MINES STATEMENT.

CONTENTS.

1940.

NEW ZEALAND.

MINES STATEMENT

BY THE HON. P. C. WEBB, 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, 1939.

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 1939 and 1938:—

Mineral.	1939.		1938.	
	Quantity.	Value.	Quantity.	Value.
		£		£
Gold and silver*	569,297 oz.	1,566,977	509,759 oz.	1,214,054
Platinum	13 6/20 ,,	104	1 6/20 ,,	7
Iron-ore	1,586 tons	3,018	1,218 tons	3,666
Stone	..	545,533	..	555,295
Pumice	3,680 2/20 ,,	11,172	3,046 ,,	8,811
Coal	2,342,639 ,,	2,342,639	2,222,088 ,,	2,222,088
Tungsten-ore	41 ,,	8,240	45 13/20 ,,	8,604
Manganese-ore	486 ,,	1,944	90 ,,	450
Silica sand	2,335 ,,	2,227	1,459 ,,	1,126
Quicksilver	.. ,,	..	760 lbs.	190
Fuller's earth	73 18/20 ,,	233	56 tons.	154
Diatomaceous earth	..	332	..	70
Mica	18/20 ,,	12	..	..
Totals	..	£4,482,431	..	£4,014,515

* 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 £4,132,476, as compared with £3,672,075 during 1938. The total value of such minerals exported to the end of 1939 amounted to £207,680,483.

GOLD AND SILVER MINING.

During the year 569,297 oz. of bullion, valued at £1,566,977, was produced, an increase in quantity of 59,538 oz., and in value of £352,923, as compared with the previous year.

The gold content of the bullion is estimated at 178,955 oz., valued at £1,530,857.

The estimated gold-production for the past ten years has been as follows:—

Year.	Oz.	Year.	Oz.
1930	120,931	1935	165,277
1931	129,861	1936	164,575
1932	166,354	1937	168,487
1933	161,755	1938	152,050
1934	160,248	1939	178,955

It is pleasing to record an increase of 26,905 oz. in the production of gold compared with the previous year; in fact, the production for the year under review has not been exceeded during the past nineteen years.

Production from alluvial mines (18,512 oz.) shows a decrease of 1,417 oz., dredges (77,038 oz.) an increase of 24,316 oz., and quartz-mines (83,045 oz.) an increase of 4,606 oz. compared with the previous year.

It is apparent that the scope for alluvial mining must diminish progressively. A large number of the areas now being worked in this way are located in places where the maintenance of an adequate water-supply is the major problem in the way of efficient and continuous operation.

The increased yield from quartz-mines is entirely due to greater production from the existing mines, no new areas of any great moment having been opened up during the year.

The major proportion of the increased yield is from the dredging claims, from which over 43 per cent. of the total production of gold was secured during the year. The development of the dredging industry was accelerated and made possible by the decision of the Government a few years ago to link up the West Coast with the main hydro-electric system of the South Island, thereby ensuring for the industry an adequate supply of cheap power.

Twenty-three dredges operated during the year, seventeen on the West Coast and six in Otago and Southland. Two relatively small dredges ceased to operate during the year, and towards the latter part of the year the large Arahura Dredge went into commission.

During next year it is expected that three new substantial dredges will commence producing—viz., the Ngahere, Snowy River, and Lowburn dredges. In addition, plans are well under way for the construction of seven more dredges to operate on areas tested by boring.

The total number of men employed at gold-mines was 2,794, a decrease of 204 compared with the previous year.

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 1939 and 1938:—

Class of Gold-mining.	Production of Bullion.				Dividends paid by Registered Companies.		Number of Productive Claims and Dredges.	
	1939.		1938.		1939.	1938.	1939.	1938.
	Oz.	£	Oz.	£	£	£		
Quartz	472,309	717,219	435,706	622,336	86,987	105,041	62	59
Alluvial	18,512	150,169	19,929	149,586	15,809	13,819	774	1,088
Dredging ..	78,476	699,589	54,124	442,132	90,254	98,888	23	24
Totals ..	569,297	1,566,977	509,759	1,214,054	193,050	217,748	859	1,171

MINING AND COAL-MINING LEGISLATION.

The provisions of the Mining Act, 1926, and of the Coal-mines Act, 1925, in regard to assistance towards mining were repealed and entirely new provisions were enacted in the Statutes Amendment Act, 1939.

By section 3 of the Finance Act, 1939, the law in regard to the State Coal-mines Sinking Fund was repealed and new provisions enacted.

There were no alterations to the Mining Regulations. The Coal-mines Regulations were revised and consolidated, and the new regulations were gazetted on the 19th July, 1939.

GOLDFIELDS REVENUE AND GOLD DUTY.

