficulties were experienced by the co-operative party, and three separate floodings of the dip workings, due to inadequate pumps, severely strained the resources of the party. At the end of the contracted year, the Cement Company intimated to the party that it could only take 300 tons of coal per week, and consequently the Waro Co-operative Party was forced into voluntary liquidation, but subsequent negotiations resulted in a smaller party of fifty miners taking over the mine to be again worked on a co-operative basis. Assistance was granted by the Unemployment Board for the purpose of lowering the water-level and repairing the mine-workings. The new party was able to operate the mine successfully, and an additional sixty miners were readmitted into the mine. Development of the dip section has been hindered by the inefficiency of the installed pumps, and it was only towards the end of the year that No. 7 section was restored for production. The pillars in No. 6 Section have been withdrawn to about 5 chains of the main haulage road. An area containing reduced pillars in No. 1 jig section has been re-roaded, but fires and falls have increased the cost of winning the remaining thin coal in this section. The presence of "soda-water" springs, occurring in greater volume as more floor is exposed to the dip, presents a problem which can only be faced by the installation of more adequate pumping machinery. The inflow of water has also been increased by the removal of the pillars in No. 6 section, where the resulting subsidences are occurring under surface creek-beds.

Crown Leases.—The following small coal-mines situated in close proximity to the Marua Road were worked by small parties of miners. The working-seam averages 3 ft. in thickness. Narrow places 4 ft. to 6 ft. wide are driven in the shallow coal-seam, and the outputs are conveyed by motor-lorries to Hikurangi station, a distance of three miles: 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), Northern Co-operative Colliery (E. A. Cunningham), Hick's Colliery (Hicks and Cook).

Ruatangata Coal-mine.—Operations are confined to the extraction of the pillars recovered from the old Kamo Mine workings. A new pump, electrically driven, has been installed in the dip, and the management is preparing to advance roadways through a dip area of old workings, with the view of reaching a solid area shown on the old mine plans. A proportion of the output is used at the mine for the purpose of manufacturing various shapes of fire-bricks.

The Rocks Area (Owners: Hikurangi Coal Co., Ltd.).—Coutts and party, Fearnley and party (sublease to W. Reed), Wilson and party, and Ackers and party (prospecting only) conducted mining operations by following the bottom seam (3 ft. thick) from proved boreholes, under the pillared area of the top seam. Fearnley and party were successful in winning 2,449 tons of coal from a dip prospecting drive.

New Kiripaka Colliery.—Brown and Webber continue to work out isolated blocks of coal left by the Northern Coal Co., Ltd., at Ngungaru. The output is carted to Whangarei (nine miles).

Glenbervie Coal-mine.—Operations are confined to the extraction of the remaining pillars. The seam is 4 ft. in thickness, and contains two bands of stone. A new motor-road and loading-bank, with screens for separating the house coal, were laid down and constructed during the year.

Whareora Coal-mine.—The seam is 7 ft. in thickness, but contains two bands of stone 6 in. and 1 ft. 6 in. thick respectively. The intervening bands of stone are so placed that only 3 ft. of clean coal is available for mining. A new party has taken over the lease, and boreholes, drilled 50 ft. in depth, have proved the existence of a level seam which is to be served by a motor-road to be formed from the main road.

Millbrook Coal-mine.—This colliery is situated near Ruatangata to the west of the main road. Three parties of miners have failed to work a thin coal seam. The roof cover is composed of loose volcanic sand which forms a troublesome roof. "Soda-water" springs and carbon dioxide gas given off by the strata—common to the district—were factors also in preventing the seam being followed any distance from the outcrop.

Avoca Coal-mine.—An output of 3,442 tons was got during the year from an isolated block of coal found near the outcrop, and passed over by a former working of the area. The seam varies in thickness from 6 ft. to 18 ft., and a portion is being worked opencast. Steps are being taken to dewater a dip driven during the year 1913, and abandoned before bords were turned away from the roadway. The output is being readily marketed in Tangowahine and Dargaville.

Waikato District.

Rotowaro Collieries (Taupiri Coal-mines, Ltd., Owners).—No. 1 Mine section has been extended to the east and to the rise of the main haulage terminus. The average thickness of roof-cover is 100 ft., and roof-pressure, at this thickness of cover, is hardly perceptible on the formed weight-carrying pillars. All the sections of the first workings, with the exception of the pillaring sections, have been sealed off at the entrances in order to minimize the dust danger. Two coal-cutting machines are in use in the bords, and the average daily output per miner in the machine-cut places is 10 tons. "Oldham" electric safety-lamps are in use throughout the mine, and no inflammable gas has been detected during the year. The daily output from No. 1 section is maintained at 600 tons in one shift. No. 3 Mine section was resumed during the winter months for an output of 150 tons per shift. The seam averages 18 ft. in thickness, and pillars 60 ft. by 60 ft. are formed in the first working. The coal roof in the bords is difficult to maintain, due to the splintering nature of the coal, which flakes off progressively as the places are advanced. This physical condition has caused numerous falls in the bords, resulting in heating of the fallen coal to an extent that several sections have had to be prematurely sealed off.

Pukemiro Collieries (Pukemiro Collieries, Ltd., Owners).—In common with other established Waikato Collieries this company experienced a substantial reduction in the output. The bulk of the output was obtained from the North Mine, in which are provided three separate working districts. In the north-east section the seam is 14 ft. thick, and the pillars are being extracted back to the main haulage-road. In the west section a clean seam 8 ft. in thickness is being followed to a proved fault. The brickyard section of the North Mine and the East and South Mines have only been worked intermittently to supply the winter demand for coal. Heating in the goaf has followed the extraction of pillars, but temporary brick stoppings, erected ahead for sealing requirements, have always been in readiness to seal off the affected areas as soon as the first sign of "fire-stink" appeared in the mine atmosphere. The roof cover in the north pillaring section averages 70 ft. of jointed fireclay; at this thickness the roof pressure, exerted by the removal of the coal, ceases at the pillar ends, and the recurring fractures closely fill up the excavated spaces in the goaf. A total output of 2,062,681 tons has been produced from the company's mines.

Glen Afton No. 1 Colliery (Glen Afton Collieries, Ltd., Owners).—A total output of 1,430,677 tons has been obtained almost entirely from the bords of the first workings. Complete pillaring operations have been conducted in A section only where at least 90 per cent. of the available seam has been extracted to the main road protective pillars. During the month of May both J section and the widely roaded districts in E section were temporarily sealed off by brick stoppings, as a result of a decreased demand for steam coal, and the cancellation of the company's contracts for slack coal supplied to the Auckland Power Board for generating electricity. The management is concentrating on K section, with three separate ventilating districts, to produce the disposable output. One-chain pillars have been formed between the bords in the first working, and, allowing that 20 per cent. of the seam has been worked from the bords, there is remaining in pillars a reserve of approximately 4,000,000 tons of coal. K section haulage-road was reballasted with fireclay debris obtained from a stone drive. When the clay is reduced to dust by the traffic over the road it should serve a double purpose by affording a treatment of incombustible dust to the roadway. The concrete and brick stoppings erected to seal off the crushed areas of D and G sections have been maintained in good order, and the movement appears to have reached a permanent settlement. Development during the year consisted of the driving of a stone dip through the fault at the end of the main haulage-road, and to the advancement of the headings set away to connect the company's MacDonald Colliery to Glen Afton No. 1 Mine workings.

Glen Afton No. 2 Colliery (MacDonald State Coal-mine Reserve, under Lease to the Glen Afton Collieries Ltd.).—An output of 99,722 tons was produced during the second year of working. No. 1 section was closed down during the year as a result of the reduced demand for steam coal, and owing to the fact that No. 2 Mine section was better positioned to develop the large area of coal proved by boring conducted by the Mines Department. Preparations are being made to install the permanent single-inlet Sirocco fan at a site to the east of the main haulage-road. The sides of the main haulage-road, at a point where a prehistoric fire had disturbed and weakened the roof-cover, have been strengthened with walls of concrete, which have been erected high enough to carry the steel bars erected to support the heavily weighted roof. Development has been vigorously pushed ahead to open out three extensive mine sections, and three separate section headings are proceeding to the north, west, and south respectively. Two coal-cutting machines are in use in this mine. A Sullivan arc wall machine has been employed in the headings with satisfactory results, as regards reliability and freedom from repairs. A Korfmann coal cutting and shearing machine, electrically driven, has been recently introduced. It weighs 16 cwt., and when in cutting position it is rigid, and extremely flexible in its operation. The cutting-feed is manipulated by hand, and can be varied to suit soft or hard conditions of the coal. The average thickness of the coal-seam over the proved field is 18 ft. It lies apparently in a basin at a lower level than the workings of Glen Afton No. 1 Mine, and the drainage of the advanced sections of the older mine will naturally flow towards the developing headings in MacDonald No. 2 Mine section. Generally this mine section has been developed and equipped to deal with an output of 600 tons per day on single shift.

Graham Colliery (Party of miners, Owners).—An average daily output of 50 tons has been won from the pillars in the south section. The seam in this section is only 4 ft. in thickness. The roof is of soft structure, and an overlying seam of broken coal induced spontaneous combustion in the goaf. Early in the year twelve brick stoppings were erected to seal off a heating in the goaf of the east side. The fire worked round the stoppings, and eventually caused the mine to be sealed off for a period of two months. Fourteen additional stoppings were erected in sealment of all the disused roadways leading to the waste ground, and mining operations were resumed on the remaining pillars. The mine is situated half a mile from Glen Afton Railway-station, and is connected to the railway by an extended siding.

Pukemiro Junction Colliery (Party of miners, Owners).—Mining operations were discontinued during the year, due to the exhaustion of the narrow field. The plant was removed, and the Crown lease surrendered. Total output to 31st December, 1932, was 113,261 tons.

Waikato Extended Colliery (Roose Shipping Co., Ltd., Owners).—Operations have been continued on the pillars remaining on the Old Waikato Mine section under lease from the Taupiri Coal-mines, Ltd. The mine is situated on the west bank of the Waikato River, three miles south of Huntly. The output is conveyed by river-steamers to meet the requirements of river settlers, and for bunkering use in the company's steamers.

Huntly Brickworks.—The fireclay quarry, opened to a height of 70 ft., being worked for the manufacture of firebricks, tiles, &c., has been maintained in good order.

Taupiri East Colliery (Auckland University Council Endowment Lease).—Operations have been confined to the splitting of pillars recovered from the old Kimihia Mine. Two electrically driven pumps have been employed in lowering the water in the old mine-workings. A total of 17,194 tons has been won by the miner owners of the mine.

Campbell Colliery (Crown lease, Whatawhata).—A new dip has been driven from an outcrop for a distance of 6 chains in the coal-seam. Six working-places have been turned off the dip. The seam is of good quality, and finds a ready market in Hamilton and surrounding districts. A total of 39,780 tons of coal has been won from the Crown lease, and the future prospects of the mine are quite satisfactory.

Renown Colliery (Renown Collieries, Ltd., Owners).—Mining operations, following the general slackness of trade, have been confined to No. 2 south section, and to eight headings being advanced for the future development of the mine. With the exception of four headings, all the faces are machine mined, and a daily output of 400 tons is being got from twenty working-places on one shift. No inflammable gas has been reported from the mine over a period of two years, but safety-lamps are used in the main headings, as a precautionary measure against the danger of meeting isolated blowers of gas. Mine-developemnt, ventilation, and haulage have been maintained at a high standard of efficiency, and the daily output could be doubled within a few days to meet any improved demand for coal. Total output up to 31st December, 1932, 323,391 tons.

Wilton Colliery (Wilton Collieries, Ltd., Owners).—This colliery produced 66,801 tons for the year 1932. Three separate sections have been connected to the mine-system of haulage and ventilation, and two are proceeding to the dip in a westerly direction towards the boundary. The rise section is being reduced in area by a converging outcrop which is narrowing the field in the direction of the main headings. The pillars in both No. 1 section and the east section are being extracted following the first working. The coal pillars are being recovered in good condition as they have not been affected by the progressive roof movement which tends to cause fretting and disintegration of the coal structure. The seam averages 5 ft. in thickness in the east section, and in the dip section it varies from 7 ft. to 9 ft. Two headings to the north, skirting the outcrop on both sides, are being advanced into Holmes's area, where the thin coal has been proved to exist at shallow depths along the spurs of the hills. During the year I have impressed upon the management the need for reducing the width of the working-places. The bords are usually driven 14 ft. wide, requiring three rows of props, or sets with covering, in support of the roof. The coal is easily mined, and, if the bords could be driven to a width of 11 ft., one row of props would be ample to support the roof, and the narrow places would afford safer roadways for the extraction of the pillars. A Keith Blackman ventilating-fan, 4 ft. 6 in. in diameter, chain-driven by a 30 h.p. electric motor, has been installed in the return drift near the entrance to the mine, The endless-rope haulage and electrical systems have been advanced to the faces and maintained in good order.

Hunua Collieries.—Three small coal-mines, known as Cowan's, Gillespie's, and Opaheke Collieries, have been opened out on freehold land at Hunua, twelve miles to the east of Papakura. Operations have been chiefly confined to prospecting, and the likelihood of locating a workable seam is not promising. This area has been previously prospected and worked by miners and companies, and only a thin seam, interspersed with stone and slate bands, has been discovered by prospectors.

King Colliery (Conditional Native Lease).—A small coal-mine was opened out at Rangitoto by a party of six miners. A drive 100 ft. in length provided four working-places in a seam 6 ft. thick. The output was carted to Te Kuiti a distance of eight miles.

Rangitoto Coal-mine (Native Lease, Tahia).—Four miners are engaged in following an outcrop of clean coal. Narrow places are driven in a level coal-seam. Output of 1,025 tons during the year was disposed of to settlers within a radius of ten miles of the mine.

Taranaki District.

Old Stockman Colliery, Mokau.—This mine is situated on the west bank of the Mokau River at a distance of twenty miles from the Mokau Heads. The seam is 4 ft. thick, and the output is shipped down the river in launches for the requirements of a dairy factory and local settlers.

Mokau Colliery (Mokau Collieries, Ltd., Owners).—During the year the company mined and shipped 765 tons of coal from a Native lease (Block 1A, Maunga-Awakino) situated thirteen miles up the Mokau River. A tramway three miles and a half in length has been laid down to connect the mine to the wharf. The company has purchased a small steamer for the purpose of shipping coal to Waitara and New Plymouth.

Paparata Coal-mine (Crown Lease, Taranaki Coal-mining Company, Ltd., Owners).—The mine is situated eleven miles from the railway. The output is carted over clay roads, and operations are confined to the summer months. The seam is 3 ft. thick, and is got by holing out 2 ft. of the soft fireclay lying immediately above the seam.

Egmont Colliery (Crown Lease, Egmont Collieries Ltd., Owners).—The mine is situated on the banks of the Tangarakau Stream, seventy miles north of Stratford. The average daily output is 120 tons, and forty-six miners are employed in the mine. Twenty-four working-places are available for production by machine mining in a seam 3 ft. thick. The long-wall method of mining was employed in the pillar section, but it was discontinued, due to the fact that the weight of the superincumbent strata extended over the roadside pillars, and could not be confined to the goaf. The roof-cover and floor is massive sandstone, which does not yield until a large area of coal is extracted. The quality of coal is not improved by the numerous bands of stratified shale which divide the coal-seam, and present a problem for the clean marketing of the output.

Gilberd's Colliery (Crown Lease, Tatu).—Two prospecting-tunnels were driven during the year, but owing to defective timbering they both collapsed. Another attempt is being made to follow the outcrop at a higher level. The seam is highly inclined, and the coal is soft and friable. The output is conveyed to Ohura, a distance of seven miles.

Fatal Accidents.

On the 4th February, 1932, George Scott, underviewer, MacDonald Colliery, was fatally injured as a result of a haulage accident. From evidence tendered by the rope attendant, who actually witnessed the accident, it appeared that the deceased had entered the mine at mid-day and was struck down by a descending race of skips controlled by a jig wheel. The accident happened 2 chains in from the entrance, and the attendant had warned the underviewer repeatedly, until he himself had to take shelter, that the race was in motion.

Another unusual accident occurred on the 8th November in the Waro Colliery, Hikurangi, when a miner, Harry Parr, lost his life, due to a fault in the signalling system installed in the mine. The bells in use were operated through a relay which was connected to a signalling-circuit energized to 15 volts by Leclanché cells, and a 400-volt bell-ringing circuit connected to the 400-volt main supply. The deceased was electrocuted whilst engaged handling the signalling-wire, and a subsequent examination of the relay proved that the insulation between the circuits had broken down. The relays attached to the remaining bells were replaced by a maximum voltage of 20 throughout the circuits.

Serious Non-fatal Accidents.

William Ballard, Hikurangi Colliery, was off work from the 26th February to the 23rd May, due to receiving a wound to his right eye caused by sparking coal.

On the 24th June, Thomas Holland, engaged as a winch-driver in Taupiri East Coal-mine, sustained an amputation of one of his fingers, due to his hand being caught between the rope and drum.

On the 15th July, Gavin Scurr, magazine-storekeeper, Rotowaro Colliery, sustained the loss of his right eye, due to an accident whilst engaged in winding detonators on a spool. The leads of the detonators touched an electrically charged radiator that was installed in the storeroom.

On the 4th August, George Martin, aged sixteen years, employed by Pukemiro Collieries, Ltd., caught his leg between skips and a guard rail, resulting in injured left leg, knee, and hip-bone.

Dangerous Occurrences (Regulation 82 of the Coal-mines Act, 1925).

On the 14th March, 1932, a heating was discovered in the north section of the Pukemiro Colliery. Stoppings were erected close up to the goaf, and pillar falls occurring at frequent intervals were the means of checking the heating.

On the 31st March and the 20th April, 1932, the mine-workings of the Waro Colliery were flooded, due to inrush of water from the surface, and to the inadequacy of the installed pumps to cope with abnormal flows of water.