The amount of goldfields revenue received and credited to the accounts of local bodies during the year ended 31st March, 1940, was £19,272 12s. 6d., an increase of £1,046 0s. 5d. compared with the previous year. The total of all duties on exported gold amounted to £213,321 11s. 5d., as follows: Credited to the accounts of local bodies under section 12 of the Gold Duty Act, 1908, £5,744 10s. 5d.; special

export duty of 12s. 6d. per ounce credited to the Consolidated Fund, £116,888 17s. 7d.; duty on scrap gold and jewellers' sweepings credited to Consolidated Fund, £2,123 17s. 5d.; duty credited to the War Expenses Account, £88,564 6s. The duty credited to the War Expenses Account imposed by the Customs Act Amendment, 1939, dated 29th September, 1939, represents 75 per cent. of the amount by which the New Zealand currency value of the London market price exceeds £9 5s. 8d. (New Zealand currency).

MINING PRIVILEGES.

Interest is still being maintained in the mining industry, although the number of licenses granted has decreased. During the year ended 31st March, 1940, 537 licenses for mining privileges were granted under the provisions of the Mining Act, 1926, as compared with 568 for the previous year. Out of this number 90 were licenses for claims authorizing the holders to mine for gold. For the same period 171 mining privileges, including 39 licenses for claims, were struck off the registers under the provisions of section 188 of the Act.

PETROLEUM OIL.

From the Nos. 1, 2, and 4 wells of Moturoa Oilfields, Ltd., at Moturoa, Taranaki, 103,631 gallons of crude petroleum oil was obtained.

From the Kotuku field on the West Coast of the South Island 800 gallons was recovered.

The Dominion's total production of crude petroleum oil to 31st December, 1939, is estimated at 2,988,081 gallons.

Since the passing of the Petroleum Act in 1937 a thorough and intensive search for oil in the Dominion has been prosecuted. In contrast with previous attempts, the work now being undertaken is being carried out with the most modern equipment which is being operated by expert and scientifically trained staffs.

Altogether 65 licenses to prospect for oil have been granted over an aggregate area of 11,500 square miles in the North Auckland, Gisborne, Taranaki, Hawke's Bay, Wellington, West Coast (South Island), and Otago districts.

Two modern drilling-plants are at present in the Dominion, one capable of boring to 10,000 ft. and the other to a depth of 15,000 ft. One hole at Totangi, near Gisborne, was drilled to a depth of 5,700 ft., but because of unfavourable conditions had to be abandoned. The plant was then shifted to Morere, where the drilling of a second hole was commenced. Two holes were drilled in the North Auckland district, the depths being 837 ft. and 1,461 ft. respectively. Plans were well advanced towards the end of the year for drilling a hole at Midhirst, in the Taranaki district.

Apart from drilling, intensive geophysical and geological investigations, topographical surveys, and palæontological examinations have been made, and large areas have been geologically mapped by licensees. Altogether 132 persons were employed, consisting mainly of technical staff.

COAL-MINING.

There were 152 coal-mines operating in the Dominion in 1939. Sixty-nine of these mines are situated on freehold property and produced 1,026,095 tons or 44 per cent. of the total output. The remaining 83 mines are situated on Crown lands and produced 1,316,544 tons, or 56 per cent. of the total output of 2,342,639 tons.

The annual production of coal since 1930 has been as follows:—

Year.	Tons.	Year.	Tons.
1930 ..	2,542,092	1935 ..	2,115,184
1931 ..	2,157,756	1936 ..	2,140,217
1932 ..	1,842,022	1937 ..	2,277,799
1933 ..	1,821,258	1938 ..	2,222,088
1934 ..	2,060,315	1939 ..	2,342,639

The increase in output for 1939 is 5·15 per cent. above the figure for 1938.

The quantity of coal imported into New Zealand in 1939 was 111,537 tons, as compared with 109,206 tons for the previous year, an increase of 2,331 tons.

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

Class of Coal.	Output of Coal during 1939.				Total Output to the End of 1939.
	Northern District (North Island).	West Coast District (South Island).	Southern District (South Island).	Total.	
	Tons.	Tons.	Tons.	Tons.	Tons.
Bituminous and sub-bituminous	71,029	973,580	..	1,044,609	52,829,029
Brown	731,676	58,411	369,876	1,159,963	34,451,156
Lignite	..	1,351	136,716	138,067	5,539,884
Totals for 1939 ..	802,705	1,033,342	506,592	2,342,639	92,820,069
Totals for 1938 ..	762,717	984,389	474,982	2,222,088	90,477,430

The increase in output is satisfactory in view of the need for greater production of native coal to fulfil the industrial, transport, and domestic needs of the Dominion, and at the same time to conserve overseas funds by restricting importations to the bare requirements of certain consuming units which cannot operate efficiently without a proportion of Australian coal.

A survey of the coal-mines already developed shows that they are capable of expanding production sufficiently to meet the requirements of consumers. The policy of not granting new coal-mining rights over Crown lands, except in isolated places, has therefore been maintained.

During 1940 it is estimated that an output of at least 2,500,000 tons will be required to fulfil the requirements of the Dominion. No difficulty should be experienced in producing this quantity of coal.