On the 16th August, 1932, "fire-stink" was discovered in the east side dip of Rotowaro No. 1 Mine. The section was sealed off.

On the 31st August, 1932, a fire originating in the waste ground near the eastern outcrop of Graham's Colliery caused the mine to be sealed off for three months. Fourteen stoppings were subsequently erected, and the mine recovered.

On the 1st September an outbreak of fire in the rise workings of the shaft-level section, Hikurangi Mine, resulted in the area being sealed off at the entrance to the section.

On the 23rd November, 1932, a serious outbreak of fire occurred in the Hikurangi Shaft Colliery, with the result that the western section of the mine was sealed down at the end of the year.

Huntly School of Mines.

The attendances at the various classes held at Pukemiro, Renown, and Huntly were not maintained as during previous years, due no doubt to the depressed condition of the coal trade, and to the fact that a number of students have been discouraged by loss of employment. Decreased donations, students' fees, and subsidies have forced the Council to economize in salaries and travelling-expenses, but in order that the ground covered by previous instruction should be sustained for the benefit of the improving students, it has been decided to resume continuation classes at Glen Afton and Glen Massey.

WEST COAST INSPECTION DISTRICT (C. J. Strongman, Inspector of Mines).

The output from the West Coast Inspection District for 1932 was 844,010 tons, as compared with 890,494 tons for 1931. The Buller and Reefton districts show decreases of 48,967 and 6,357 tons respectively, while the Greymouth and Nelson districts show increases of 4,411 tons and 4,429 tons respectively. The increase in the Grey district may be attributed to the more steady working of the Blackball Mines, which show decided increases over last year's figures. The larger output from the Seymour and Mount Burnett Mines is mainly the cause of the increase in the Nelson district. The output from the majority of the mines in the West Coast Inspection District has been seriously curtailed by the limited market available. The partial time worked has been a serious factor in the extraction of pillars in the older mines, more particularly those working thick seams. The question of pillar extraction in these mines is becoming one of paramount importance. The straight-line system of extraction still continues to give good results.

Grey District.

Liverpool State Collieries.—No. 1 Mine: All the pillars having been extracted, coal-winning operations at this mine were abandoned during March, 1932.

No. 2 Mine: Development work at this mine was confined to the extending of the Kimbell east level section, Anderson dip section, and the workings to the rise in the Morgan seam. The Kimbell east level having been driven a distance of 52 chains from the main haulage-road, was stopped in proximity to the Davy Creek fault. At this point the coal became thin and intersected with dirt bands. Nearing the fault the contour of the coal-seam changed until the main level was approximately following the same direction as the main incline. In the Anderson section the seam had been variable in gradient and thickness. The quality of the coal, which is excellent, remained uniform throughout. The winning-places to the rise in the Morgan seam are now in proximity to the barrier that is being left between the Nos. 1 and 2 Mines. Development work in this section is nearing completion. During the year pillar-extraction was commenced in the Morgan and Kimbell seams. Fairly good results were obtained in winning the maximum percentage of coal. The total output from commencement of operations up to the 31st December, 1932, is 2,383,633 tons.

James State Colliery.—Operations at this mine were a continuation of those of the previous year—the extension of the development in the crosscut area and the extraction of pillars in the west section. In the crosscut area two sections have been worked, known as the dip and south level. In the former the seam has been uniform in gradient and thickness. The amount of coal to be won in this section is limited by the proximity of an upthrow fault which has a displacement of approximately 190 ft. Development in the south-level section has been retarded by intrusions of stone bands and rolls, also quantities of iron pyrites. The hard nature of the roof over the coal enables a complete extraction of all pillars to be made. Prospecting, accompanied by boring, has been continuously carried on throughout the year on a portion of the reserve between the Nine Mile and Ten Mile Creeks. Five diamond-drill holes were put down with satisfactory results, the total depth drilled being 2,829 ft. The work of prospecting has been hampered by the precipitous nature of the country, necessitating the erection of aerial ropeways for the transport of the boring-plant. The total output from this mine up to the 31st December, 1932, is 338,997 tons.

Blackball Coal-mines Proprietary, Ltd.—Development work in the Blackball Mine consisted mainly of cleaning up the old main level, and good progress was made to No. 18 bank. No effort was made to work any of the abandoned portions along the road other than to drive a new return airway in the barrier pillar on the lower side. The work of cleaning up presented no great difficulty, as the debris from the upper workings had been carried to the level, packing it tight and supporting the roof. The endless-rope haulage has been extended as far as No. 17 bank. Pillar-extraction was carried on below No. 1 level from No. 3 dip. On the surface,

improvements have been effected, including new 11,000 volt metering and distribution panels, an underground cable to receive power from the Grey Electric-power Board, and also a new remote control to operate the main haulage from the weigh cabin. A borehole was put down at the head of No. 3 dip to carry power-cables underground. Improvements to the bathhouse and other sanitary conveniences have been completed. The total output from commencement of operations is 3,951,520 tons.

Blackball Creek Mine.—Early in the year No. 1 section was closed down and a new section opened out farther up the creek. This was made possible by the completion of the flume, and coal was delivered from three mine-openings to the flume during the year. A coal-bin capable of storing 600 tons of coal was completed. The output from the mine was limited by unfavourable trade conditions. The total output up to 31st December 1932, is 25,103 tons.

Briandale Collieries, Ltd.—During the year development work in Walker's section was continued by driving the main heading in a north-easterly direction. The coal in the main heading declined gradually in thickness and the heading was finally stopped 6 chains from the mine entrance in coal 1 ft. 4 in. to 1 ft. 6 in. in thickness. Going westerly the old workings in the No. 3 section were reached. In the Aerial section a fault running north-easterly was encountered, completely cutting off all development work to the north. A boring-plant has been procured, and the future development of the mine will depend upon the results obtained therefrom. The total output from commencement of operations is 63,731 tons.

Wallsend Colliery.—No. 1 Section: The quality of the coal in this section varied considerably, with stone intrusions and bad roof in places, this being no doubt due to the influence of the Buckley fault. Early in September, 1932, this section was abandoned, and the services of sixty-five workmen dispensed with.

No. 2 Section: Development has been continued by two dip headings driven southerly to win a block of coal bounded on the south by the Dobson fault and on the west by the Taylorville fault. The most easterly of these dip headings encountered the fault after being driven a distance of 10 chains. The No. 2 dip extension was continued in good coal.

No. 3 Section: During the year the work of driving the stone dip across the Taylorville fault was speeded up. Three shifts with three men each with power rock-drills were employed and the seam was struck on the 10th November. The stone-drive 11 ft. 6 in. by 7 ft. 6 in., and dipping at a grade of 1 in 3·3, is 8 chains in length. Haulage from the area is provided for by a Carron worm-driven electric winch of 75 h.p. The winch is housed in a chamber of reinforced concrete. The main return, adjacent to the shaft, has been enlarged for a distance of 3 chains to a point where the two airways joined. The debris from the stone tunnel was stowed in the old workings to strengthen the pillars. The total output from this colliery up to the 31st December, 1932, is 423,747 tons.

Dobson Colliery.—After a stoppage of four and a half months, due to an industrial dispute, operations were recommenced on the 15th February, 1932. Coal-winning operations had been chiefly carried out in four main sections—viz., Nos. 1 and 2 east, and Nos. 1 and 2 west, whilst development levels in two additional sections were driven and are known as No. 3 east and No. 3 west. In No. 1 east district development is limited to a comparatively small area bounded on the north by the Dobson fault and on the east by the Mount Buckley fault. Only a small amount of solid work remains to be completed in this district. Pillar-extraction was commenced in the No. 2 east, work being carried on both to the rise and dip sides of the level, which is being advanced for further development. Work in No. 3 east district was of a purely developing nature, the levels having been advanced for a distance of 13 chains, whilst a dip, for the formation of panel workings, has been driven for 4½ chains. Preparatory work for the installation of an endless-rope haulage system was also undertaken. In No. 1 west district three pairs of miners were engaged during the major portion of the year. Considerable trouble was encountered and the work of forming a panel of workings to the dip was stopped, due to various unfavourable conditions, such as general thinning of coal, extremely friable roof, and prevalence of gas exuding from the seam known as the "Brunner Rider" immediately overlying the main Dobson seam. In the No. 2 west section, two panels of workings were developed and work commenced on a third panel. Development work in No. 3 west was carried out by driving a pair of parallel levels. These were advanced a total distance of 14 chains and a dip started to open up a panel of workings in this area, being advanced a distance of 3 chains. Work generally was greatly hampered by trade conditions, the mine having worked only 127 days for the year. The total output of coal up to the 31st December, 1932, is 575,707 tons.

Tyneside Colliery.—Only a few tons of coal were produced from this mine during the early part of the year. The mine closed down early in May. Total output of coal by the present owner up to the 31st December, 1932, is 1,469 tons.

Paparoa Colliery.—The work of coal-winning at this mine has been confined to two main sections—No. 1 section and the Aerial section. In the No. 1 section two main inclines are being driven 7 chains north-easterly towards the outcrop. The main levels have been driven 9 chains westerly, the coal maintaining its thickness and quality throughout. In the Aerial section dirty coal was reached in the main level at 21 chains from the mine-entrance. Pillar-extraction was commenced at this point. As the development work is well forward, parallel dips being driven south-westerly have been temporarily stopped. The erection of a new fan in the No. 1 section had materially improved the ventilation of the mine. The total output from this mine up to the 31st December, 1932, is 710,173 tons.

United Brunner Mine.—Work throughout the year consisted of cleaning up and timbering old roadways and the winning of a small amount of coal from pillars left in the old workings. Mining operations ceased at the end of the year. The total amount of coal won by the present owners up to the 31st December, 1932, is 886 tons.

Co-operative Mines.

Spark and Party, Rewanui.—The work of extracting pillars to the rise was continued during the year. Development work consisted of driving parallel headings on the strike of the seam in a north-easterly direction below and beyond the pillared ground. The main dip was extended a distance of 2 chains and a level broken away. The total output from this mine from commencement of operations is 37,970 tons.

Duggan and Party.—The solid work having been completed, pillar-extraction has been commenced adjacent to the old No. 3 section of the Liverpool State Colliery. The coal is thin and of good quality. Only a limited number of pillars remain to be extracted. The total output up to the 31st December, 1932, is 47,295 tons.

Old Runanga Co-operative Party (O'Brien and Party).—In the Bluff section development work consists of driving parallel headings in a north-westerly direction in coal of good quality, averaging 6 ft. in height. To the rise, parallel headings are being driven towards the old No. 3A State Mine workings, where a synclinal fold was met with, the coal dipping slightly. The output from this mine from commencement of operations is 33,120 tons.

Goldlight Colliery (Williams and Party).—The main east level, after being driven a distance of 10 chains, was stopped adjacent to a fault. A pair of parallel dip headings driven south-easterly for a distance of 3½ chains met with a feeder of water and were abandoned. All work to the dip has thus ceased. To the rise all solid work has been completed and pillar-extraction commenced on the north-easterly boundary. Total output up to the 31st December, 1932, is 35,581 tons.

Moody Creek Mine (Simpson and Party).—Faults and thinnings hampered development work at this mine throughout the year. Pillar-extraction has been commenced south-west of the main cross-cut dip. To the east, prospecting has been carried on between two parallel faults running approximately north and south. Total output up to the 31st December, 1932, is 49,029 tons.

New Point E. Mine (Guy and Party).—Pillar-extraction has been continued throughout the year to the rise east of the main haulage-level. Development work to the west having been completed in the barrier, pillar-extraction was commenced and completed towards the end of the year. Total output from commencement of operations is 44,018 tons.

Fiery Cross Co-operative Party (Currie and Party).—The main development work still continues to the rise in a north-westerly direction. The main level has been stopped on a fault. In the two main inclines going north-west the coal varies abruptly in thickness from 3 ft. to 4 ft., the roof being very uneven and the changes in thickness of the coal seam being numerous. Total output of coal up to the 31st December, 1932, is 17,071 tons.

Baddeley and Party.—Pillar-extraction having been completed, the mine closed towards the end of the year, the party having secured a new lease on the State Coal Reserve. Preliminary operations for the development of the area are now well in hand. Total output up to the 31st December, 1932, is 44,966 tons.

Castlepoint Colliery.—During the year the major portion of the output was produced from pillar workings to the rise and adjacent to the fault. The main level in the crosscut headings was extended during the year. Total output from commencement of operations is 47,427 tons.

Hilltop Mine (Armstrong and Party).—After being driven a distance of 5 chains in a southerly direction, the main dip was stopped in stony coal. From the bottom level a crosscut dip was started and driven a further distance of 3 chains in a south-easterly direction. The main level was driven 14 chains to the east of the main dip where a large upthrow fault was encountered, preventing the extension of workings in this direction. The quality of the coal is excellent, but stone intrusions rendered the cleaning of the coal difficult. The total output from this mine up to the 31st December, 1932, is 19,140 tons.

Brady and Party, Ten Mile.—This co-operative party commenced operations during the year on a block of coal situated at the Ten Mile Creek on the State Coal Reserve. Bins, tramways, &c., have been completed and 13 tons of coal produced.

Hunter and Party, Dunollie.—During the year the main level was advanced a further distance of 4 chains in a north-easterly direction. Development to the rise has been continued, the outcrop having been reached, in several places, 24 chains to the east of the main level. To the rise, pillar-extraction has commenced. Total output is 56,326 tons.

Cox Creek Mine (Coates' Lease).—The presence of faults and the thinning of the coal to the south have retarded development work at this mine. To the rise, pillar-extraction was commenced. Total output up to the 31st December, 1932, is 7,176 tons.

Schulze Creek Mine (Marshall and Party).—The main level was continued in a south-easterly direction in thin coal. Towards the end of the year a downthrow fault was encountered. A considerable amount of prospecting work has been done. The double-stall system of mining has been adopted with satisfactory results. Total output from commencement of operations is 23,586 tons.

Dennehy's Mine.—Development work to the north has been continued in thin coal between two faults. Only a small area of coal remains to be developed. Total output of coal, 527 tons.

Cain's Mine, Rapahoe.—To the north the workings are approaching those of the Bellvue Mine. The coal maintained its thickness. Total output up to the 31st December, 1932, is 5,442 tons.

Bellbird Mine (Fauth and Party).—The main dip, proceeding south-easterly, was stopped near the boundary of the lease. To the west a fault running parallel with the dip has prevented extensive development. Going easterly, the seam split and the coal thinned. A Keith-Blackman fan, capable of producing 17,000 cubic feet of air per minute, has been installed. Total output of coal up to the 31st December, 1932, is 15,243 tons.

Bellvue Mine (Hadcroft and Party).—Development work has been completed and most of the output during the year was won from pillars. Total output up to the 31st December, 1932, is 45,008 tons.

Jubilee Mine, Rapahoe.—The output for the year was won partly from pillars and partly from solid work to the dip on the easterly portion of the lease. Prospecting operations revealed an outcrop to the north of the fault. A level was started and driven for a distance of 3 chains in a north-easterly direction when the coal thinned. Total output of coal from commencement of operations up to the 31st December, 1932, is 15,708 tons.

Curtis and Party (Musselpoint Mine).—Numerous small step faults and thinnings retarded development work at this mine. A small compressor and rock-drills were installed during the year. Total output up to the 31st December, 1932, is 2,384 tons.

Smith and Party.—Development work has been carried out during the year to the north and south of the main dip. The main dip was extended a further distance of 1½ chains. The influx of water has proved troublesome at this mine. Electrically driven pumps are used to cope with the difficulty. The total output from this mine is 62,500 tons.

Brachead Mine (Boote and Party).—The main levels have been extended easterly to a point where the coal thinned to a thickness of 3 ft. Pillar-extraction was then commenced. The overlying roof of fireclay had commenced to break. Difficulty has been experienced from this cause. Total output, 65,262 tons.

Stillwater Mine (Boustridge and Party).—Work during the year has been largely of a prospecting nature. A fault was encountered and the old mine abandoned, prospecting being resumed on a different portion of the lease. Total output from commencement of operations is 1,850 tons.

Remarks on Co-operative Mines in Grey District.—The small mines, in common with others, have suffered severely as the result of slackness in the coal-market, and development work, which in normal times would have been undertaken, has been neglected. A reduction in the number of men employed is also apparent.

Reefton District.

Archer's Mines.—Most of the coal won from Archer's Mine was from pillar-extraction. No advance in mining methods has been made.

Archer's Lease (Hopeful Mine).—To the east and west of the stone drive the coal-seam pinched, and pillar-extraction was commenced. The roof, being of a friable nature, rendered the work of pillar-extraction on the heavy grade difficult and dangerous. Total output from Archer's Mines is 52,289 tons.

Eone Mine (Coghlan's Leasehold).—The crosscut drive in stone to intercept the Nos. 1 and 2 seams was pushed forward during the year. Towards the end of the year a coal-seam was struck and 926 tons won. Total output up to the 31st December, 1932, is 5,477 tons.

Coghlan's Freehold Mine.—Towards the end of the year development work ceased, and pillar-extraction adjacent to the Eone Mine commenced. Total output up to the 31st December, 1932, is 23,590 tons.

Waitahu Mine.—A pair of levels was continued. The mine worked intermittently during the year. Total output from this mine is 7,753 tons.

Morrisvale Collieries.—Perfection Mine: The work of pillar-extraction was continued throughout the year. The fire continued to be troublesome, advancing towards the workings in a south-westerly direction. Flushing had been resorted to with beneficial results. Mining operations have been seriously hampered throughout the year due to lack of trade. Surprise Mine: The main dip has been advanced a total distance of 10 chains and a panel to the east opened out. The erection of concrete stoppings materially improved the natural ventilation throughout this mine. The total output from the Morrisvale Collieries up to the 31st December, 1932, is 110,300 tons.