CO-OPERATIVE MINING, STATE COAL RESERVE.

Nineteen co-operative parties working portions of the State Coal Reserve near Greymouth produced, during the year 1939, 101,297 tons, the number of men employed being 174. During the previous year nineteen parties produced 108,214 tons, there being a decrease this year of 6,917 tons.

During the year a number of the parties were carrying out development work.

The achievements of the co-operative parties over the years and their record of production demonstrates very clearly the advantages of this system of mining wherever it can be applied.

My policy is to foster all genuine co-operative mining enterprises by making available technical advice, geological information, and, where necessary, financial aid for development and plant.

Up to the end of 1939 these parties have produced a grand total of 1,442,741 tons of coal, and have in the same period paid royalties to the State amounting to £67,973.

STATE COAL-MINES.

The State Coal-mines experienced a very satisfactory year, the output being 220,780 tons, which was the highest for many years.

The new Strongman Colliery commenced production in February, 1939, and although development work is still proceeding the daily output is now approximately 350 tons. The coal is of high quality, finding a ready market for gas and steam purposes, and being exceptionally popular as a domestic fuel.

The net profit for the year ended 31st March, 1940, after making provision for interest and depreciation, amounted to £14,840, an increase of £1,527 compared with the previous year. A sum of £5,500 was transferred to the sinking fund, leaving a net surplus for the year of £9,340.

The Liverpool Colliery worked 211 days during the year, an increase of 9 days compared with the previous year. At the James Colliery work was carried out on 227 days, an increase of nineteen days compared with the previous year. The Strongman Colliery, which commenced production in February, 1939, worked 225 days during the year.

Output and Sales.

Liverpool Colliery.—The gross output for the year was 152,189 tons, as compared with 137,533 tons for the previous year, an increase of 14,656 tons.

James Colliery.—The gross output for the year was 24,755 tons, as compared with 42,649 tons for the previous year, a decrease of 17,894 tons.

Strongman Colliery. The gross output for the year was 43,836 tons. A comparative statement for the two years is shown hereunder :—

Mine.	Output, in Tons, 1939-40.		Output, in Tons, 1938-39.	
	Gross.	Net.	Gross.	Net.
Liverpool	152,189	146,074	137,533	131,807
James	24,755	23,709	42,649	41,434
Strongman	43,836	42,247	..	..

NOTE.—The difference between the gross and the net output is the allowance for mine consumption and waste. In addition to the above, 1,399 tons of coal was purchased for resale, of which 897 tons was 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, 55,695 tons ; railways, 45,055 tons ; other Government Departments, 9,466 tons ; shipping, 5,822 tons ; gasworks, 84,595 tons ; other consumers, 9,724 tons : total, 210,357 tons.

The total sales of State coal from the Liverpool Mine for the year amounted to 147,138 tons, value £187,940* as compared with 131,437 tons, value £165,243 for the previous year—an increase of 18,345 tons, with an increase in value of £22,697.

The average price realized by the mine on the total sales for the year was £1 5s. 6·5d.,* an increase of 4·8d. on the previous year's average.

The total sales of State coal from the James Mine for the year amounted to 22,653 tons, value £32,382,* as compared with 35,554 tons, value £49,579,* for the previous year—a decrease of 12,901 tons, with a decrease in value of £17,197.

The average price realized by the mine on the total sales for the year was £1 8s. 7·1d.* per ton, an increase of 8·5d. on the previous year's average.

The total sales of State coal from the Strongman Mine for the year amounted to 40,566 tons, value £60,172.*

The average price realized by the mine on the total sales for the year was £1 9s. 7·9d.

The sales of coal, &c., through the medium of the depots totalled 150,657 tons, value £253,913,* as against 122,335 tons, value £209,267,* for the previous year.

ITEMS FROM ANNUAL ACCOUNTS AND BALANCE-SHEET.

The following details extracted from the audited accounts will enable honourable members to appraise the financial position of the Department's trading venture :—

	£
The payments for interest totalled	5,280
The cost of sea carriage of coal amounted to	58,453
The cost of railway haulage amounted to	32,706
The total wages paid for coal-winning were..	129,031
The cost of management and office salaries (Head Office and mines) totalled	3,618
The gross capital expenditure on the whole undertaking to the 31st March, 1940, was	888,632
The total depreciation written off to 31st March, 1940 (equal to 63·96 per cent. of the gross capital expenditure) amounted to	568,386
The amount written off for depreciation for the year was ..	9,987
The present book value of permanent or fixed assets is ..	320,246
The loan capital as at 31st March, 1940, stood at	167,953
The net profits of the State Coal-mines Account from inception to 31st March, 1940, after charging the special depreciation of Colliery Development Accounts and after crediting interest on Sinking Fund investments, were	248,261
The net profit for the year ended 31st March, 1940, was ..	14,840
The Sinking Fund as at 31st March, 1940, was in credit ..	5,502
The amount taken out of the Sinking Fund during the year and applied in reduction of loan capital was	11,765
General Reserve as at 31st March, 1940, stood at	233,419
The amount at credit of Profit and Loss as at 31st March, 1940, was	9,340
The cash in hand and in the Public Account as at 31st March, 1940, was (last year £7,625)	18,775

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

The total wages paid at all collieries during the year amounted to the sum of £152,797. These wages were distributed amongst 499 men and 34 youths, and represent an average income per employee of £287. For the previous year the average income per employee was £273, the total sum paid in wages for coal-winning being £112,072 and the number of employees being 385 men and 26 youths.