Burke's Creek Colliery.—The main dip, driven on a bearing of 319°, has been extended during the year. To the east, No. 1 panel has been completed. The extraction of the pillars within the panel was found to be impracticable due to the overlying water-bearing gravels. To the west a panel of work was commenced. Development work has been seriously retarded by lack of trade. The coal, which fluctuates in quality, is overlain by a roof which breaks readily, heavy timbers 8 ft. long and 10 in. in diameter being broken. Two small tribute parties have been engaged in removing small blocks of coal left behind in the old workings in the right and left banks of Burke's Creek. The work is hampered by the lack of plans of the old abandoned mines. Total output from the Burke's Creek Colliery is 209,590 tons.

Terrace Mine (Blackadder's).—The whole of the pillars being extracted, this mine is closed down. The tota, amount of coal won from this mine up to the 31st December, 1932, is 6,684 tons.

Times Street Mine (Honey's).—Only a few tons of coal were won from this mine during the year, the work being of a routine nature. No particular system of development has been followed. Total output up to the 31st December, 1932, is 2,374 tons.

Collins' Mine (Phœnix and Venus).—Numerous small drives have been put in for the purpose of extracting small pillars of coal that have escaped the effect of the fire which destroyed the old mine. Total output is 59,825 tons.

Defiance Mine (McLaughlin's).—The cross-measure drive was completed and a small amount of coal won to the right and left of the drive. Total output from commencement of operations is 2,405 tons.

Wealth of Nations Mine (Lankey's Creek).—A serious subsidence of the roof rendered the work of pillar-extraction dangerous, and the mine was abandoned. Total output from this mine is 31,392 tons.

Clele Mine (Alborn's).—Work in the old mine has ceased, prospecting operations having revealed numerous small outcrops from which the majority of the coal was won during the year. Total output up to the 31st December, 1932. is 50,689 tons.

White Rose Mine (Osborn's).—Only a small amount of coal was won from this mine for local consumption. Total output is 365 tons.

Remarks on Reefton Mines.—With few exceptions, coal-mining operations in the Reefton district continue to be carried on in a haphazard manner, lack of capital to provide machinery being the principal factor Only coal that can be cheaply mined is being won.

Buller District.

Mitchell's Mine, Charleston.—Sixty-eight tons of coal were won by means of opencast workings during the year. Total output from commencement of operations is 433 tons.

Brighton Mine (Hunter and Party).—This mine worked intermittently during the year. Total output up to the 31st December, 1932, is 696 tons.

Rocklands Mine (J. P. Burley).—A small amount of coal was obtained from the rise workings from the splitting of pillars. Total output from commencement of operations is 10,607 tons.

Whftecliffs Mine (J. H. Burley).—The main level was advanced a short distance and several places broken away to the rise of the seam. Total output from this mine is 3,436 tons.

Coal Creek Mine, Seddonville.—This mine remained idle throughout the year. Total output of coal from commencement of operations is 97,913 tons.

Quinn's Mine, Seddonville.—A small quantity of coal was won from pillar-extraction. Total output up to the 31st December, 1932, is 8,647 tons.

Glasgow Mine, Seddonville.—No development work was undertaken during the year, the whole of the output being obtained from pillar-extraction. Total output from commencement of operations is 35,495 tons.

Cardiff Bridge Mine, Seddonville.—The number of men employed at this mine continued to be reduced as the available pillars were extracted. Prospecting operations on another portion of the lease proved disappointing, and were discontinued. Total output from this mine up to the 31st December, 1932, is 232,299 tons.

Chester's Mine, Seddonville.—This mine remained idle during the major portion of the year. Total output from commencement of operations is 21,382 tons.

Westport-Stateville Mine.—There being no demand for coal, very little work was done at this mine. Total output is 13,173 tons.

St. Helen's Mine (Rogers Bros.).—The two main headings, after being driven westerly for a distance of 4 chains, were stopped in coal 1 ft. in thickness. To the south, faulted country prevented development. The results obtained from development work were of a disappointing nature, and the mine remained idle for a considerable portion of the year. Total output up to the 31st December, 1932, is 5,203 tons.

Charming Creek Mine, Ngakawau.—Coal-winning operations throughout the year were confined to the No. 1 south-east panel. The coal in this panel to the rise thinned, and the quality became inferior. Pillar-extraction was then commenced and the pillars formed in the first workings were extracted. Towards the end of the year a stone-drive was commenced to cut the fault in the main east level. A total distance of 3½ chains was driven when the seam was again encountered. The coal was of good quality, 20 ft. in thickness. Before development work can be undertaken it will be necessary to construct a return airway. Development to what is known as No. 5 Government shaft has been hampered by lack of a pumping-plant to deal with the water. Before the field can be properly developed the installation of electrical plant will be necessary. Ventilation: During August a 50 in. Sirocco fan, driven by a 17 h.p. Diesel engine, was installed at the top of No. 2 shaft. The total output from this mine from commencement of operations is 28,679 tons.

Westportmain Mine, Granity.—A total of twenty days only were worked at this mine during last year. Development work is practically completed. Falls have been removed and surface stripping resorted to in order to recover pillars that have been buried in the first workings. The bulk of the output was won from pillar workings during the year. The total output from this mine up to the 31st December, 1932, is 176,690 tons.

Westport-Cascade Mine.—Development work in Durkin's Creek has been continued with the object of reaching the outcrop and increasing the water-supply for fluming purposes. The area has proved to be faulted. The coal-measures on the south side have been denuded. Development work is proceeding generally in a

direction towards Mill Creek, the gradient being undulating and more or less faulted. In No. 1 old workings driving has been carried out on the bottom of the seam with the object of extracting the pillars adjacent to the Mount William fault. The extraction of pillars has been rendered difficult, the overlying strata being of a gravelly nature. The wide places driven in the first workings have collapsed. Total output from this mine is 75,362 tons.

Denniston Mines (Westport Coal Co., Ltd.).—Coalbrookdale Mine: Two main headings in the Waterloo section were driven in a south-westerly direction for a distance of 5 chains. From this point a panel was opened out to the right. A panel was also started to the dip from the main heading. The coal was hard, and from 12 ft. to 15 ft. in thickness. Eleven pairs of men were employed in this section. Wareatea Extended section: The solid workings in this section were confined to one pair of dip headings, which were driven in a north-westerly direction for the purpose of opening out a panel of coal. The headings are approaching an area of about 10 acres that has been proved by boring. Nineteen pairs of men were enagaged on pillar-extraction. Pillar workings, Openshaw's section: Eight pairs of hewers were employed in this section on pillar-extraction. Cascade section: Early in the year the fire area in Wallace's section was successfully reopened by the use of the Proto apparatus. Concrete stoppings were placed in strategic positions and pillar-extraction was commenced. A small subsidiary haulage was installed in the Waterloo section. Ironbridge Mine: Prospecting—Five boreholes were put down in the Ironbridge, Kruger's, and Kiwi sections. Several thin bands of unworkable coal were passed through. In No. 1 bottom seam 3½ pairs of men were engaged in solid work and the splitting of pillars preparatory to their extraction. No. 2 section, Young's drive: The solid work in this section having been completed, the work has been stopped pending the extraction of the top seam pillars. Garing's dip, bottom seam: The main headings have been driven in a south-easterly direction for a distance of 5 chains and are left standing on a fault. In addition, two pairs of headings were driven at right angles to the main heading in a south-west and north-east direction respectively. The coal is of good quality, but intervening bands of stone were met with in the rise workings. The roof is heavy, and requires substantial timbering in the heading. As small quantities of CH_4 were met with in the main headings, electric safety-lamps were installed as a precaution. Deep Creek section: A short stone-drive connecting the workings to the north-east has been completed. Pillar-extraction: Two pairs of men were engaged extracting pillars in the Deep Creek section, also two pairs in the Bluff section. Early in the year fumes from the old Kruger's fire percolated through the pillar falls on to the Ironbridge rope-road, and a number of concrete block stoppings were erected to control the air circulation and keep back the fumes. The total output from the Denniston Mine from commencement of operations is 10,213,316 tons.

Millerton Mine (Westport Coal Co., Ltd.).—Trade conditions seriously handicapped mining operations at this mine throughout the year. This applied more particularly to those sections of thick coal in which pillar-extraction was being carried out. In order to overcome the difficulty, 175 men were dismissed and the daily output of the mine reduced to approximately 500 tons. Work was then concentrated in those sections adjacent to the fire areas and five large sections of the mine—viz., Settlement Extended (Mangatina), Mangatina Nos. 1 and 2 West, North-east section, and No. 1 West section—were stopped, thus enabling a greater number of shifts per week to be worked in the other sections. It was hoped by these methods to minimize fire risks in pillar-extraction. No development work was undertaken during the year. The total output from commencement of operations is 8,207,260 tons.

Westport-Stockton Colliery. — Development work was mainly confined to the new east area. The main headings were extended a distance of 8 chains in coal of good quality and reasonable thickness. Two new drives were opened out, one to the right and one to the left of the main headings. The roof conditions in this area have improved, but the section still continues to be very wet. Early in the year, operations in the south-east dip area were discontinued owing to the heavy cost of pumping, due to intermittent work. No. 2 west dip encountered the Webb fault, and pillar-extraction was commenced. In the old east and west areas operations were confined solely to pillar-extraction. A considerable amount of repair work to outbuildings and the loco. track and power lines was carried out. The total output from this mine up to the 31st December, 1932, is 3,007,318 tons.

Nelson District.

Puponga Mine.—Mining operations were a continuation of those carried on during the previous year. Development-work to the dip has been seriously hampered through lack of convenient portable power to be used underground. Pillar-extraction above the main level was continued during the year. Two slant dips have been driven a distance of 2½ chains towards the centre of the field. The coal continued to improve towards the centre of the basin. Specifications for electrical plant have been compiled and tenders invited for the plant. Total output up to the 31st December, 1932, is 330,352 tons.

Mount Burnett Mine, Collingwood.—All coal won during the year was produced from the No. 1 seam. Going north on the strike, the seam pinched to an unworkable thickness and pillar-extraction to the rise was commenced. Prospecting operations on the south side of the creek disclosed a fault. A slant dip was driven for a distance of 2 chains to the north-west, where the seam gradually increased to 18 ft. in thickness. Total output from this mine from commencement of operations is 5,926 tons.

Broxbourne Mine, Takaka.—Only a small amount of coal was won. Operations were discontinued towards the end of the year. Total output up to the 31st December, 1932, is 273 tons.

Motupipi Mine (Winter's).—Stripping operations were continued throughout the year, and 101 tons were produced. Total output up to the 31st December, 1932, is 919 tons.

Irvine's Mine (Abbotsford).—This mine worked intermittently during the year. Mining methods employed are extremely primitive. It is the practice to start a small drive, and, after driving a distance of 10 to 15 yards, robbing operations are commenced near the outcrop.

Seymour Mine, Owen River. — This mine is now worked on a modified double-stall system. The main level has been extended a total distance of 800 yards, the coal gradually thinning to 18 in. at the face. To the rise, No. 1 incline reached the outcrop after being driven a total distance of 90 yards in a north-easterly direction, the coal being approximately 3 ft. 6 in. in thickness overlain by a dirt band 1 ft. 6 in. Total output up to the 31st December, 1932, is 7,256 tons.

O'Rourke's Mine, Murchison.—During the year 113 tons of coal were produced from the new mine on the freehold property. The whole of the coal was won from the main level extension. The total output of coal from O'Rourke's workings up to the 31st December, 1932, is 1,606 tons.

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

On Sunday, the 10th January, 1932, a fire stopping was forced out in the No. 2 dip section of the Millerton Mine by water-pressure. The fire area, which was enclosed by concrete stoppings, had broken through to the surface. On the 8th and 9th January the rainfall throughout the West Coast was excessively heavy, and the water collected behind the concrete stopping to an estimated height of 50 ft., with the result that one of the newly erected stoppings was forced out and the water swept with terrific force throughout the whole of the No. 2 dip section. Fortunately no persons were in the mine at the time.

During January, 1932, incipient heating was noticed in the goaf in the first west area of the Millerton Mine. The heated material was partly filled out and partly quenched with water.

During February the top coal around a partially completed stopping in the No. 2 dip section of the Millerton Mine was found to be on fire. New sites were chosen for the stoppings, and the area successfully sealed off.

On the 4th May, 1932, a shot-firer in the Wallsend Mine blew through into the old workings. Owing to the presence of black-damp, the men were withdrawn. Later, a stopping was erected to seal off the old workings.

On the 13th May, 1932, fire fumes from Kruger's fire percolated through old workings into the Bluff section of the Ironbridge, Denniston Mine. The workmen were withdrawn and concrete stoppings were erected to control the fire fumes. This trouble was intermittently encountered at various times during the year.

During May, 1932, a fire was discovered in the No. 4 seam on Crown lands near the Waitahu Mine, Reefton. A trench was cut and the fire controlled.

Between the 10th and 12th December, 1932, an inrush of water through the waste in Coghlan's Colliery, at Capleston, occurred. About 40 tons of silt was deposited along the main roadways. No persons were working in the mine at the time.

On the 13th December, 1932, the men were withdrawn from the Bluff section in the Ironbridge Mine due to the prevalence of noxious gases.

Fatal Accidents.

Eight fatal accidents occurred during the year.

On the 11th June, 1932, William Lowden, mine-manager, old dip section, Millerton Mine, and Joseph Pfeffer, mine-manager, Mine Creek section, Millerton Mine, lost their lives in the old dip section by gas poisoning. Lowden entered a dam in order to block two holes which had been left to drain off the water during the building of the dam. He was immediately overcome by hydrogen sulphide. Pfeffer went to his assistance, but was also overcome by the gas.

On the 28th September, 1932, Carl August Svenson, mine-manager, Hopeful Mine, Reefton, was killed by a fall of stone and coal.

On the 18th October, 1932, John Robert Meagher, miner, Dobson Mine, was killed by a fall of stone in the East Level section.

On the 18th October, 1932, Charles Collins, miner, Millerton Mine, was killed by a fall of coal in No. 3 west middle section, Mine Creek.

On the 4th November, 1932, William Partington, miner, Liverpool Colliery, was killed by a runaway truck.

On the 11th November, 1932, Robert Sydney Gore, miner, Braehead Mine, was killed by a fall of roof stone.

On the 14th November, 1932, James Devlin, miner, Braehead Mine, died as a result of injuries received by a fall of roof stone on the 11th November.

Serious Non-fatal Accidents.

Ten serious accidents were notified during the year.

On the 9th February, 1932, Michael William Rogers, miner, St. Helen's Mine, Seddonville, whilst working under the aerial rope-road, was struck by a truck and sustained severe crushing and bruising of the thighs.

On the 8th March, 1932, Charles Johnston, miner, Cardiff Bridge Mine, Seddonville, lost his left arm. He was filling a truck of coal and had his left arm over the edge of the truck when a fall of coal from the roof occurred, completely severing his arm about 4 in. from the shoulder.

On the 11th May, 1932, James Robertson, blacksmith, Wallsend Mine, sustained a fracture of the right forearm. Believing the drilling-machine to be out of gear, he firmly gripped the counter-shaft belt and pulled, with the result that the machine started suddenly and threw Robertson off his balance, his arm being broken over the upper shaft.

On the 29th June, 1932, A. McKenzie, miner, Burke's Creek Colliery, Reefton, was engaged trimming down top coal when a lump of coal fell. In getting clear of the falling coal he slipped and fell, fracturing three ribs.

On the 14th September, 1932, Thomas Morgan, carpenter, Wallsend Mine, was struck by a piece of falling stone and his left leg fractured above the ankle.

On the 11th October, 1932, William Dutton, deputy, Liverpool Mine, was caught by a fall of coal and received injuries to his back and shoulders.

On the 20th October, 1932, Campbell Miller, trucker, Stockton Mine, sustained a simple fracture of the left leg through being crushed between two trucks.

On the 27th October, 1932, William Quate, horse-driver, Liverpool Mine, was knocked under a truck by a horse and sustained a broken leg.

On the 2nd December, 1932, James May, miner, Millerton Mine, was struck by a fall of roof coal and sustained a fractured right arm.

On the 15th December, 1932, M. O'Flaherty, miner, Blackball Mine, had his leg fractured by a fall of coal in the main level.

Prosecutions.

There were twenty-one informations laid during the year. Two were withdrawn, one was dismissed, and eighteen convictions recorded.

For failing to keep detonators in a tin, as provided by Regulation 224 (5) (*b*) of the Coal-mines Act, a deputy was convicted and fined £1 and costs. A second charge for breach of Regulation 224 (1) was withdrawn.

For failing to set a sufficient number of sprags, as provided for by section 117 (1) of the Coal-mines Act, two miners were each convicted and fined £1 and costs.

Two coal-hewers were each convicted and fined £1 and costs for failing to set timber, as required by section 118 of the Coal-mines Act.

The manager of a mine was also convicted and fined £2 for failing to see that the provisions of the Coal-mines Act were carried out.

A deputy of a coal-mine was fined £2 and costs for failure to enter in a report-book kept for the purpose the withdrawal of workmen, as provided by section 131 (3) of the Coal-mines Act.

For failing to examine all accessible places with a locked safety-lamp before firing a shot, a shot-firer was fined £2 and costs. (Regulation 234 (*a*) (i) (ii) of Coal-mines Act.)

For failure to inspect with a locked safety-lamp a working-place in which work was temporarily stopped in a ventilation district, as required by section 128 (1) of the Coal-mines Act, a deputy was convicted and fined £2 and costs.

For failure to see that the provisions of the Coal-mines Act were carried out in conformity with section 198 (2) of the Coal-mines Act, a manager was convicted and fined £10 and costs.

For failing to examine a safety-lamp before using same, a deputy of a mine, who also acted as mine-manager, was fined £3 and costs. (Section 97 (*a*) of the Coal-mines Act.)

For failure to install a mechanical ventilation appliance when same was deemed necessary by the Inspector in accordance with the provisions of Regulation 180, a mine-owner was convicted and fined £2 and costs. A similar charge laid against the mine-manager was withdrawn.

A mine-manager was convicted and fined £2 and costs for failing to continuously produce by means of mechanical ventilation appliances an adequate amount of ventilation eight hours previous to the men entering the mine. (Regulation 181 (1) of the Coal-mines Act.)

Proceedings were instituted against a fireman-deputy for failure to examine with a locked safety-lamp or other apparatus, all contiguous accessible places within a radius of 20 yards before firing a shot. The case was dismissed.

For acting as a mine-manager contrary to section 60 (1) (*b*) of the Coal-mines Act the acting mine-manager of a mine was convicted and fined £1 and costs 10s.

For failing to see that all persons in the vicinity had taken proper shelter before firing a shot, as provided for by Regulation 228 (4), a deputy was fined £1 and costs 10s.

Three colliers were each convicted and fined £1 and costs 10s. for failing to erect roof-supports as provided by section 117 (1) of the Coal-mines Act.

SOUTHERN INSPECTION DISTRICT (JOB HUGHES, Inspector of Mines).

COAL OUTPUT.

The year's operations have shown a further decided decrease in total output. In the Canterbury, Central Otago, and South Otago districts increases of 1,662, 509, and 13,855 tons respectively are indicated, whereas North Otago and Southland show decreases of 2,225, and 55,612 tons respectively. The total decrease in output is 41,820 tons. Probably the chief contributing factor in the total decrease is the prolonged industrial dispute which commenced in several Southland mines during August. A rather remarkable fact is that the number of mines and coal-pits operating has increased by approximately 32 per cent. as compared with 1931, whilst the output has decreased approximately 10 per cent. It cannot be said that an increase in the number of mines operating (unless the demand for coal warrants the same) is in the best interests of the industry. Owing to the decreased demand for coal, it has become more difficult for many of the mines to successfully operate. The earnings of the employees at these mines have also suffered as a result of short time worked, and any addition to the number of mines operating must accentuate the above conditions. Another factor against the indiscriminate opening of small mines is that work is commenced on the seam at the most accessible and cheapest point irrespective of the ultimate requirements of the field. The management usually is not so efficient as at the larger mines; the inevitable result being that any coal which may be left behind these workings will be rendered difficult of access, the probability of underground fires commencing and being allowed to burn the deposit, and generally to make the deposit of less value and thereby waste what may some day be a valuable national asset.

Canterbury District.

Springfield Mine.—The development work at this mine has been transferred to the upper seam, which was proven to be approximately 4 ft. thick and of slightly better quality than the lower and thinner seam. A level was driven in the lower seam in a southerly direction until a small fault was encountered, and a connection to the higher seam made from this point. The general mining conditions are only fair, and work is carried out on very primitive lines.

Victory Mine.—This is a new mine which is situated at Springfield. A cross measure dip was driven approximately 80 ft. in a southerly direction, at which point the coal-measures were intercepted. Further development was carried out on the coal-seam, the results being disappointing, the thickness of the measure being 3 ft. 6 in. and showing only 1 ft. 8 in. of coal in three thin bands.

Konomy Mine.—A small amount of prospecting work was carried out at this mine, situated a few chains to the south of Springfield Mine. A level in stone was driven about 60 ft., but with disappointing results.

Bonanza Mine.—This is a new mine situated between Sheffield and Bush Gully. A set of three levels have been driven a distance of approximately 6 chains in a southerly direction. The seam averages 8 ft. in thickness and is of good quality, but the thickness of the seam shows a slight tendency to decrease as the level advances. The gradient of the measure is about 1 in 2.

Clearview Mine.—Pillar-extraction has continued during the year at this mine, this work having now retreated to a point about 10 chains from the mine-entrance along the main level, and a further 1½ chains outby along the higher levels.

Klondyke Mine.—The main north-east level has been extended a total distance of 550 yards, and the thickness of the seam has been proved to be 30 ft. in places. The rock intrusion, which runs along the high side of the companion level, appears to be converging towards the main level. The seam is still very steeply inclined, and this, in conjunction with the thickness of the seam, will necessitate care and efficiency to provide the necessary degree of safety during the period of pillar-extraction.

Bush Gully Mine.—The new cross-measure drive intercepted a 3 ft. seam after driving 3 chains. A level was driven south-west in this seam for a distance of 1 chain and a connection made with the higher workings for ventilation. Pillar-extraction in the old higher-level workings is nearing completion.

Homebush Mine.—Development work during the year failed to disclose anything worthy of note. In the old mine all the coal was extracted towards the end of the year. A cross-measure dip was driven to intercept the seam known as the Engine seam, but failed in its object, and present operations are simply exploratory. Very little work has been carried out in the two clay drives operated by this company.

McClimont's Mine.—Operations have been commenced at the Old Mount Somers Co.'s Mine. In view of the fact that the bulk of this ground was worked several years ago, any future work carried out here will probably be confronted with various difficulties, and is not likely to become extensive.

Sunnydale Mine.—Work at this mine has been of a preparatory nature. Several drives have been driven to intercept the seam at a lower level. There is evidence of a decent field of coal being opened up here, although the coal is steeply inclined and divided in places by a stone band. A bridge is to be constructed across the Ashburton River to provide access to the mine.

Blackburn Coal Co.—The main development heading was temporarily stopped in friable coal after being driven approximately 5 chains. Two levels have been driven, east and west, for about 2 chains. It is proposed to continue the west level for ventilation purposes. The coal deposit in this area is impregnated with silica and is friable in places, having, it would appear, undergone considerable change. A well-designed plant was erected at this mine, but the results so far have been discouraging.

Mount Somers Coal Co.'s Mine.—Pillar-extraction has continued during the year to the rise of the main level, this area now nearing completion. The inby dip heading has been stopped pending the continuation of the adit level, which has been driven to within 30 ft. of the seam at this point. Work has also been temporarily stopped in the main level.

Albury Mine.—The main north heading has been driven a total distance of approximately 7 chains. A level was driven easterly, for a distance of 2 chains, from near the face of the main heading. All places are driven not more than 8 ft. wide, which makes all workings reasonably secure.

Awakino Mine.—Work was temporarily suspended at this mine on the 6th October last, and it is doubtful if a resumption of work will be worth while in view of the unsatisfactory results obtained to date.

Wilson and Butler's Mine, Kurow.—During the latter portion of the year a prospecting drive, situated about three miles from Kurow and a few chains to the west of Scott's old mine, intercepted a seam of coal 8 ft. thick and lying almost vertical. Very little coal has been won so far, and owing to the faulted nature of this country it is probable that difficulty will be experienced in profitably developing same to any extent.

Airedale Mine.—The main crosscut dip heading has been driven approximately 6 chains. Three places have been driven in an easterly direction from main heading. All workings are to the dip and, without the use of power, the gradient controls the method of working.

St. Andrew's Mine.—Pillar-extraction was continued during the year from the dip workings. The ground is very heavy in this mine and requires liberal timbering of roadways, &c. Preparation has been made to extend the development of the main level, this work being necessary for the efficient working of the area.

Ngapara Mine.—Development work has been carried out in the west portion of the mine, and it is proposed to commence pillar-extraction in the near future. Oamaru stone has been used for the construction of permanent stoppings, a feature of this material being that it is capable of being easily cut into blocks, by means of a hand-saw to any desired dimension.

Oakdene Mine, Maheno.—Work at this mine has continued to be almost totally exploratory. The quality of coal is only fair and so far no tangible results have been obtained.

Diamond Hill Mine, Herbert.—The main level has been driven a total distance of 4 chains and a few pillars formed on the rise side of same. An old drive has been cleaned up to serve as a return airway. The coal here is a good quality lignite but, as the thickness does not exceed 4 ft. and the mine is difficult of access, mining operations cannot be expected to increase much in volume.

Shag Point Mine (Old).—Very little development work has taken place during the year. Two lower levels have been driven south for a distance of approximately 150 ft. and a lower level driven north to the fault-line. It is intended to prove the fault in the north level, where the coal will probably be found again with a slight dislocation.

Shag Point Coal-mining Co.'s Mine.—The main seam in the western area has been pillared back to within 6 chains of Perry's dip. Several places were connected to the Old Allandale workings and afterwards sealed off. The coal in this area to the rise became too thin for profitable working. The new, or lower seam, is being worked east and west from the winch heading. The method of work adopted is longwall. Places are driven narrow a distance of 60 ft. from the heading, before opening out the longwall faces. The gateways are approximately 35 ft. centres with the brushing carried out in the roof, and the whole of the goaf between the gateways is being stowed tightly. A further section of the lower seam has been developed by means of a pair of levels passing under the stone drive jig and to the west of the main fault. A barrier of coal will be left, between this section and the Old Allandale workings, when pillar-extraction will commence. In the main seam in the east section, a new airway is being driven inby of the old workings so as to enable more pillars to be extracted in this direction. Profitable mining is rendered a difficult problem at this mine owing to the thin nature of the seams, coal as low as 2 ft. 3 in. in thickness being mined.

Double Hill Mine, Waitati.—During the year coal-mining operations were commenced on this property, situated two miles and a half to the north of Waitati Township and towards the top of the Waitati range of hills. Old workings were entered and a dip heading driven north-east a distance of 40 ft. on to a fault. A level, continued west, also encountered the fault. The quality of the coal is only fair and, owing to difficulty of access, the future prospects do not appear to be bright.

Shepherd's Creek Mine, Bannockburn.—Pillar-extraction has continued during the year in the north end of the mine. Practically no development work has been carried out, and no serious attempt made to pick up the fallen ground in the dip heading.

Nevis Crossing Mine.—A small amount of underground mining has been carried out, the north drive having been extended to a length of 150 ft. Opencast mining has also been done.

Gibbston Mine.—During the year mining operations have been resumed. Two dip headings have been driven a distance of 2 chains at a gradient of 1 in 2 and bearing south-west. The main level of the old workings was intercepted. The coal in this area is friable, probably owing to earth-movement, and is steeply inclined. Owing to the existence of old workings, future operations will be found difficult.

Oturehua Mine.—After driving the main dip heading a distance of 700 ft. and commencing a level in a southerly direction, a small inrush of water was encountered which resulted in flooding two-thirds of the underground workings. It is proposed to install a steam boiler and pump to cope with the water. A little work was carried out in the south end of the opencast pit.

Armitage's Mine, Oturehua.—A small amount of opencast mining took place during the first half-year. Coal at north end of pit 10 ft. thick, overburden 3 ft. thick.

Idaburn Mine.—A little opencast mining has taken place in the south-east portion of coal-pit, and two dip headings have been driven a distance of 115 ft. and 80 ft. respectively in a southerly direction. The headings have proved the deposit to be continuous and a fair-quality lignite.

Rough Ridge Coal-pit.—Opencast operations have been conducted in a small way in the south-west portion of the coal-pit.

Parfit's Coal-pit.—Coal production is obtained by means of sluicing away the overburden. The measures are almost vertical at this point and split by bands of stone of varying thickness.

Cambrian Pit.—Coal has been won from the north and south ends of the pit which is about 6 chains in length. The thickness of overburden is increasing rapidly, and sluicing will require to be done to allow of coal being won profitably.

Coal Creek Flat Pit.—Coal has continued to be mined at this pit by means of sluicing. Work was carried out in the lower portion of the seam, and the stripping to the north is now 100 ft. ahead of the coal-face. A considerable quantity of coal is now stripped and ready for mining.

Freeman's Mine.—Pillar-extraction has continued along the higher side of the horse road and adjacent to the outcrop. It is proposed to attempt to recover some of the pillars to the dip of the horse road, but the success of this work will be very doubtful owing to the small size of pillars left during the initial working.

Jubilee Mine.—At the Jubilee Old Mine operations during the year have been confined to pillar-extraction to the south of the main dip haulage heading. Some difficulty was experienced with an inrush of water during the last quarter. This trouble occurs when subsidence takes place following pillar-extraction, and it is rather remarkable that the inrush of water should be repeated from time to time, and goes to prove the large quantity of water stored in the sand-measures which invariably overlie the coal-seam in this locality. No fresh area of workable coal having been found in this mine, present indications are that the life of the mine is very limited. Considerable trouble is also experienced by the abnormal heaving of the floor, this being an expensive item of repair and at the same time making efficient ventilation a difficult matter. Following prospecting by means of hand-boring, a level drive was commenced, about 600 yards to the south of the old mine-entrance, for the purpose of gaining access to whatever coal had been left beyond and to the south of the old workings. This level has now been driven 790 ft. and has intercepted the coal-seams. At present, 2 ft. of the upper portion of

the seam is showing at the level face. At the present time the question as to what coal will be recoverable in this direction is problematical, the seam showing a tendency to split in the places to the rise. The thickness of seam is about 8 ft.

Hodson and Co.'s Mine.—This is a new mine situated about 10 chains to the south of Shiel's Brickworks and a similar distance from the Main South Road. A dip cross-measure drive, gradient 1 in 3, intercepted a seam of good lignite at approximately 100 ft. Development on the seam is now continuing to the south and west.

McColl's Mine (Brighton).—This mine has been further developed in a westerly direction. All places have been restricted to 6 ft. in width, no explosives being used for mining the coal. A small ventilation fan was installed during the year.

Fry's Mine (Brighton).—This is a new mine, commenced about 10 chains to the south of McColl's Mine, and presumably working the same coal seam. A dip cross-measure drive, gradient 1 in 6, intercepted the seam 4 ft. thick, at a distance of 100 ft.

Bush's Mine (Brighton).—Work of a prospecting nature has been done during the year, but up to date no tangible results have been obtained.

Saddle Hill Mine.—Pillar-extraction has been carried out during the year, and only a small area now remains to be recovered.

Fairfield Collieries.—During the process of proving the area lying immediately to the south of Christie's old workings a cross-measure dip was driven approximately 360 ft., at which point the coal-seam was intercepted, the thickness being 8 ft. Further development work has proven disappointing so far, a continuation of the heading having disclosed an almost entire disappearance of the seam and development to the west resulted in the seam being split by a soft parting of fireclay 1 ft. to 1 ft. 6 in. thick. Development has since been confined to the top seam, which is about 4 ft. thick. This company also put down a cross-measure dip drive about 15 chains to the east of the Jubilee Mine. At the end of the year this drive had extended 430 ft. at a gradient of 1 in 3. No workable seam has been intercepted, and considerable trouble was experienced with the running sand which overlies the coal-measures in this locality.

Willowbank Mine.—Pillar extraction is still proceeding in the area to the north of the main haulage heading. Considerable trouble is experienced with the heaving of the floor and the resultant displacement and breaking of timber supports. A plentiful supply of good mining timber is always on hand.

East Taieri Mine.—Mining operations have been resumed on Mr. Dunery's property. Old workings have been connected to a short dip surface drive. A small amount of pillars will probably be found to be recoverable with a possibility of a small block of virgin coal being located.

Harris's Mine (Old Burnweil).—A dip stone-drive going south, gradient 1 in 4, has been driven 120 ft. This work is being carried out on the fringe of old workings.

Essbank (Milton).—Work at this mine consists of recovering coal which has been left in the vicinity of the old Mackay Mine and Morgan's Freehold.

Elliotvale (Milton).—A small amount of development work has taken place along the east level and the parallel companion level, these levels having been extended a total distance of approximately 8 chains.

Salisbury Mine.—Operations were suspended at this mine at the end of 1931.

Orrvale (Milton).—A level crosscut was driven in a southerly direction approximately 100 ft. and is well timbered. A seam of coal 6 ft. in thickness was intercepted and it is now being developed to the south and east.

Riverside Mine.—A little development work has been carried out to the east of the main level. A commencement has also been made to extract pillars in this direction. No further work has been carried out to the west.

Kai Point Mine (Kaitangata).—Development work to the north and west has been stopped owing to the coal becoming inferior and unsaleable, although the thickness of the seam in this direction is about 30 ft. It is now proposed to extract the pillars and develop a fresh area to the east from the surface.

Summerhill Mine.—Two different parties carried out a certain amount of work during the year. The result was that some robbing of the sides took place before each party ceased work, and consequently the future working of the mine becomes more dangerous. No new development work of any consequence has taken place during the year.

Roper's Creek Mine.—Mining operations were suspended at the end of September. A short dip drive of about 30 ft. in length, gradient 1 in 3, and a short level going north-east along a 5 ft. seam are flooded.

Wangaloa Mine.—The main dip heading was stopped after being driven 4½ chains. A pair of levels were driven in an easterly direction for 2 chains. Top coal is being won from the edge of Gage's old workings.

Kaituna Mine.—A start was made during the year to recommence mining operations at this mine. A dip heading was commenced 1 chain west of the old mine-entrance and driven a distance of 2 chains in the top portion of the seam, a connection being made to the old workings for ventilation. A level was also driven a short distance in a westerly direction.

Kaitangata No. 1 Mine.—The bulk of the operations carried out at this mine has been comprised of pillar-extraction from the No. 2 section of the No. 1 seam. Pillar-extraction was continued in Matchett's dip section to within 3 chains of the dip haulage heading. The pillars in Kyle's dip section were also withdrawn to a similar line. The recoverable pillars in O'Fee's section have been completed to within a safe distance of the haulage heading, a start being made towards the end of the year to gain access to a few pillars, to the rise of O'Fee's section, which were sealed off. All preparatory work has been completed for concentrated pillar-extraction in Leishman's dip section. The above-mentioned operations will result in an early completion of the pillar-extraction in this area. Prospecting work, per medium of a pair of headings driven north from near the foot of the main return drive, having proved satisfactory, a commencement was made to extend the main haulage heading to the No. 1 seam. The completion of this work will materially assist the more economical working of this mine as a result of the decrease in handling-charges. A seam known as the 8 ft., which was cut in the return drive has been worked only intermittently to meet any abnormal demand for coal. This seam, although of good quality, is split in the centre by a stone band 6 in. to 10 in. in thickness. Development of this seam has been carried out, per medium of levels, to the north-west for a distance of 700 ft. and a dip heading, to the east, for a distance of 300 ft.