WASTAGE OF COAL.

The reduction in the size of screens in use, together with the increased consumption of slack coal in factories, has resulted in a substantial improvement being effected in respect of the wastage of slack coal, which was one of the major problems confronting the industry in previous years.

NEW AVENUES OF COAL-UTILIZATION.

The survey of our coal resources has continued during the year. Detailed investigations of the coals in the Grey and Buller districts have been made, but the work has not yet been completed. A start was also made with the sampling of Waikato and Southland coals, and some preliminary work carried out to determine suitable fuels for producer gas.

The question of producing increased quantities of benzol at the main gasworks is at present under consideration.

RESCUE-STATIONS.

A rescue-station was completed during the year at Dobson, near Greymouth, and equipped with modern apparatus. Courses of training were carried out, and at the end of the year there were seven fully-trained brigades and one partially trained brigade in the Grey district.

The importance of having up-to-date, properly-maintained mine-rescue apparatus is generally recognized. It is of equal importance that the selected rescue crews are comprised of relatively young men who have had proper mining experience and who possess sound physical and mental qualities. The personnel of these rescue crews must be thoroughly trained so as to be competent to meet any emergency. A full appreciation of this fact by both employers and workers is essential.

Sites have been chosen for the erection of two additional rescue-stations—one in the Waikato district, the other in the Ohai field—and the erection and equipping of these stations will be pushed ahead as quickly as possible.

SOCIAL AMENITIES IN MINING TOWNSHIPS.

Substantial additions and improvements to the amenities in mining camps and townships have been provided during the year. In this work I have had the financial support of the owners of the mines, and the residents of the districts, too, have shown a commendable local effort.

In 1939 a number of swimming-baths, tennis-courts, bowling-greens, croquet-greens, and other facilities for healthy recreation were made available in a number of townships.

Small grants have been made to libraries in the townships for the purchase of suitable books.

CARBONIZING AND BRIQUETTING.

The low-temperature coal-carbonizing and briquetting plant of Waikato Carbonization, Ltd., at Rotowaro, operated for ten months during 1939.

The following figures show the production during that period:

Raw coal carbonized	39,573 tons.
Carbonized coal produced	19,365 tons.
Average percentage of carbonized coal to raw coal	49 per cent.
Carbonettes manufactured	22,089 tons.
Tar and oil treated	321,204 gals.
Pitch produced	638 tons.
Light and heavy oils produced	163,922 gals.
Creosote produced	47,766 gals.

The briquetting plant of Briquettes Ltd., at Onehunga, produced 1,016 tons of briquettes during 1939.

For the twelve months ended 31st December, 1939, Smokeless Fuel and Briquettes (Canterbury), Ltd., produced 6,312 tons of briquettes at its works at Sockburn.

LABORATORY INVESTIGATIONS.

The Mines Department is concerned, directly or indirectly, with all the mineral work carried out in the Dominion Laboratory during the year, particularly with that relating to the Iron and Steel Department, and to the commercial development of such non-metallic minerals as clay, diatomaceous earth, and bentonite.

Prospectors' samples for the year were again few in number, and of comparatively little value. Those sent in for assay for gold and silver were mostly from well-known mining localities, and were almost without exception of low grade. A sample of scheelite was received from Wakamarina, where its occurrence is well known, and specimens of osmiridium from Takaka and magnetic iron-ore from D'Urville Island. Antimony-ore of good quality was forwarded from Waikare Basin, near Russell, probably from the old workings which exist there. Definite interest continues to be shown in manganese, the best samples coming from Waikare Basin, where it was formerly worked, and from Otaua, in the Lower Waikato. The possibility of the development of deposits of non-metallic minerals is being more generally recognized. Bentonite occurrences in Hawke's Bay have been examined by the Geological Survey, and numerous analyses made. Feldspar, at present a waste product at the Charleston Mica-mine, was examined for its potash content, which was found to be 12·4 per cent. The possible use of serpentine as a desirable addition to superphosphate has been investigated. Numerous clays have been analysed, one from Kaka, near Glenhope, of low fusibility being particularly promising as a stoneware clay.

The most outstanding work on the mineral side has been the regular analyses for the Iron and Steel Department of iron-ore, following the systematic exploration of the Onekaka deposit, and of iron-sands from the Patea deposits, which it is proposed to use in conjunction with the Onekaka ore. Iron was determined in 1,142 samples and fuller analyses made when required. Twenty-six samples of limestone adjacent to Onekaka were also analysed, and one sample of dolomite from Mount Burnett.

The most important work of the coal survey during the year had relation to the proposed iron and steel industry, and indicated that to provide sufficient suitable coke from local sources, drastic conservation of the Dominion's low-sulphur coals would be necessary.

Other analyses were carried out as required, especially with regard to the fuller use of local coals in the gas industry, and cases of complaint investigated. An analysis was made of water from the State Coal-mine to enable a suitable resistant metal to be selected for the mine-pump. Forty-six samples of mine-air from Glen Afton, Ironbridge, Kamo, and Linton Collieries were analysed.

PERSONS EMPLOYED IN OR ABOUT MINES AND STONE-QUARRIES.

The following table shows the number of persons employed in each inspection district during 1939 and 1938:—

Classification.	Inspection District.			Totals.		
	Northern (North Island).	West Coast (of South Island).	Southern (rest of South Island).	1939.	1938.	Increase or Decrease.
Gold, silver, and tungsten ore	797	1,338	659	2,794	2,998	Dec. 204
Coal	1,585	2,247	930	4,762	4,563	Inc. 199
Stone-quarries under the Stone-quarries Act	1,583	102	398	2,083	2,667	Dec. 584
Silica	5	..	..	5	..	Inc. 5
Cinnabar	2	..	..	2	2	..
Iron ore	6	1	..	7	4	Inc. 3
Manganese	13	..	..	13	8	Inc. 5
Pumice	1	..	..	1	..	Inc. 1
Fullers earth	1	..	..	1	..	Inc. 1
Diatomaceous earth ..	1	..	..	1	..	Inc. 1
Totals	3,994	3,688	1,987	9,669	10,242	Dec. 573

The drop shown in the number of persons employed in metalliferous mines is due principally to the diversion to other occupations of a large number of subsidized prospectors. It will be noted that the coal-mining industry found work for an additional 199 men during the year.

MINING AND QUARRY ACCIDENTS.

In metalliferous mines, at which 2,824 men were ordinarily employed, three persons were killed and nine persons seriously injured.

At stone-quarries under the Stone-quarries Act, employing 2,083 men, there were five fatal accidents and three serious accidents.

In coal-mines, where 4,762 persons were ordinarily employed, seventeen persons were killed and twenty persons seriously injured.

The year was marred by the regrettable disaster which occurred at the Glen Afton Colliery and in which eleven men lost their lives. A Royal Commission was set up by the Government to inquire into the cause of the disaster. The report of the Commission has been published.

It is clear that statutory rules and regulations, however desirable and necessary up to a certain point, will not of themselves provide for safety. There must be strict compliance with these rules, and also unceasing vigilance on the part of officials and workmen to ensure the avoidance of accidents from preventable causes.

It is pleasing to record the greater measure of co-operation which now exists between owners and workmen in the adoption and use of the latest types of safety-equipment. Protective helmets, commonly known as "hard hats," are now fairly widely used in our coal-mines, and the value of this type of safety equipment will be appreciated when it is realized that, apart from a number of minor accidents, at least seven fatalities have been avoided since September, 1936, by the use of protective helmets in New Zealand coal-mines.

HOUSING.

Sixty-two loans, including eight during the year under review, have been granted to miners and other workmen under the Department's housing scheme to enable them to erect and own their own houses. The loans, which range from £180 to £700, are repayable, together with interest, by fortnightly payments over a term of twenty years. I am pleased to state that a sum of £6,000 to enable further loans to be made is being provided on the current year's estimates of the State Coal-mines Account, together with a sum of £3,000 for the erection of two new staff cottages, and hutments.

GEOLOGICAL SURVEY.

During the 1939–40 field season the Geological Survey carried out systematic mapping in three districts, the sampling and estimation of resources of mineral substances in three other districts, and geophysical work in four areas. Officers also examined deposits of possible economic value in several parts of New Zealand.

Detailed mapping proceeded in the Dannevirke, Greymouth, and Orepuki districts. The first area is part of the oil-bearing strip along the east coast of the North Island; the Greymouth district contains the most valuable coking and gas coals of the Dominion; and there are deposits of coal, oil shale, and alluvial gold in the Orepuki Subdivision.

The sampling and estimation of the lower-valued mineral resources was at Rotokaua for sulphur, near Porangahau for bentonite, and near Kaka in Nelson for feldspathic clay.

The geophysical work at Onekaka was to determine the depth of iron-ore, near Cambridge and Atiamuri to ascertain the nature of dam-foundations, and at Orepuki to explore the structure of the shale deposit.

Miscellaneous work included the examination of deposits of manganese-ore south-east of Auckland, of chromite at D'Urville Island and the Croixelles, and of barite near Baton Saddle. The parties prospecting for gold-quartz veins in the Lyell, Reefton, and Big River - Waiuta districts were also visited.