Kaitangata No. 2 Mine.—As a result of crush on the steel arches in the main drive, and indications of heating in the main return airway, it was deemed advisable to abandon this mine so far as the existing main roads were concerned. All plant was withdrawn and the roadways sealed up. The new dip stone drive, commenced in November, 1931, intercepted two seams of coal. The development of an 18 ft. seam was commenced from a point 900 ft. from the surface and measured along the drive. A return airway has been completed to the surface and a 72-in.-diameter single-inlet Sirocco fan installed, driven by a 20 h.p. induction motor. Levels

have been driven 400 ft. to the south, and headings for a distance of 300 ft. to the rise and to the east. The quality of the coal is excellent. The management proposes introducing coal-cutting machines in this mine. A level in stone has been driven from the screening-plant to the mouth of the new mine for haulage purposes. Electric head lamps are now almost solely used at these mines.

Benhar Mine.—Towards the end of the year a start was made to extend the main dip heading, now 12 chains in from the surface. Development to the south proved the coal to be faulted and inferior. A barrier pillar has been left between present operations and the old workings.

Burnwell (Lovell's Flat).—This small mine was opened up to work an inferior lignite about two miles from Lovell's Flat and adjacent to the roadway leading to Kaitangata. Chutes were erected, a surface cutting made to the seam and a level driven to the west for 30 ft. The seam is 10 ft. thick.

Burnbright Mines.—A small amount of prospecting was done on Mr. Hodge's property near Lovell's Flat in the first half of the year. Operations were abandoned after producing 42 tons.

Taratu (Barclay's Mine).—Pillar-extraction was continued in the east to within a reasonable distance of the return airway when the goaf was sealed off by stoppings. A small area was worked on the west side until the quality of the coal became unsaleable, the mine being abandoned in August and stoppings placed in the intake and return airways. The development of the shaft seam is being pushed on: Two main south levels have been driven 10 chains and also a dip heading driven 528 ft. in an easterly direction. Headings have also been driven to the rise for a distance of 4 chains, all places having proved a good quality coal and free of trouble. An efficient return airway has been completed in stone. All pillars are 1 chain square and the future development of the area will be arranged on a panel system.

Lakeside Mine.—Development work has been extended along the main level headings and a small amount of pillar coal extracted to the rise.

Blue Ridge Mine.—This mine was closed after producing 14 tons.

Conical Hill Mine.—This new mine was commenced adjacent to old workings. A level, proceeding west, has been driven 100 ft. Old workings were intercepted and drained off at about 90 ft. from the surface. Quality of lignite fair, and will serve only to supply immediate local requirements.

Milne's Pit (Hakatea).—Opencast work was carried out in the north-west portion of the pit. Lignite 14 ft. thick and stripping similar thickness and increasing.

Hamilton and McKean.—Opencast work continued in the west portion of the pit. Lignite 20 ft. thick and operations carried out in a thorough manner.

Kingdon's Pit.—A small amount of opencast work carried out in west portion of pit.

Croydon Coal Co.'s Pit.—After being closed for some months this opencast pit was reopened in October. Thickness of lignite being 18 ft., stripping 8 ft.

Whiterig Opencast Pit.—Opencast work being carried out around the greater part of the pit, the work being efficiently performed.

Riverview Mine (A. E. Barnes).—A small amount of work was carried out until the 18th August when the mine was closed after driving a short south-west dip and producing 136 tons.

Otikerama Mine.—The lower level to the north-east was driven about 2 chains, and the main dip extended a short distance to allow of another level being broken away.

Rosedale Pit.—Mining operations were suspended at this pit early in the year.

Mataura Mine.—Development work has been extended in the lower north and south levels. A series of three levels have been driven north to within 2 chains of the boundary. A lower level has been driven in a south-west direction, but the proximity to the boundary will limit operations in that direction also. Development of the present area is fast nearing completion.

Green's Mine.—Development work was carried out on the north-east side of the lower portion of the dip. A series of six bords were extended during the year. A barrier of coal 3 chains wide is being left as a protection against old workings.

Boghead Mine.—The main dip heading has been allowed to stand after being driven a total distance of 9 chains. Development work during the year has consisted of driving levels on the north side of the dip. A ventilation fan was installed during the year and concrete stoppings erected between intake and return airways.

Riverview (Waddell's).—From a tunnel which was driven about 34 yards in a northerly direction two places were broken away east and west. After proceeding a short distance the west level made a connection with an old surface drive. The place was allowed to fill with water, and closed on the 29th July.

Hokonui Mine.—No new work has been carried out in the old mine. A limited amount of opencast mining having been done adjacent to and to the north-west of the old dip entrance.

Princhester Creek Pit.—Towards the end of the year work was suspended in the main pit owing to the hill behind sliding into the pit. Prospecting is being carried out just below the homestead.

Lynwood Mine.—This pit was reopened towards the end of the year, and 50 tons won from it.

Ota Creek Pit.—Operations carried out at south end of pit. During the year the pit was flooded for a time following heavy rains.

Terrace Pit.—About 8 chains to west of the old Butts Mine; lignite 8 ft. thick, with 10 ft. surface covering.

North Chatton Pit.—Work resumed early in the year. Lignite 12 ft. thick, with 5 ft. surface covering.

Glenlee Mine.—Development work extended about 80 yards along the north-east level, and a new air-shaft driven from the face of the crosscut heading.

Argyle Pit.—Work carried out in the south-east corner of the pit; surface cover is now about 20 ft. thick. The seam is dipping east with a tendency to pinch out towards the west.

Lawrence's Pit.—Coal is being produced from the south end of the pit, overburden being sluiced away. Lignite 4 ft. thick and of good quality.

Northcoat and Lahey's Pit.—The overburden at places is 40 ft. thick at this pit, and is removed by sluicing.

Wendon Mine.—The output has been obtained from pillar-extraction, which is now nearing completion.

Diamond Lignite-pit.—Opencast mining has been carried out in the west end of the pit. Lignite is about 40 ft. thick with about 10 ft. to 12 ft. of surface-cover.

Mossbank Mines.—In the No. 1 Mine, pillar-extraction was continued from No. 4 and No. 5 sections in the south-east area. In the south-west a limited amount of development work was carried out, this being stopped as a result of minor disturbances, indicating faulting, being met. The usual trouble has been experienced with stone intrusions and clay "backs," of from 1 in. to 12 in. in thickness, which traverse the full thickness of the seam. No. 3

Mine: Development work has been continued to the south-east, south-west, and south. A series of large rolls have been met with during the development of this mine, usually coming in from the roof and, at times, almost continuing to the floor of the seam. The mine has been idle since the middle of August as a result of an industrial dispute.

Black Diamond Mine.—Following upon the sealing-off of the waste in the north-east corner of the lease, a commencement was made to extract the pillars immediately adjacent to the inby end of No. 5 level. During the year heating of coal in the waste took place, and it would appear that this coal will prove to be very liable to spontaneous combustion. A system of partially sealing off a small area before commencing pillar-extraction has been adopted. Arrangements have been made for the purchase of smoke helmets to mitigate the danger to life when dealing with underground fires. A re-survey of a portion of the mine was carried out during the year as a result of the original plan proving inaccurate. Industrial trouble caused operations to cease in August, but the proprietors have produced coal since then by their own efforts.

Birchwood Mine.—In the east section, to the rise of the bottom of the main stone-drive, development was continued until towards the end of the year, when same was almost completed. A barrier pillar, 2 chains wide, was left between this area and the Linton workings, a portion of the area being cut off by a fault. Pillar-extraction was commenced and is still proceeding, the coal being inclined to be stony. Bottom coal was lifted in the places to the west of the main dip, this work being stopped about the end of the year. A crosscut dip heading to the north-east was commenced from the main level and was driven about 8 chains, and three levels broken away on either side of the dip. This development work has proved that operations at this mine will yield methane freely, and will require a high standard of ventilation in the interests of safety.

Black Lion Mine.—During the year development work proved the area now being worked to be surrounded by faults or the Morley Stream. A barrier pillar, 2 chains wide, has been arranged to be left adjacent to the stream, and pillar-extraction has commenced. It was also arranged to leave a barrier pillar to protect the crosscut jig, and to extract the balance of the pillars to the rise. It appears essential to prospect to the north if the life of the mine is to be materially extended.

Linton No. 1 Mine.—Development work was continued in Manderson's section and a connection was made between Nos. 1 and 2 panels. In the lower portion of No. 2 panel workings—*i.e.*, to the dip of the main drive into Manderson's, development work was carried out in good-quality coal. In the section ahead of the north-east heading the double-story method of work was applied, the upper places being driven 6 ft. high, 8 ft. wide, with 3 ft. of coal left for a roof and coal 20 ft. thick being left between the lower and upper workings. Pillar-extraction was completed in the Junction section, and the area sealed off by concrete stoppings. Development work was completed in the small section between the north-west heading and the north levels, and in No. 3 panel and No. 2 east sections. A quantity of H section steel arches were imported during the year for use, on main roadways, in lieu of timber supports. A new dip was commenced to run parallel with Manderson's dip and 1½ chains distant from it.

Linton No. 2 Mine.—Immediately preceding the cessation of work only eight men were working in this mine. Pillar-extraction was proceeding in No. 7 and No. 2 north sections, the latter section having been reopened a short time previously. A small amount of solid work was also carried out in No. 8 north section. This colliery was also involved in the industrial dispute which commenced in August and continued to the end of the year and interfered considerably with mining operations.

Star Mine.—Development has continued along the main dip heading for a distance of 8½ chains. After opening out the mine, and developing in the top seam, it was found that a further seam existed at a few feet lower level. The lower seam being 8 ft. in thickness and of good quality, all recent work has been carried out in this seam. Levels have been driven 4 chains to the west and 3 chains to the east. The mine is owned by a syndicate of local miners.

Nightcaps Syndicate Mine.—A syndicate of Nightcaps miners commenced operations on Block III, Morley Village Survey District, a few acres of coal having been left here by the old Nightcaps Co. Industrial trouble at the larger mines gave birth to this concern.

Smithvale Mine.—Operations were abandoned at this mine on 6th April, 1932.

Lobbs Hill Mine.—A few pillars have been extracted to the rise of the main level. A lower level has also been commenced and an attempt will be made to prospect the small hill lying to the east of the present mine.

Waihopai Downs Pit.—This is an opencast lignite pit adjacent to Rimu, and has probably come into existence as a result of the stoppage in the larger mines.

Orepuki Mine.—A small amount of pillar-extraction has been completed in the old mine, and opencast work commenced in the bed of the creek at a point 20 chains to the north of the sawmill.

Morley Vale Mine (Old Mount Linton).—Opencast operations were recommenced at the old Linton Pit towards the end of the year, this probably as a result of the Southland stoppage. The coal is of very good quality and equal to the average of the district.

Wairaki Mines.—The bulk of the year's output has been obtained from pillar-extraction, which has been continued in the No. 1 Mine. Miners have been engaged in pillars in the No. 2 east section, No. 3 west section, and No. 2 west. Work in No. 3 west is now nearing completion. A small amount of development work was carried out in the No. 2 east dip section, but the floor of the dip heading is still about 6 ft. lower than the floor of the seam. This brushing is being carried forward as it is expected to meet a large downthrow fault at any time. Methane is given off freely in this section, and requires a high standard of ventilation. Five months' work has been lost during the year as a result of industrial trouble.

Fatal Accidents.

Black Diamond Mine.—On the 13th April a double fatality occurred whereby Robert William Duncan, the mine-manager, and John Nutter, a miner, were killed by a fall of top coal. Duncan, in company with Nutter, was making an examination of the place prior to the commencement of work when the fall buried them. Pillar-extraction was taking place and the coal fell from the lip of the working-place and adjacent to a wooden chock.

Serious Non-fatal Accidents.

Star Mine.—On the 22nd April Thomas Todd, mine-manager, and Thomas McNeilage, miner, were severely burned by the ignition of a quantity of methane. The ignition took place prior to the commencement of work and the occurrence once more emphasizes the fact that the greatest care should be taken to ensure the efficient examination of all parts of the mine in which men are to work.

Shag Point Coal-mining Co.—On the 29th August R. Corrigan, miner, sustained a simple fracture of the tibia. Corrigan and his mate were engaged in pillar-extraction when a piece of stone, a few pounds weight, fell from the roof and struck Corrigan on his outstretched leg, inflicting the above-mentioned injury. The working-place was only 2 ft. 9 in. high.

Saddle Hill.—On the 31st October Ambrose O'Halloran, trucker, received severe burns of the face and eyes by an ignition of acetylene gas. O'Halloran was in the act of removing the lid of a tin underground containing carbide when the ignition took place. Water must have found its way into the tin. This accident proves that carbide should not be taken underground in quantities greater than is actually required for each individual miner's daily needs.

DANGEROUS OCCURRENCES (Regulation 82 of the Coal-mines Act, 1925).

Star Mine.—On the 22nd April, as reported under "Serious Non-fatal Accidents," an ignition of methane occurred whereby a mine-manager and a miner received severe burns.

Hokonui Mine.—On the 6th June the old mine was again flooded and the pumping-plant submerged. This was caused by the flooded river finding its way into the workings.

Saddle Hill Mine.—On the 31st October a miner was severely burned by the ignition of acetylene gas underground, as reported in another portion of this statement.

PROSECUTIONS.

Following upon breaches of the Coal-mines Act, 1925, and regulations thereto, the following were prosecuted during the year:—

On the 13th May a mine-manager was fined £2 and costs for failing to run the ventilating-fan the required length of time before workmen entered the mine.

A miner was also convicted and ordered to pay costs on the 13th May for entering a mine before it had been examined by the deputy.

An examining deputy was convicted on the 13th May for failing to record a report of his inspection.

On the 25th May a miner was fined £2 and costs for acting as manager of a mine without being qualified to do so.

On the 18th November a part owner of a mine was fined £2 and costs for failing to employ a duly qualified manager. The same person was also convicted (with costs) for passing into the mine before it had been examined, as required by the Coal-mines Act.

In November a manager of a mine was fined £1 and costs for failing to provide for the required inspection of the mine.

On the 13th December a manager was fined £1 and costs for failing to store detonators as required by the Coal-mines Act.

ANNEXURE B.

COLLIERY STATISTICS, 1932.