In addition to the annual report and several short papers, a memoir on a district in West Otago was published during the year.

SCHOOLS OF MINES.

The control of the Schools of Mines is vested in district committees, which take a very active interest in the work. It is with pleasure that I place on record the increasing interest displayed in the work of these schools, which is of basic importance to the future of the mining industry.

Six scholarships are offered annually by the Department for competition by students attending the various Schools of Mines within the Dominion. Five candidates sat for the annual Scholarship Examinations held in November, 1939, and of these candidates, two (one from the Dunedin School and one from the Waihi School) 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, 1940, was £3,631, as compared with £3,460 for the previous year.

MINERS' BENEFITS.

The provisions for the payment of the former miners' pensions are now contained in the Social Security Act, which became operative from the 1st April, 1939. The conditions of payment are similar to those previously obtaining, and this class of benefit may be authorized to miners who are seriously and permanently incapacitated by miners' phthisis or totally incapacitated by heart or other occupational disease associated with the mining service in New Zealand.

The rate of benefit to a miner is 30s. a week, with an additional 10s. a week for his wife, if he is married. There is also provision for the payment of 10s. weekly for each dependent child under the age of sixteen years, subject to a maximum benefit of £4 10s. weekly, but the grant in respect of the children is reduced by all other income of the family in excess of £2 a week.

A widow of a miner who died while in receipt of a benefit is entitled to receive 17s. 6d. a week during widowhood.

This scheme, which originated in the Miners' Phthisis Act, 1915, is administered by the Social Security Department, and the following summary of the operations for the year ended 31st March, 1940, has been supplied by that Department:—

		£
Payments made from 1st November, 1915, to 31st March, 1939		1,078,719
Payments, 1939–40		92,765
		£1,171,484
Number of new grants for year 1939–40—		
Miners	47	
Widows	14	
	—	61
Annual value of new grants		£5,314
Number of benefits in force at 31st March, 1940—		
Miners	838	
Widows	152	
	—	990
Annual value of benefits in force at 31st March, 1940		£90,302
Annual benefit per annum		£91 4s. 3d.
Number of benefits granted to 31st March, 1940		2,934
Dissection of benefits in force at 31st March, 1940—		
Unmarried miners	236	
Married miners	602	
Miners' widows	152	
	—	990

COAL-MINERS' RELIEF FUND.

The Coal-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 4 per cent. to 3½ per cent. as from the 1st April, 1933.

The interest earned for the twelve months ended 31st March, 1940, was £814 5s. 9d., as against £893 16s. 1d. for the previous year, while for the same periods the receipts from the ½d. per ton contributions were £4,644 3s. 2d. and £4,635 16s. 6d. respectively.

The total expenditure for the year ended 31st March, 1940, amounted to £8,125 0s. 5d., as against £7,424 15s. 8d. for the previous year.

The amount standing to the credit of the fund at the 31st March, 1940, was £22,167 0s. 3d., as against £24,933 11s. 9d. at the 31st March, 1939.

STATE AID TO MINING.

From the 1st April, 1939, with the abolition of the Employment Promotion Fund, assistance to mining from that source ceased, and as from that date all assistance has been granted out of funds provided by Parliament in the Mines Department vote.

The assistance given by the Department is of a varied nature, consisting of educative work in the Schools of Mines, provision of drilling-equipment on reasonable terms, making better access to claims in remote areas, and financial aid to prospectors and companies engaged in the search for and production of minerals.

In addition, special prospecting-work has been carried out by the Department in certain selected areas under the supervision of qualified geologists and mining experts.

For the financial year ended 31st March, 1940, the total expenditure by way of direct financial assistance amounted to £43,848, of which £19,229 was advanced by way of subsidies and loans to companies and individuals engaged in major mining or prospecting work. A sum of £15,596 was expended on subsidies to individual prospectors working small areas. The average number of men engaged on this work during the year was 290.

During the year the number of men engaged on the subsidized gold-mining scheme, previously administered by the Department of Labour, decreased from 350 to 230, but the individual gold winnings showed a distinct improvement, indicating that the best practical miners only were retained. The total gold winnings by subsidized miners during the year amounted to 2,266 oz., valued at approximately £20,400. A few men were engaged on the production of scheelite, the output of this ore being 5 tons, valued at £2,075.

In addition to the production of gold by men in receipt of subsidy, other men previously receiving assistance whose claims have become self-supporting won a further 3,250 oz. of gold.

Prospecting work at the Perseverance and Golden Treasure Mines at Reefton was carried on a further stage, but operations have not yet advanced quite far enough to determine the value of the areas. At the Red Queen Mine, near Mokihinui, a fair quantity of payable ore has been proved, and steps are now being taken to erect a small treatment plant to enable mining to be continued.

As a result of indications provided by geologists, a number of other smaller areas were tested under competent supervisors, but the expenditure on this work was very small, and in all cases the results were of a negative character. Altogether, a sum of £7,566 was expended on special survey, prospecting, and development work under the direct supervision of the officers of the Department.