Name of Mine and Locality.	Title held (Crown Lease or otherwise).	Name of Mine-manager and Class of Certificate.	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 1932.	Total Output to 31st December, 1931.	Total Output to 31st December, 1932.	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 (1st C.)	Hikurangi Coal Co., Ltd., Auckland	10	Sub-bituminous	1	7′ to 10′	All ..	Bord and pillar	2	S. 350′, S. 340′	52,644	449,156	501,800	41	94	135	Blackman fan.
Silverdale, Hikurangi	Crown lease ..	S. G. Foot (U.) ..	S. G. Foot, Hikurangi ..	14½	Ditto ..	1	3′ to 5′	3′ ..	Ditto		T. 120′ ..	3,122	38,057	41,179	1	4	5	Natural.
Northern Co-operative, Hikurangi	,, ..	E. A. Cunningham(P.)	Cunningham and party, Hikurangi	14	,, ..	1	4′ ..	All ..	,, ...		T. 60′ ..	713	33,760	34,473	1	4	5	,,
Wilson's, Hikurangi	Crown lease and freehold	E. W. Tattley (1st C.)	McGlashan and party, Hikurangi	15	,, ..	1	6′ to 10′	8′ ..	,, ...		T. 3,900′ ..	38,581	592,999	631,580	39	100	139	Sirocco fan.
Ruatangata, Hikurangi ..	Freehold ..	G. Cross (2nd C.) ..	Kamo Potteries, Ltd., Whangarei	12	,, ..	1	8′ ..	6′ ..	,, ...		T. 400′ ..	4,730	24,560	29,290	2	11	13	Fan.
Phœnix, Hikurangi	Crown lease ..	W. McKinlay (D.)..	McKinlay and party, Hikurangi..	5½	,, ..	1	3′ to 10′	3′ to 10′ ..	,, ...		T. 66′ ..	2,871	10,869	13,740	1	5	6	Natural.
Coutt's, Hikurangi	Freehold (sub-lease, Hikurangi Coal Co., Ltd.)	G. Coutts (P.) ..	G. Coutts, Hikurangi	3½	,, ..	1	3′ to 8′	7′ ..	,, ...		T. 50′ ..	1,164	6,107	7,271	..	3	3	,,
Fearnley's, Waro	Ditto ..	W. Reed (D.) ..	Fearnley and party, Hikurangi ..	4	,, ..	1	3½′ to 4′	3½′ ..	,, ...		T. 200′ ..	2,449	4,163	6,612	..	6	6	,,
Glen Nell, Hikurangi	Crown lease ..	R. Muir (P.) ..	S. G. Foot, Hikurangi	8	,, ..	1	3′ ..	All ..	,, ...		T. 70′ ..	1,102	6,847	7,949	2	3	5	,,
McInness's, Hikurangi ..	,, ..	H. Tipton (2nd C.)	J. R. McInness, Hikurangi ..	2½	,, ..	1	3′ ..	,, ..	,, ...		T. 198′ ..	954	1,491	2,445	1	4	5	,,
Whareora, Hikurangi	Freehold ..	S. E. Foot (U.) ..	Foot and Fox, Hikurangi ..	2	,, ..	1	5′ ..	,, ..	,, ...		T. 200′ ..	546	1,592	2,138	1	2	3	,,
Millbrook, Hikurangi	,, ..	T. Marsh (D.) ..	Marsh and party, Hikurangi ..	2	,, ..	1	4′ ..	,, ..	,, ...		T. 100′ ..	348	50	398	1	3	4	Fan.
New Northern, Hikurangi ..	,, ..	J. Wilson (P.) ..	Wilson and party, Hikurangi ..	1	,, ..	1	3′ ..	,, ..	,, ...		T. 20′ ..	842	..	842	..	4	4	Natural.
Hick's, Hikurangi	Crown lease ..	J. E. Cook (P.) ..	Hicks and party, Hikurangi ..	1	,, ..	1	3′ ..	,, ..	,, ...		T. 400′ ..	459	..	459	..	3	3	,,
New Kiripaka, Kiripaka ..	Freehold ..	A. Brown (P.) ..	A. Brown, Hikurangi	3½	,, ..	1	5′ ..	,, ..	,, ...		T. 120′ ..	529	707	1,236	1	3	4	,,
Glenbervie, Kiripaka	,, ..	C. J. Doel (2nd C.)	C. J. Doel, Hikurangi	4	,, ..	1	5′ ..	,, ..	,, ...		T. 200′ ..	3,631	4,234	7,865	..	5	5	,,
Avoca, Tangowahine	,, ..	A. Pollock (D.) ..	Avoca Coal Co., Dargaville ..	3½	,, ..	1	8′ ..	,, ..	,, ...		T. 130′ ..	3,442	1,090	4,532	2	4	6	,,
Waikato District.																		
Rotowaro, Rotowaro	Crown lease and freehold	A. Penman (1st C.)	Taupiri Coal-mines, Ltd., Auckland	15	Brown ..	1	7′ to 15′	All ..	Bord and pillar	..	T. 4,000′, T. 400′, T. 1,600′	90,415	1,633,856	1,724,271	49	126	175	3 fans.
Pukemiro, Pukemiro	Freehold ..	A. Burt (1st C.) ..	Pukemiro Collieries, Ltd.,Auckland	17	,, ..	1	4′ to 18′	4′ to 14′ ..	Ditto		T. 5,000′, T. 2,200′	65,904	1,996,777	2,062,681	44	120	164	2 fans.
Wilton, Glen Massey	,, ..	T. Geddes (1st C.)	Wilton Collieries, Ltd., Auckland	2½	,, ..	1	7′ to 9′	5′ to 7′ ..	,, ...		T. 460′ ..	66,801	57,325	124,126	35	74	109	Sirocco fan.
Waikato Extended, Huntly ..	,, ..	J. Honey (D.) ..	Roose Shipping Co., Ltd., Mercer	16	,, ..	1	16′ ..	14′ ..	,, ...		T. 4,800′ ..	3,171	88,671	91,842	..	6	6	Fan.
Glen Afton No. 1, Glen Afton ..	Crown lease and freehold	P. Hunter (1st C.)..	Glen Afton Collieries, Ltd., Auckland	12	,, ..	1	4′ to 16′	9′ ..	,, ...		T. 4,800′ ..	65,102	1,365,575	1,430,677	33	98	131	Sirocco fan.
Macdonald, Waikokowai ..	Crown lease ..	J. W. Glendenning (1st C.)	Ditto	2	,, ..	1	6′ to 20′	10′ ..	,, ...		T. 500′, T. 300′	99,722	91,905	191,627	49	126	175	2 fans.
Pukemiro Junction, Pukemiro ..	,, ..	W. Clare (D.) ..	Clare and partners, Pukemiro Jn.	12	,, ..	1	2′ to 25′	2′ to 14′ ..	,, ...		T. 100′ ..	2,341	110,920	113,261	2	4	6	Natural.
Taupiri East, Kimihia ..	Auckland University lease	J. Holland (P.) ..	Holland and party, Huntly ..	11	,, ..	1	10′ to 15′	12′ ..	,, ...		T. 300′ ..	2,410	14,784	17,194	1	4	5	,,
Campbell, Whatawhata ..	Crown lease ..	T. Cowan (U.) ..	Whatawhata Campbell Coal Co., Ltd., Hamilton	11	,, ..	1	12′ ..	9′ ..	,, ...		T. 300′ ..	6,976	32,804	39,780	5	6	11	,,
Renown, Renown	Freehold ..	T. L. Andrews (1st C.)	Renown Collieries, Ltd., Auckland	4½	,, ..	1	15′ ..	7′ to 9′ ..	,, ...		T. 3,400′ ..	52,762	270,629	323,391	30	75	105	Fan.
Graham, Glen Afton	,, ..	J. Tweedie (2nd C.)	Graham Coal Co., Glen Afton ..	9	,, ..	1	4′ to 6½′	4′ to 6′ ..	,, ...		T. 1,900′ ..	8,556	88,663	97,219	3	14	17	,,
Paerangi, Glen Afton	,, ..	W. McCaig (D.) ..	McCaig and party, Glen Afton ..	½	,, ..	1	6′ ..	All ..	,, ...		T. 50′ ..	10	..	10	..	3	3	Natural.
Rangitoto, Te Kuiti	Native lease ..	J. Chevins (P.) ..	A. Morgan, Te Kuiti	6	,, ..	1	7′ ..	6′ ..	,, ...		T. 600′ ..	1,025	805	1,830	1	2	3	,,
King, Te Kuiti	,, ..	E. Johnson (U.) ..	Rich-Greenson Coal Co., Te Kuiti	½	,, ..	1	7′ ..	5½′ ..	,, ...		T. 198′ ..	456	..	456	..	2	2	,,
Okoko, Te Rauamoa	Crown lease ..	T. Wall (P.) ..	Wall and party, Te Awamutu ..	2½	,, ..	1	7′ ..	All ..	,, ...		T. 50′ ..	29	25	54	..	2	2	,,
Cowan's, Hunua	Freehold ..	J. Stirling (D.) ..	Stirling and party, Papakura ..	½	,, ..	1	3′ ..	,, ..	,, ...		T. 60′ ..	20	..	20	..	2	2	,,
Opaheke, Hunua	,, ..	A. Greenhorn (D.)	Opaheke Coal Co., Papakura ..	½	,, ..	1	3½′ ..	,, ..	,, ...		T. 66′ ..	106	..	106	2	5	7	,,
Gillespie's, Hunua	,, ..	R. Christopher (2nd C.)	Christopher and party, Papakura	½	,, ..	1	3′ ..	,, ..	,, ...		T. 35′ ..	21	..	21	2	2	4	,,
Taranaki District.																		
Paparata, Tatu	Crown lease ..	W. Ridsdale (P.) ..	Taranaki Coal-mining Co., Ltd., Stratford	5	Brown ..	1	3½′ ..	3′ ..	,, ...		T. 70′ ..	814	2,063	2,877	1	2	3	Natural.
Egmont, Tangarakau	,, ..	A. Whittleston (1st C.)	Egmont Collieries, Ltd., Stratford	6	,, ..	1	5′ ..	All ..	,, ...		T. 1,320′ ..	21,409	42,854	64,263	12	30	42	Fan.
Tatu, Tatu	,, ..	E. Kerry (2nd C.)	Cairns and party, Huntly ..	2	,, ..	1	6½′ ..	5½′ ..	,, ...		T. 100′ ..	74	336	410	1	2	3	Natural.
Old Stockman, Mokau ..	Freehold ..	C. Wright (P.) ..	Chambers Bros., Havelock ..	12	,, ..	1	4½′ ..	All ..	,, ...		T. 400′ ..	453	4,262	4,715	1	2	3	,,
Mokau, Mokau	,, ..	G. Littlewood (2nd C.)	Mokau Collieries, Ltd., New Plymouth	1	,, ..	1	5′ ..	,, ..	,, ...		T. 100′ ..	765	..	765	4	6	10	,,
Output of collieries included in previous statements at which operations are abandoned or suspended ..				..	..	..	..	..	..	..	..	..	10,643,632	10,643,632	..	..	..	..

COLLIERY STATISTICS, 1932—*continued.*

Name of Mine and Locality.	Title held (Crown Lease or otherwise).	Name of Mine-manager and Class of Certificate.	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 1932.	Total Output to 31st December, 1931.	Total Output to 31st December, 1932.	Number of Persons ordinarily employed.			Means of Ventilation.
															Above.	Below.	Total.	
							WEST COAST INSPECTION DISTRICT.											
												Tons.	Tons.	Tons.				
Nelson District.																		
Abbotsford, Takaka	Freehold	G. Bartlett	H. V. Irvine, Takaka	2	Lignite	1	3′	All	Stripping			31	10	41	2	..	2	Natural.
Broxbourne, Motupipi	,,	W. I. Jones (P.)	T. H. Ellis, Motupipi	3½	,,	1	6′	,,	Bord and pillar		T. 30 yd.	22	251	273	..	2	2	,,
Winter's, Motupipi	Crown lease	D. Winter (P)	J. and D. Winter, Motupipi	5	,,	2	2′ and 3′	,,	Opencast			101	818	919	1	..	1	,,
O'Rourke's, Murchison	Freehold	A. O'Rourke	A. O'Rourke, Murchison	13	Lignite	1	2′ 6″		Bord and pillar		T. 3 ch.	113	1,493	1,606	..	1	1	,,
Mount Burnett, Collingwood	Crown lease	R. J. Wearn (1st C.)	Onakaka Iron and Steel Co., Ltd., Onakaka	3	Sub-bituminous	1	12′	,,	Ditto		T. 2½ ch.	5,215	711	5,926	8	11	19	,,
Puponga, Puponga	,,	A. Thomson (1st C.)	Puponga Coal-mine, Ltd., Puponga	29	Ditto	1	2′ 6″ to 5′ 6″	,,	,,		T. 27 ch.	13,961	316,391	330,352	10	27	37	,,
Seymour, Owen River	,,	C. Blackburn (1st C.)	Owen Collieries, Ltd., Nelson	3	,,	1	2′ to 4′	,,	Double stall		T. 4 ch.	3,564	3,692	7,256	4	9	13	Fan.
Buller District.																		
Bowater and Bryan, Charleston	Crown lease	L. Husband	Bowater and Bryan, Westport	2½	Lignite	1	40′	12′	Opencast			169	377	546	1	..	1	Natural.
Brighton, Charleston	Freehold	N. Forsyth (D.)	Price Bros. (leased to Hunter and party), Charleston	4	,,	1	8′	All	Bord and pillar		T. 3 ch.	132	564	696	..	2	2	,,
Cardiff Bridge, Seddonville	Crown lease	J. Dymond (2nd C.)	Cardiff Bridge co-operative party, Westport	12	Bituminous	1	8′ to 20′	10′	Ditto			21,395	210,904	232,299	5	15	20	,,
Cascade, Burnett's Face	,,	H. McAvoy (1st C.)	Cascade-Westport Coal Co., Ltd., Westport	6	,,	1	20′	8′	,,			14,866	60,496	75,362	11	11	22	,,
Charming Creek, Ngakawau	,,	A. G. Marshall (1st C.)	Charming Creek-Westport Coal Co., Ltd., Westport	5	,,	1	1′ to 20′	8′	,,		T. 11½ ch.	10,237	18,442	28,679	6	17	23	Fan.
Chester's, Seddonville	,,	J. Penberth (P.)	Penberth and Chester, Seddonville	13	,,	1	3′	All	,,			321	21,061	21,382	..	2	2	Natural.
Coal Creek, Seddonville	,,	W. McGuire (2nd C.)	McGuire and party, Seddonville	17	,,	1	6′ to 20′	7′	,,		T. 30 ch.	3	97,910	97,913	2	17	19	Fan.
Glasgow, Seddonville	,,	D. Q. O'Brien (U.)	Glasgow co-operative party, Seddonville	8	,,	1	6′ to 12′	All	,,		T. 9 ch.	1,035	34,460	35,495	3	4	7	Natural.
Mitchell's, Charleston	,,	F. T. Mitchell	F. T. Mitchell, Charleston	9	Lignite	1	8′	,,	Opencast			68	365	433	1	..	1	,,
Powell's, Charleston	,,	J. H. Powell	J. H. Powell, Charleston	4	,,	1	8′	,,	,,			13	45	58	1	..	1	,,
Quinn's, Seddonville	,,	T. Quinn (D.)	Quinn and party, Seddonville	9	Bituminous	1	5′	,,	Bord and pillar			15	8,632	8,647	1	1	2	,,
Rocklands, Buller Gorge	,,	J. P. Burley (P.)	J. P. Burley, Berlins, Buller Gorge	30	Brown	1	27′	8′	Ditto			265	10,342	10,607	..	2	2	,,
St. Helen's, Seddonville	,,	J. Penberth (P.)	Rogers Bros., St. Helen's	3	Bituminous	1	5′	All	,,			2,115	3,088	5,203	1	2	3	,,
Warne's, Charleston	,,	G. Warne	G. Warne, Charleston	7	Lignite	1	6′	,,	Opencast			12	69	81	1	..	1	,,
Denniston, Denniston	,,	J. McArthur (1st C.) and A. Smith (1st C.)	Westport Coal Co., Ltd., Dunedin	52	Bituminous	9	3′ to 30′	,,	Bord and pillar		T. 421 ch.	106,440	10,106,876	10,213,316	124	303	427	Fan.
Millerton, Millerton	,,	C. D. Buist (1st C.)	Ditto	41	,,	1	4′ to 40′	12′	Ditto		T. 298 ch.	63,947	8,143,313	8,207,260	40	130	170	,,
Westportmain, Granity	,,	H. Brady (1st C.)	Westport-Granity Coal-mines, Ltd., Westport	8	,,	1	10′	All	,,			4,592	172,098	176,690	27	16	43	Natural.
Westport-Mokihinui, Seddonville	,,	P. Bird (P.)	McIntosh and Willman, Seddonville	12	,,	1	4′ to 6′	,,	,,		T. 5 ch.	786	42,369	43,155	..	4	4	,,
Westport-Stockton, Ngakawau	,,	T. McGhie (1st C.)	Westport-Stockton Coal Co., Ltd., Christchurch	24	,,	3	4′ to 20′	10′	,,			104,920	2,902,398	3,007,318	102	188	290	Fan.
Whitecliffs, Buller Gorge	,,	J. H. Burley (P.)	J. H. Burley, Berlins	10	Brown	1	18′	12′	,,		T. 14. ch.	331	3,105	3,436	..	2	2	Natural.
Reefton District.																		
Archer's, Capleston	Crown lease and freehold	F. W. Archer (2nd C.)	F. W. Archer, Capleston	37	Brown	3	9′ to 18′	8′ to 16′	Bord and pillar		T. 10 ch.	5,822	46,467	52,289	2	9	11	Natural.
Burkes Creek, Burkes Creek	Crown lease	W. Parsonage (1st C.)	Burkes Creek Collieries, Ltd., Wellington	31	,,	1	10′ to 12′	8′	Ditto		T. 10 ch.	8,697	200,893	209,590	9	28	37	Fan.
Clele, Merrijigs	,,	R. Alborn (D.)	V. W. Alborn and party, Reefton	46	,,	3	5′ to 6′	All	,,			3,477	47,212	50,689	2	3	5	Natural.
Coghlan's, Capleston	Freehold	W. Patterson (2nd C.)	John Coghlan, Reefton	35	,,	1	12′	9′	,,			1,921	21,669	23,590	..	4	4	,,
Eone, Capleston	Crown lease	A. Harris (D.)	,, ,,	6	,,	1	12′	9′	,,			1,144	4,333	5,477	..	5	5	,,
Collins', Reefton	,,	N. Collins (P.)	N. Collins, Reefton	40	,,	1	10′	7′	,,			495	59,330	59,825	1	2	3	,,
Defiance, Murray Creek	,,	D. McLaughlin (P.)	D. McLaughlin, Murray Creek	4	,,	1	8′	All	,,		T. 5 ch.	215	2,190	2,405	1	2	3	,,
Morrisvale, Reefton	,,	W. Wood (1st C.)	W. J. Morris, Reefton	20	,,	2	12′	8′	,,		T. 14 ch. and 14 ch.	9,229	101,071	110,300	2	7	9	,,
Times Street, Reefton	,,	H. A. Honey (P.)	H. A. Honey, Reefton	4	,,	1	35′	7′	,,			294	2,080	2,374	..	2	2	,,
Waitahu, Reefton	,,	A. D. Williams (1st C.)	A. D. Williams, Reefton	23	,,	1	5′ 6″	All	,,		T. 8 ch.	726	7,027	7,753	1	2	3	,,
Wealth of Nations, Lankey's Creek	,,	J. Bolitho (P.)	Wealth of Nations, Ltd., Reefton	21	,,	1	1′ to 10′	,,	,,		T. 1½ ch.	453	30,939	31,392	1	4	5	,,
White Rose, Merrijigs	,,	W. Osborn (P.)	W. Osborn, Merrijigs	9	,,	1	4′	,,	,,			173	192	365	..	1	1	,,