Towards the end of the year steps were taken to prospect a scheelite-mine at Wakamarina, where encouraging results are being obtained.

A sum of £598 was expended on construction and maintenance of roads and tracks to mining areas, and £3,631 on Schools of Mines.

The Government's prospecting drills were hired by eight parties during the year, and a total of 5,686 ft. was drilled.

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, 1939 AND 1938, 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, 1939.		For Year ended the 31st December, 1938.		Total from the 1st January, 1853, to the 31st December, 1939.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Precious metals—	Oz.	£	Oz.	£	Oz.	£
Gold*	175,667	1,623,072	151,162	1,287,421	25,378,695	105,593,367
Silver	315,236	35,132	369,896	38,857	31,236,335	3,579,547
Total gold and silver ..	490,903	1,658,204	521,058	1,326,278	56,615,030	109,172,914
Mineral produce, including kauri-gum—	Tons.	£	Tons.	£	Tons.	£
Copper-ore	..	..	$\frac{3}{20}$	7	1,504$\frac{3}{20}$	19,397
Chrome-ore	..	..	..	..	5,869	38,002
Antimony-ore	..	..	2$\frac{11}{20}$	20	3,788	55,101
Manganese-ore	5	25	75	150	19,467$\frac{11}{20}$	62,196
Hæmatite-ore	..	..	..	..	77	469
Tungsten-ore	38	7,728	48$\frac{1}{20}$	10,804	2,724$\frac{1}{20}$	355,893
Sulphur (crude)	..	..	..	..	4,927	13,241
Mixed minerals	3,681†	11,187	3,049$\frac{11}{20}$	8,895	113,125$\frac{4}{20}$	439,717
Coal (New Zealand) exported	43,990	59,971	55,711	73,477	6,854,010	7,629,740
Coke exported	6	43	9	56	17,792	28,391
Coal, output of mines in Dominion (less exports)	2,298,649	2,282,668	2,166,377	2,148,611	85,974,059	66,102,368
Oil-shale	..	..	..	..	14,444	7,236
Kauri-gum	2,316	112,650	2,304	103,777	442,501	23,730,179
Pig iron	..	..	..	..	1,614	6,615
					lb.	
Quicksilver	..	..	..	..	87,993	19,024
Total value of minerals ..	..	2,474,272	..	2,345,797	..	98,507,569
Value of gold and silver, as above	..	1,658,204	..	1,326,278	..	109,172,914
Total value of minerals, including gold and silver	..	4,132,476	..	3,672,075	..	207,680,483

* In respect of gold, ounces of the fineness of 20 carats and upwards. † Includes pumice-sand and stone, 3,680 tons, value, £11,172.

NOTE.—The gold and silver recorded in this table are the products of the mines of the Dominion and do not include jewellers' sweepings or old jewellery.

No. 2.

TABLE SHOWING THE QUANTITY AND VALUE OF GOLD EXPORTED FROM NEW ZEALAND FOR THE YEARS ENDED THE 31ST DECEMBER, 1939 AND 1938, AND THE TOTAL QUANTITY AND VALUE FROM 1857 TO THE 31ST DECEMBER, 1939.

District and County or Borough.	Year ended 31st December, 1939.		Year ended 31st December, 1938.		Total Quantity and Value from January, 1857, to 31st December, 1939.	
	Quantity.	Value.	Quantity.	Value.		
AUCKLAND—	Oz.	£	Oz.	£	Oz.	£
County of Ohinemuri ..	1,347	11,752	2,326	17,339		
County of Coromandel ..	254	2,041	428	3,185		
County of Thames	622	5,233	1,756	11,313		
Borough of Waihi	48,617	463,751	52,017	464,373		
Borough of Thames ..	274	2,255	216	1,596		
	51,114	485,032	56,743	497,806	8,267,551	34,519,637
WELLINGTON	..	..	..	..	188	706
MARLBOROUGH—						
County of Marlborough ..	386	3,332	164	1,368		
	386	3,332	164	1,368	118,551	488,089
NELSON—						
County of Murchison ..	3,542	31,861	5,979	47,348		
County of Waimea ..	106	987	248	2,056		
	3,648	32,848	6,227	49,404	1,789,377	7,275,600
WEST COAST—						
County of Grey	25,327	233,468	22,677	193,089		
County of Buller	2,125	18,823	869	7,455		
County of Inangahua ..	41,368	374,745	21,775	176,830		
County of Westland ..	31,904	298,789	20,793	180,327		
	100,724	925,825	66,114	557,701	7,199,215	30,733,807
CANTERBURY	..	..	..	..	165	669
OTAGO—						
County of Taieri	..	..	13	114		
County of Tuapeka ..	1,081	9,823	1,190	9,866		
County of Vincent	9,133	80,253	9,516	78,339		
County of Maniototo ..	1,333	11,878	1,527	12,459		
County of Waitaki	224	2,048	317	2,584		
County of Lake	1,112	9,709	2,291	19,017		
County of Wallace	2,658	24,797	2,165	18,412		
County of Southland ..	2,840	24,968	2,716	22,333		
County of Waihemo ..	1,391	12,357	2,149	17,770		
County of Bruce	12	107	28	231		
County of Clutha	11	95	2	17		
	19,795	176,035	21,914	181,142	7,990,260	32,519,188
Unknown	..	..	..	..	13,388	55,671
Totals	175,667	1,623,072	151,162	1,287,421	25,378,695	105,593,367

NOTE.—The gold recorded in this table is the product of the mines of the Dominion and does not include jewellers' sweepings or old jewellery.