Grey District.																		
Baddeley's, Bend Creek ..	State Reserve	J. Rowse (D.) ..	Baddeley and party, Runanga ..	12	Sub-bituminous	1	9′ ..	7′ ..	Bord and pillar ..	..	1,967	42,999	44,966	2	5	7	Natural.
Bellbird, Ten Mile	,,	F. Fauth (P.) ..	Fauth and party, Greymouth ..	5	Ditto ..	1	9′ ..	6′ ..	Ditto	T. 10 ch. ..	3,708	11,535	15,243	1	4	5	Fan.
Bellvue, Ten Mile	,,	J. Hadcroft (U.) ..	Bellvue co-operative party, Greymouth	6	,, ..	1	7′ ..	6′ ..	,, ...	..	7,468	37,540	45,008	1	8	9	,,
Blackball, Blackball	Freehold ..	J. G. Quinn (1st C.)	Blackball Coal-mines Pty., Ltd., Christchurch	41	Bituminous	2	17′ ..	15′ ..	,, ...	T. 9 ch. ..	41,922	3,909,598	3,951,520	24	45	69	,,
Blackball Creek, Blackball ..	,, ..	,,	Blackball Creek Coal Co., Ltd., Blackball	1½	,,	2	17′ ..	15′ ..	,, ...	T. 14 ch. ..	21,010	4,093	25,103	5	35	40	,,
Brady's, Ten Mile	State Reserve	G. Brady (U.) ..	Brady and party, Greymouth ..	..	Sub-bituminous	1	5′ ..	All ..	,, ...	T. 20 ft. ..	13	..	13	1	2	3	Natural.
Braehead, Dunollie	,,	W. Brown (1st C.)..	Boote and party, Dunollie ..	12	Ditto ..	1	6′ ..	,, ..	,, ...	T. 14 ch. ..	6,052	59,210	65,262	2	9	11	,,
Briandale, Ten Mile	Crown lease ..	T. Howard (1st C.)	Briandale Collieries, Ltd., Christchurch	6	,, ..	1	4′ to 7′	,, ..	,, ...	..	11,491	52,240	63,731	4	17	21	,,
Brunner, Wallsend	Crown lease and freehold	G. Smith (1st C.) ..	Brunner Collieries, Ltd., Wellington	9	Bituminous	1	18′ ..	8′ to 10′ ..	,, ..	2 T. 10 ch. ..	49,887	373,860	423,747	33	117	150	Fan.
Cain's, Rapahoe	State Reserve	E. Cain (P.) ..	J. and E. Cain, Rapahoe ..	8	Sub-bituminous	1	4′ to 7′	All ..	,, ...	T. 8 ch. ..	950	4,492	5,442	1	3	4	Natural.
Castlepoint, Dunollie	,,	S. Hewison (2nd C.)	Castlepoint co-operative party, Runanga	6	Bituminous	1	5′ 6″ ..	,, ..	,, ...	T. 26 ch. ..	8,016	39,411	47,427	1	11	12	Fan.
Cox Creek, Ten Mile	Crown lease ..	C. Kaye (D.) ..	T. E. Coates, Greymouth ..	6	Sub-bituminous	1	3′ 6″ to 4′	,, ..	,, ...	T. 5½ ch. ..	2,921	4,255	7,176	1	5	6	Natural.
Dennehy's, Ten Mile	,, ..	R. Scott (D.) ..	J. M. Dennehy, Barrytown ..	4	Ditto ..	1	4′ ..	,, ..	,, ...	..	383	144	527	..	2	2	,,
Dobson	Crown lease and freehold	C. Hunter (1st C.) ..	Grey Valley Collieries, Ltd., Christchurch	10	Bituminous	1	9′ to 16′	9′ ..	Bord and pillar and panel ..	T. 18 ch. ..	63,737	511,970	575,707	28	155	183	Fan.
Duggan's, Rewanui	State Reserve	W. Richmond (D.)	Duggan and party, Rewanui ..	11	,,	1	4′ 6″ ..	All ..	Bord and pillar ..	T. 10 ch. ..	5,387	41,908	47,295	1	7	8	Natural.
Fiery Cross, Dunollie	,,	T. Currie (D.) ..	Currie and party, Dunollie ..	4	Sub-bituminous	1	5′ ..	,, ..	Ditto	T. 14 ch. ..	5,562	11,509	17,071	1	8	9	Fan.
Goldlight, Dunollie	,,	J. Kelly (2nd C.) ..	Williams and party, Runanga ..	5	Ditto ..	1	7′ ..	,, ..	,, ...	..	6,350	29,231	35,581	..	9	9	,,
Hilltop, Ten Mile	,,	V. Armstrong (1st C.)	Armstrong and party, Runanga..	2	,, ..	1	3′ 6″ to 11′	,, ..	,, ...	..	11,778	7,362	19,140	1	11	12	,,
Hunter's, Dunollie	,,	J. Neilson (1st C.)..	Hunter and party, Greymouth ..	12	,, ..	1	3′ 6″ ..	,, ..	,, ...	..	8,310	48,016	56,326	1	11	12	,,
Jubilee, Rapahoe	,,	W. Wallwork (D.)..	Jubilee co-operative party, Christchurch	5	,, ..	1	4′ 6″ ..	,, ..	,, ...	..	2,101	13,607	15,708	1	2	3	Natural.
Moody Creek, Dunollie ..	,,	T. Heyes (2nd C.) ..	Moody Creek co-operative party, Runanga	10	,, ..	1	5′ 6″ to 6′ 6″	,, ..	,, ...	..	4,936	44,093	49,029	2	7	9	Fan.
Musselpoint, Nine Mile ..	Crown lease ..	C. Curtis (P.) ..	Curtis and party, Greymouth ..	1½	,, ..	1	5′ ..	,, ..	,, ...	T. 3 ch. ..	1,993	391	2,384	1	4	5	Natural.
New Point Elizabeth, Dunollie ..	State Reserve	P. Manderson (U.)..	New Point Elizabeth co-operative party, Greymouth	6	,, ..	1	9′ ..	,, ..	,, ...	T. 6 ch. ..	8,643	35,375	44,018	3	8	11	Fan.
Old Runanga, Rewanui ..	,,	E. W. Kennedy (U.)	Old Runanga co-operative party, Runanga	6	Bituminous	1	6′ to 9′	6′ 6″ ..	,, ...	..	6,191	26,929	33,120	3	8	11	,,
Paparoa, Roa	Crown lease ..	A. O'Donnell (1st C.)	Paparoa Coal Co., Ltd., Wellington	24	Semi-bituminous	2	5′ to 25′	8′ to 25′ ..	,, ...	T. 48½ ch. ..	30,570	679,603	710,173	28	10	38	,,
Schulze Creek, Rapahoe ..	,, ..	M. Fowler (U.) ..	Marshall and party, Rapahoe ..	8	Sub-bituminous	1	3′ ..	All ..	,, ...	T. 4½ ch. ..	3,267	20,319	23,586	1	7	8	,,
Smith's, Dunollie	State Reserve	A. Ferguson (2nd C.)	Smith and party, Dunollie ..	12	Ditto ..	1	7′ ..	,, ..	,, ...	T. 8 ch. ..	8,318	54,182	62,500	2	8	10	,,
Spark's, Rewanui	,,	J. Unwin (D.) ..	Spark and party, Rewanui ..	11	Bituminous	1	7′ ..	,, ..	,, ...	T. 1 ch. ..	3,175	34,795	37,970	2	4	6	,,
James, Rapahoe	,,	J. Armstrong (1st C.)	New Zealand Government, Wellington	10	Sub-bituminous	1	4′ to 8′	,, ..	,, ...	T. 15 ch. ..	30,793	308,204	338,997	19	60	79	,,
Liverpool, Rewanui	,,	T. King (1st C.) ..	Ditto	20	Bituminous	3	8′ to 34′	,, ..	,, ...	T. 36 ch. ..	98,846	2,284,787	2,383,633	89	252	341	,,
United Brunner, Wallsend ..	Crown lease ..	W. Richardson (U.)	United Brunner Coal-mines, Ltd., Christchurch	1½	,,	1	6′ to 20′	9′ ..	,, ...	T. 4 ch. ..	755	131	886	3	6	9	Natural.
Stillwater	,, ..	W. Whitfield (P.) ..	T. H. Boustridge, Greymouth ..	5	,,	1	3′ ..	All ..	,, ...	..	100	1,750	1,850	2	2	4	,,
Tyneside, Brunner	,, ..	J. Strang (D.) ..	Tyneside Collieries, Ltd., Christchurch	3	,,	1	12′ ..	8′ ..	,, ...	T. 1 ch. ..	95	1,374	1,469	..	2	2	,,
Output of collieries included in previous statements at which operations are abandoned or suspended ..	..	..	..	..	..	..	..	..	..	..	..	7,435,936	7,435,936	..	..	..	..
SOUTHERN INSPECTION DISTRICT.																		
Canterbury District.																		
Homebush, Glentunnel ..	Freehold ..	W. Leeming (P.) ..	Homebush Brick and Tile Co., Glentunnel	59	Brown ..	1	2′ 9″ ..	All ..	Bord and pillar ..	T. 198′ ..	1,597	358,548	360,145	2	2	4	Natural.
Bush Gully, Coalgate	,, ..	E. Charles (P.) ..	J. Dean's Estate, Coalgate ..	15	,, ..	1	4′ ..	,, ..	Ditto	T. 462′ ..	1,598	42,979	44,577	..	4	4	,,
Clearview, Glenroy	,, ..	George Aitken (D.)	Clearview Coal Co., Glenroy ..	13	,, ..	1	10½′ ..	9½′ ..	,, ...	..	1,503	23,210	24,713	1	2	3	,,
Klondyke, Bush Gully.. ..	,, ..	J. Campbell (D.) ..	Klondyke Collieries, Ltd., Whitecliffs	4	,, ..	1	20′ to 30′	10′ ..	,, ...	T. 1,650′ ..	2,592	3,421	6,013	1	5	6	,,
Springfield	,, ..	J. Taylor (P.) ..	J. Taylor, Springfield	49	,, ..	3	1′ to 4′	3′ to 4′ ..	,, ...	T. 210′ ..	176	93,033	93,209	1	1	2	,,
Victory, Springfield	,, ..	Jas. Strang (F.D.)..	Jas. Strang, Springfield ..	½	,, ..	1	2′ ..	2′ ..	,, ...	T. 330′ ..	10	..	10	..	1	1	,,
Konomy, Springfield	,, ..	P. Mitchell (P) ..	P. Mitchell, Springfield ..	½	,, ..	1	22″ ..	22″ ..	,, ...	T. 50′ ..	20	..	20	..	1	1	,,
Bonanza, Sheffield	,, ..	James McQueen (P.)	McQueen Bros., Sheffield ..	1½	,, ..	1	7′ ..	6′ ..	,, ...	T. 396′ ..	1,683	95	1,778	..	3	3	,,
Tripps, Mount Somers ..	,, ..	M. Menaglio (F.D.)	Mount Somers Coal Co., Mount Somers	66	,, ..	3	14′ to 25′	10′ ..	,, ...	T. 660′ ..	1,116	89,301	90,417	..	4	4	,,
Blackburn, Mount Somers ..	Crown lease ..	H. Tinker (P.) ..	Blackburn Coal Co., Mount Somers	3	,, ..	1	25′ ..	8′ ..	,, ...	T. 363′ ..	2,501	2,362	4,863	1	3	4	,,
Sunnydale, Mount Somers ..	Freehold ..	George Harris (F.D.)	Harris Bros. and G. Bland, Mount Somers	½	,, ..	1	5′ 6″ ..	All ..	,, ...	..	62	..	62	..	1	1	,,
Woodbank, Albury	Crown lease under Land Act	J. H. Smillie (D.) ..	Duncan Ross, Albury	8	Lignite ..	1	27′ ..	7½′ ..	,, ...	T. 561′ ..	892	4,710	5,602	1	2	3	,,

COLLIERY STATISTICS, 1932—*continued.*

SOUTHERN INSPECTION DISTRICT—*continued.*

Name of Mine and Locality.	Title held (Crown Lease or otherwise).	Name of Mine-manager and Class of Certificate.	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 1932.	Total Output to 31st December, 1931.	Total Output to 31st December, 1932.	Number of Persons ordinarily employed.			Means of Ventilation.
															Above.	Below.	Total.	
North Otago District.												Tons.	Tons.	Tons.				
St. Andrews, Papakaio	Freehold	T. Nimmo, Jun. (U.)	Duncan Cameron, Papakaio	53	Lignite	1	10′	6′ to 7′	Bord and pillar		T. 198′	2,566	69,163	71,729	1	3	4	Fan.
Airedale, Papakaio	Crown lease	A. Beardsmore, Jun. (D.)	A. Beardsmore and Son, Papakaio	6	,,	1	7′ to 12′	7′	Ditto			1,397	5,198	6,595	1	3	4	Natural.
Ngapara, Ngapara	Freehold	William Nimmo (U.)	William Nimmo, Ngapara	54	,,	1	25′	8′ to 10′	,,		T. 50′	1,115	46,147	47,262	1	2	3	Fan.
Shag Point (Old Mine), Shag Point	Crown lease	W. McLaren (P.)	Bruce Railway and Coal Co., Dunedin	18	Brown	1	5′ to 6′	All	,,		T. 500′	1,672	421,019	422,691	1	3	4	Natural.
Shag Point Coal-mining Co., Shag Point	Freehold	A. S. Gillanders (1st C.)	Shag Point Coal-mining Co., Dunedin	24	,,	1	3′ to 3½′	,,	,,		T. 500′	12,867	301,635	314,502	10	50	60	Fan.
Diamond Hill, Herbert	,,	T. Green (D.)	G. Anderson, Herbert	5	,,	1	3½′	,,	,,		T. 250′	388	263	651	1	1	2	Natural.
Oakdene, Maheno	,,	J. P. Watson (P.)	J. P. Watson, Maheno	2	,,	1	3′ to 4′	,,	Opencast			90	122	212	1	..	1	Open.
Malmanche's, Awakino	,,	W. Hollows (D.)	J. Malmanche, Kurow	2	,,	1	10′	6′ to 7′	Bord and pillar		T. 120′	110	40	150	..	1	1	Natural.
Double Hill	,,	William Hay (P.)	Double Hill Coal Co., Waitati	½	Lignite	1	4½′	All	Ditto		T. 264′	76	..	76	..	2	2	,,
Central Otago District.																		
Rough Ridge, Oturehua	Crown lease	E. Beck (P.)	Margaret Beck, Oturehua	45	Lignite	1	20′	All	Opencast			21	35,701	35,722	1	..	1	Open.
Idaburn, Oturehua	Freehold	C. L. Fisher (P.)	C. L. Fisher, Oturehua	62	,,	1	20′	,,	,,			656	56,015	56,671	2	..	2	,,
Oturehua, Oturehua	Crown lease	A. Brown (P.)	Becker Bros., Oturehua	38	,,	1	20′	7′	Bord and pillar		T. 700′	928	6,921	7,849	2	..	2	Fan.
Cambrian, Cambrian	,,	D. Jones (P.)	Vinegar Hill Hydraulic Sluicing Co., St. Bathans	71	,,	1	25′	All	Opencast			530	52,851	53,381	1	..	1	Open.
Coal Creek Flat, Coal Creek Flat	,,	N. Harliwich	N. Harliwich, Coal Creek Flat	62	,,	1	25′	15′	,,			2,610	100,319	102,929	2	..	2	,,
Bannockburn, Bannockburn	,,	J. Hodson, Jun. (2nd C.)	J. Hodson, Bannockburn	55	,,	1	6′ to 20′	9′	Bord and pillar			2,150	126,161	128,311	1	3	4	Natural.
Nevis Crossing, Nevis	,,	R. Ritchie (P.)	Robert Ritchie, Nevis	29	,,	1	60′	All	Opencast			49	18,276	18,325	2	..	2	Open.
Parfit's, Upper Idaburn	,,	I. Parfit (P.)	I. Parfit, Naseby	7	,,	1	30′	18′	,,			182	876	1,058	1	..	1	,,
Armitage's, Blackstone Hill	,,	E. Beck (P.)	George Armitage, Blackstone Hill	44½	,,	1	12′	All	,,			43	4,734	4,777	1	..	1	,,
Gibbston, Arrowtown	,,	D. Lee (P.)	Reed and McIntyre, Arrowtown	36	,,	1	35′	7′	Bord and pillar		T. 88′	119	29,261	29,380	1	1	2	Natural.
South Otago District.																		
Freeman's, Abbotsford	Freehold	W. Evans (U.)	Freeman's Coal Co., Green Island	52	Lignite	1	8′ to 12′	All	Bord and pillar			3,870	623,077	626,947	2	4	6	Natural.
Jubilee, Fairfield	,,	J. Hadcroft (1st C.)	Jubilee Coal Co., Dunedin	35	,,	1	5′ to 9′	,,	Ditto		T. 1,518′	14,035	579,764	593,799	6	23	29	Fan.
Jubilee (under roads), Fairfield	Crown lease	,,	,, ,,	..	,,	..	..	..	..		..							
Auchmeddon, Fairfield	Freehold	H. Orr (2nd C.)	H. Orr, Fairfield	7	,,	1	4′	All	Opencast			8	65	73	..	..	..	Open.
Fairfield, Fairfield	,,	J. J. Cooper (D.)	Fairfield Collieries, Dunedin	1	,,	2	4′ to 8′	,,	Bord and pillar		T. 350′	326	..	326	1	2	3	Fan.
Hodson's, Fairfield	,,	J. Hodson (2nd C.)	J. Hodson, Dunedin	1	,,	1	7′	5′	Ditto		T. 100′	67	..	67	1	2	3	Natural.
Burnweil, Saddle Hill	,,	G. F. Whittleston (2nd C.)	N. Laverty, Saddle Hill	37	,,	1	5′	All	,,			44	81,866	81,910	1	1	2	,,
Saddle Hill, Saddle Hill	,,	W. McLellan (P.)	A. O'Halloran, Fairfield	2	,,	1	7′ to 8′	6′	,,		T. 165′	965	1,032	1,997	1	2	3	,,
Willowbank, Riccarton	,,	W. Robertson (U.)	George Scurr and Co., Ltd., Mosgiel Junction	12	,,	1	20′	6′	,,		T. 594′	6,922	40,040	46,962	2	8	10	Fan.
Brighton, Brighton	,,	N. McColl (P.)	N. McColl, Brighton	17	,,	1	6′	5′	,,		T. 858′	576	10,009	10,585	..	2	2	,,
Brighton (under roads)	Crown lease	,,	,, ,,	..	,,	..	..	..	..		..							
Fry's, Brighton	Freehold	J. Kelly (P.)	J. Fry and J. Kelly, Brighton	1	,,	1	4′	4′	Bord and pillar			15	..	15	..	1	1	Natural.
Bush's, Brighton	,,	M. Tikey (P.)	G. A. Bush, Mosgiel	1	,,	1	1½′	1½′	Ditto			24	..	24	..	1	1	,,
Taratu, Lovell's Flat	,,	A. Cain (2nd C.)	Sargood and Cheeseman, Dunedin	31	,,	2	14′ to 40′	7′ to 30′	,,		T. 205′, 180′, 924′, 713′	10,523	732,464	742,987	7	16	23	Fans.
Elliotvale, Moneymore	,,	J. M. Robertson (P.)	W. Cockburn, Milton	3	,,	1	30′ to 40′	6′ to 7′	,,		T. 240′	1,752	2,572	4,324	1	2	3	Natural.
Benhar, Benhar	,,	J. Walls (2nd C.)	McSkimming and Son, Ltd., Benhar	69	,,	3	14′	10′	,,		T. 860′	5,140	294,481	299,621	1	5	6	Fan.
Essbank, Milton	,,	R. Boyd (D.)	Beardsmore Bros. and Adams, Milton	2	,,	1	8′	All	,,			4,566	2,021	6,587	1	4	5	Natural.
Riverside (late Tres Bon)	Crown lease	J. Burleigh (2nd C.)	E. H. G. Thorpe, Dunedin	11	,,	1	12′	,,	,,			1,419	33,075	34,494	1	2	3	,,
Orrvale, near Milton	Freehold	P. Harris (P.)	A. Love, Port Chalmers	1	,,	1	8½′	6½′	,,		T. 170′	40	..	40	1	..	1	,,
Lakeside ((Lake Tuakatito)	,,	J. Throp (P.)	J. Throp, Kaitangata	22	,,	1	10′	7′	,,		T. 150′	1,678	10,444	12,122	1	2	3	Fan.
Wangaloa, Kaibrook, Kaitangata	Crown lease	W. Barclay (D.)	William Barclay, Kaitangata	10	,,	1	10′	9′	,,		T. 99′	1,365	3,843 / 2,844	5,208 / 2,844	1	3	4	Natural.

Kaitangata No. 1, Kaitangata	Freehold	F. Carson (1st C.)	Kaitangata Coal Co., Kaitangata	56	Brown	2	8′ and 25′	All	,,	T. 4,950′, 1,188′, 1,386′	107,589	4,884,809	4,992,398	56	241	297	Fans.
Kaitangata No. 2, Kaitangata	,,			20	,,	1	20′	,,	,,	T. 825′, 528′							
Kaitangata (under roads)	Crown lease																
Kaituna, Kaitangata	Freehold	J. W. Fenton (U.)	T. E. Steel, Dunedin	23	Lignite	1	4′	,,	,,	T. 200′	422	26,172	26,594	1	1	2	Natural.
Kai Point, Kaitangata	,,	S. Newburn (2nd C.)	S. Newburn, Kaitangata	5	,,	1	20′	7″	,,	T. 264′	1,169	3,425	4,594	..	3	3	,,
Summerhill, Kaitangata	,,	A. Hill (D.)	T. Gage, Kaitangata	7	,,	1	14′	6½′	,,	T. 360′	256	958	1,214	1	1	2	,,
Blue Ridge, Kaitangata	,,	R. S. Burgess (D.)	Peter Smith, Kaitangata	1	,,	1	5′	All	,,	T. 60′	14	..	14	..	..	..	,,
Burnbright, Kaitangata	,,	R. Penman (D.)	R. Penman, Kaitangata	1	,,	1	20′ to 30′	7′	,,	T. 130′	42	..	42	..	1	1	,,
Ropers Creek, Wangaloa	,,	A. Hunter (D.)	H. Lunn, Kaitangata	1	,,	1	6′	All	,,	T. 50′	77	..	77	..	1	1	,,
Conical Hill, Conical Hill	Crown lease	A. S. Lowrey (P.)	A. S. Lowrey, Conical Hill	1	,,	1	20′	9′	,,	T. 198′	77	..	77	..	1	1	Shaft.
Southland District.																	
Green's, Gore	Freehold	F. Barclay (2nd C.)	Executor estate late T. Green, Gore	44	Lignite	1	19′	12′	Bord and pillar	T. 1,170′	6,282	371,004	377,286	3	6	9	Fan.
Whiterig, Gore	,,	J. S. Wilks (P.)	G. B. Paterson, Gore	2	,,	1	4′ to 10′	All	Opencast		1,674	423	2,097	2	..	2	Open.
Boghead, Mataura	,,	Thomas Gaudion (P.)	C. E. Rowe, Mataura	27	,,	1	20′	12′	Bord and pillar	T. 594′	5,272	70,347	75,619	1	4	5	Fan.
Mataura Lignite, Mataura	,,	James Pearson (D.)	Beattie, Coster, and Co., Mataura	56	,,	1	14′	10′	Ditto	T. 1,320′	12,289	370,555	382,844	3	5	8	,,
Terrace, Mataura	,,	J. Buchols (D.)	R. Haywood, Mataura	2	,,	1	8′	All	Opencast		248	106	354	1	..	1	Open.
Waddell's, Riverview	,,	D. McAskill (P.)	S. Waddell, Mataura	1	,,	1	11′	7′	Bord and pillar		436	..	436	..	1	1	Natural.
Croydon, Croydon	,,	C. McGregor	C. McGregor, Gore	17	,,	1	20′	15′	Opencast		326	24,430	24,756	1	..	1	Open.
Nicol's, Riverview	,,	J. Buchols (D.)	A. E. Barnes, Mataura	39	,,	..	10′	All	,,		136	2,104	2,240	1	..	1	,,
Kingdon's, Waimumu	,,	P. Larking (P.)	P. Larking, Mataura	2	,,	1	20′	10′	,,		1,590	308	1,898	2	..	2	,,
Hamilton and McKean, Waimumu	,,	A. Maxwell (P.)	Hamilton and McKean, Gore	4	,,	1	18′	All	,,		1,812	2,875	4,687	2	..	2	,,
Rosedale, McNab	,,	James McCord (P.)	L. T. Voice, McNab	7	,,	1	6′	,,	,,		146	2,433	2,579	1	..	1	,,
North Chatton, North Chatton	,,	George Daly (P.)	George Daly, Waikaka	28	,,	1	18′	,,	,,		762	108,043	108,805	2	..	2	,,
Hokonui, Hokonui	,,	A. C. Dixon (D.)	A. C. Dixon, Hedgehope	11	,,	1	9′	,,	Bord and pillar		12	52,084	52,096	..	..	..	..
Princhester Creek, The Key	Crown lease	J. A. Denton (P.)	J. A. Denton, Private Bag, Lumsden	30	Brown	1	5′	,,	Opencast		179	3,905	4,084	1	..	1	Open.
Ota Creek, Wyndham	,,	E. Genge (P.)	E. Genge, Wyndham	52	Lignite	1	8′	,,	,,		384	31,090	31,474	1	..	1	,,
Diamond Lignite, Ashers	,,	A. McMillan (P.)	S. McMillan, Invercargill	30	,,	1	38′	,,	,,		1,209	36,725	37,934	2	..	2	,,
Glenlee, Waikaka	Freehold	F. W. Edge (P.)	A. A. Edge, Waikaka	39	,,	1	14′	8½′	Bord and pillar		733	34,814	35,547	..	2	2	Natural.
Landslip, Waikaia	Crown lease	T. Northcoat (P.)	T. Northcoat and Lahey, Waikaia	33	,,	1	10′	All	Opencast		222	37,758	37,980	2	..	2	Open.
Lawrence's (formerly McIver's), Waikaia	,,	B. Lawrence (P.)	B. Lawrence, Freshford	9	,,	1	4′	,,	,,		144	1,525	1,669	1	..	1	,,
Argyle, Waikaia	,,	T. Woodward (P.)	Thomas Woodward, Waikaia	41	,,	1	12′	,,	,,		237	12,163	12,400	1	..	1	,,
Wendon, Wendon	,,	E. Radford (P.)	J. E. Radford, Wendon	8	,,	1	18′	12′	Bord and pillar	T. 90′	403	1,820	2,223	..	2	2	Natural.
Mossbank Nos. 1 and 3, Ohai	,,	J. McLelland (1st C.)	Mossbank Coal Co., Invercargill	18	Brown	2	6′ to 24′	7′	Ditto	T. 462′	28,626	360,164	388,790	19	59	78	Fan.
Wairaki No. 1, Ohai	,,	J. T. Mosley (1st C.)	Wairaki Coal Co., Gore	19	,,	1	7′ to 20′	All	,,	T. 1,980′	16,451	395,445	411,896	16	63	79	,,
Wairaki No. 2, Ohai	Freehold	,,	,, ,,	14	,,	1	7′ to 20′	,,	,,	T. 1,980′							
Linton, Ohai	Crown lease / Freehold	George Gilbert (1st C.)	Linton Coal Co., Invercargill	17	,,	1	30′ to 40′	,,	,,	T. 1,980′	52,303	822,065	874,368	30	70	100	Fans.
Black Lion, Ohai	Crown lease	Thomas Young (1st C.)	Black Lion Coal Co., Invercargill	11	,,	1	10′	7′	,,	T. 264′	15,994	68,026	84,020	6	21	27	Fan.
Lobbs Hill, Ohai	,,	P. L. Magee (D.)	P. L. Magee, Ohai	3	,,	1	4′	All	,,	T. 528′	613	1,083	1,696	1	3	4	Natural.
Birchwood No. 2, Ohai	,,	James Lewis (1st C.)	Birchwood Coal Co., Dunedin	9	,,	1	9′ to 25′	6′ to 8′	,,	T. 1,980′	23,280	84,886	108,166	15	45	60	Fan.
Star, Ohai	Freehold	Thomas Todd (2nd C.)	Thomas Todd, Ohai	1	,,	1	9′	6′	,,	T. 594′	3,339	..	3,339	6	8	14	,,
Black Diamond, Nightcaps	Crown lease	A. Colligan (2nd C.)	Black Diamond Coal Co., Invercargill	17	,,	1	25′	8′	,,	T. 1,320′	6,649	224,927	231,576	4	8	12	,,
Smithvale, Nightcaps	Freehold	William Dyer (D.)	McSkimming and Son, Benhar	6	,,	1	2′ 9″	All	Opencast		292	2,297	2,589	1	..	1	Open.
McSkimming and Son, Nightcaps	Crown prospecting license	,,	,, ,,	2	,,	..	..	..	Bord and pillar		55	198	253	..	1	1	Fan.
Morley Vale, Ohai (Old Mount Linton)	Freehold	James Mason (2nd C.)	Mason (2) and McKenzie, Ohai	24	,,	1	..	8′	Opencast		190	3,314	3,504	1	..	1	Open.
Nightcaps Syndicate	,,	J. Phair (D.)	Nightcaps Syndicate, Nightcaps	1	,,	1	6′	5′	Bord and pillar	T. 60′	112	..	112	..	2	2	Natural.
Orepuki, Orepuki	Crown lease	R. W. Rotch (D.)	J. L. Hennessey, Orepuki	27	,,	..	..	..	Opencast		156	36,457	36,613	1	..	1	Open.
Hakatea, Waimumu	Freehold	James Milne (P.)	A. P. Cowie, Gore	4	Lignite	1	15′	All	,,		1,330	2,329	3,659	2	..	2	,,
Otikerama, Otikerama	,,	Joseph Hoffman (P.)	A. McDonald, Otikerama	43	,,	1	20′	10′	Bord and pillar		2,034	48,953	50,987	1	2	3	Natural.
Lynwood, Te Anau	Crown lease	E. C. Govan	E. C. Govan, Te Anau	19	,,	1	8′	6′	Opencast		50	3,770	3,820	1	..	1	Open.
Waihopai, Woodlands	Freehold	A. C. Dixon (D.)	A. C. Dixon, Woodlands	1	,,	1	14′	All	,,		273	..	273	1	..	1	,,
Output of mines included in previous statements at which operations have been abandoned or suspended				..	..	..	..	..	..		..	6,822,025	6,822,025	..	..	..	..
Totals, Southern District, South Island											390,543	19,265,773	19,656,316	255	729	984	
Totals, West Coast District, South Island											844,010	38,814,532	39,658,542	634	1,679	2,313	
Totals, Northern District, North Island											607,469	17,621,568	18,229,037	368	971	1,339	
Grand totals											1,842,022	75,701,873	77,543,895	1,257	3,379	4,636	
Output of collieries prior to 1890 not included in the above statement											..	..	296,653	..	..	..	
Shale exported, 1914											..	..	21	..	..	..	
													77,840,569				

APPENDIX C.

REPORT OF BOARDS OF EXAMINERS.

SIR,— Geological Survey Office, Wellington, 21st August, 1933.

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 1932 :—

The annual examination of candidates for mine-managers' certificates under the Coal-mines Act, 1925, was held at Dunedin, Greymouth, Reefton, Westport, and Huntly on the 25th, 26th, and 27th October. In addition, candidates were examined at Dunedin, Westport, and Huntly for mine-surveyors' certificates under the Coal-mines Act. Four examinations of candidates for certificates as underviewers and firemen-deputies were also held—one at Dunedin on the 30th and 31st August, one at Greymouth on the 23rd and 24th November, one at Westport on the 26th November, and one at Huntly on the 30th November. The total applicants for certificates was twelve less than for the previous year.

The activity now being shown in the metal mining side of the industry has created a demand for qualified men to take charge of operations, in consequence of which more candidates offered themselves for examination for certificates under the Mining Act than for some years previously—sixteen applying for certificates, as against four the previous year.

Examinations of candidates for mine-managers' certificates under the Mining Act were held at Dunedin and Reefton on the 25th, 26th, and 27th October, while on the same dates a candidate was examined at Reefton for a battery superintendent's certificate. Examinations of candidates for dredgemasters' certificates were also held at Dunedin and Greymouth on the 11th October.

The following is a summary of the various examinations 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—					
Written examination	14	2	2	2	..
Oral examination	5				
(*b*) Second class—					
Written examination	11	5	4	5	..
Oral examination	5				
Underviewer's certificate	20	13	4	13	..
Fireman-deputy's certificate	35	24	6	24	..
Mine-surveyor's certificate—					
Written examination	5	4	..	2	2*
Oral and practical examination	5				
2. *Mining Act, 1926*—					
Battery superintendent's certificate—					
Written examination	1	1	..	1	..
Oral examination	1				
Mine-manager's certificate (first class)	..	..	..	..	1
Written examination	4	2	1	2	..
Oral examination	2				
Dredgemaster's certificate—					
Class A	2	2	..	2	..
Class B	8	7	..	7	..

* Sat for oral and practical examination only.

Under the Coal-mines Act, 1925, fifty-six gas-testing certificates were also issued, as against seventy-nine the previous year. In addition, one duplicate fireman-deputy's certificate was issued. On the whole, the work of the candidates who sat for examination showed an improvement on 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.—Dale, Roger Thomas Hilton, Runanga ; Schoen, Reginald Hugo, Ohai.

SECOND-CLASS MINE-MANAGER'S CERTIFICATES.

Issued after Examination.—Banks, James Lewis, Reefton ; Barlow, Eli John, Hikurangi ; Curtis, Cecil Donald, Reefton ; McLean, Roderick, Reefton ; Turner, George Thomas, Reefton.

MINE-SURVEYORS' CERTIFICATES.

Issued without Examination.—Green, Eric Wallace, Wellington; Shand, Norman McKenzie, Denniston.
Issued after Examination.—Langford, James Newton, Ohai; Littlejohn, Herbert Clifford, Ngaruawahia.

UNDERVIEWERS' CERTIFICATES.

Issued after Examination.—Banks, James Lewis, Reefton; Dyet, William, jun., Nightcaps; Farnworth, William, Dunollie; Lennox, Andrew Lightbody, Renown; Orr, Charles Mann, Ohai; Patterson, Ernest, Reefton; Peterson, Nicholas, Blackball; Schoen, Reginald Hugo, Ohai; Scott, George Robert, Glen Afton.

FIREMEN-DEPUTIES' CERTIFICATES.

Issued after Examination.—Anderson, David Alexander, jun., Kaitangata; Baird, John, Green Island; Baird, John, Greymouth; Balderstone, William, Blackball; Bennie, Boyd James, Kaitangata; Cairns, James, Glen Afton; Corden, Ernest, Burnett's Face; Cowan, Alexander, Dobson; Davies, Sydney, Glen Massey; Dayne, Robert Desmond, Runanga; Donaldson, John Brown, Ohai; Ewen, Richard James, Runanga; Gair, Robert, Glen Massey; Graham, John, Puponga; Hanley, Francis, Huntly; Hargood, Horace James Samuel, Kaitangata; Hassan, Hugh, Brunnerton; Jones, Harold Wright, Mangatoi, Mokau River; Lawson, David, Pukemiro; Marshall, Robert, Dobson; Milburn, Thomas, Huntly West; Morrison, Francis, Burnett's Face; McCaig, William, Glen Afton; McLellan, William, Fairfield; McNeilage, Thomas, Ohai; Newman, Robert Thompson, Denniston; O'Flaherty, Morgan, Blackball; Oliver, Alfred, Rotowaro; Purvis, Thomas, Kaitangata; Rogers, Francis Edward, Kaitangata; Scurr, William, Rotowaro; Simon, George, Greymouth; Simpson, James Stark, Seddonville; Thomas, Ernest, Glen Massey; Thomson, Andrew, Benhar; Tinker, Harry, Mount Somers; Todd, John Thomas, Glentunnel; Vigna, Adamo, Runanga; Welsh, Mervyn Ernest Arnold, Shag Point; Wilson, John, Taylorville.

MINING ACT, 1926.

FIRST-CLASS MINE-MANAGERS' CERTIFICATES.

Issued after Examination.—Gordon, Hugh Thomas, Sawyer's Bay, Dunedin; Rutherfurd, Robert Alexander, Waiuta.
Issued on Production of Certificate from a Recognized Authority outside the Dominion.—Lake, John Valentine, Reefton.

BATTERY SUPERINTENDENT'S CERTIFICATE.

Issued after Examination.—Ellery, William Vincent, Waiuta.

MINING AMENDMENT ACT, 1927.

DREDGEMASTERS' CLASS A CERTIFICATES.

Issued after Examination.—Speed, Richard Oswell, Murchison; Williamson, Andrew, Cromwell.

DREDGEMASTERS' CLASS B CERTIFICATES.

Issued after Examination.—Curnow, Nicholas, Nelson Creek; Fischer, Alfred, Ngahere; Griffin, James Philip, Hokitika; Hepburn, Wallace Bourke, Okarito; Marslin, William, Dunedin; Samson, Arthur James, Hokitika; Williamson, John, Mornington, Dunedin.

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

The Under-Secretary, Mines Department, Wellington.

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