No. 3.

TABLE SHOWING QUANTITY OF GOLD EXPORTED ANNUALLY FROM NEW ZEALAND FROM 1857 TO 1939.

Year.	Quantity. Oz.	Year.	Quantity. Oz.	Year.	Quantity. Oz.	Year.	Quantity. Oz.
1857 ..	10,437	1878 ..	310,486	1899 ..	389,558	1920 ..	212,973
1858 ..	13,534	1879 ..	287,464	1900 ..	373,616	1921 ..	149,595
1859 ..	7,336	1880 ..	305,248	1901 ..	455,561	1922 ..	131,848
1860 ..	4,538	1881 ..	270,561	1902 ..	508,045	1923 ..	169,512
1861 ..	194,031	1882 ..	251,204	1903 ..	533,314	1924 ..	133,631
1862 ..	410,862	1883 ..	248,374	1904 ..	520,320	1925 ..	114,696
1863 ..	628,450	1884 ..	229,946	1905 ..	520,486	1926 ..	125,777
1864 ..	480,171	1885 ..	237,371	1906 ..	563,843	1927 ..	130,171
1865 ..	574,574	1886 ..	227,079	1907 ..	508,210	1928 ..	118,722
1866 ..	735,376	1887 ..	203,869	1908 ..	506,423	1929 ..	116,848
1867 ..	686,905	1888 ..	201,219	1909 ..	506,371	1930 ..	133,749
1868 ..	637,474	1889 ..	203,211	1910 ..	478,288	1931 ..	139,974
1869 ..	614,281	1890 ..	193,193	1911 ..	455,226	1932 ..	167,784
1870 ..	544,880	1891 ..	251,996	1912 ..	343,163	1933 ..	164,998
1871 ..	730,029	1892 ..	238,079	1913 ..	376,161	1934 ..	157,375
1872 ..	445,370	1893 ..	226,811	1914 ..	227,954	1935 ..	168,756
1873 ..	505,337	1894 ..	221,615	1915 ..	422,825	1936 ..	166,210
1874 ..	376,388	1895 ..	293,491	1916 ..	292,620	1937 ..	170,715
1875 ..	355,322	1896 ..	263,694	1917 ..	218,624	1938 ..	151,162
1876 ..	322,016	1897 ..	251,645	1918 ..	11,987	1939 ..	175,667
1877 ..	371,685	1898 ..	280,175	1919 ..	320,210		

No. 4.

TABLE SHOWING THE OUTPUT OF COAL FROM THE VARIOUS COALFIELDS, AND THE COMPARATIVE INCREASE AND DECREASE, FOR THE YEARS 1939 AND 1938, TOGETHER WITH THE TOTAL APPROXIMATE QUANTITY OF COAL PRODUCED SINCE THE MINES WERE OPENED.

Name of Coalfield.	Output. 1939.	Output. 1938.	Increase.	Decrease.	Approximate Total Output up to 31st December, 1939.
	Tons.	Tons.	Tons.	Tons.	Tons.
North Auckland	71,029	44,838	26,191	..	5,970,535
Waikato (including Taranaki) ..	731,676	717,879	13,797	..	17,670,198
Nelson	17,011	16,574	437	..	684,145
Buller	453,780	440,457	13,323	..	25,937,148
Reefton	55,971	48,225	7,746	..	1,113,639
Grey	506,580	479,133	27,447	..	18,240,667
Canterbury	25,631	19,639	5,992	..	1,144,813
Otago	192,642	188,389	4,253	..	13,973,089
Southland	288,319	266,954	21,365	..	8,085,835
Totals	2,342,639*	2,222,088	120,551	..	92,820,069

* Increase, 120,551 tons.

No. 5.

TABLE SHOWING THE OUTPUT OF DIFFERENT CLASSES OF COAL.

Class of Coal.	Output. 1939.	Output. 1938.	Increase.	Decrease.	Approximate Total Output to the 31st December, 1939.
	Tons.	Tons.	Tons.	Tons.	Tons.
Bituminous and sub-bituminous ..	1,044,609	977,850	66,759	..	52,829,029
Brown	1,159,963	1,112,414	47,549	..	34,451,156
Lignite	138,067	131,824	6,243	..	5,539,884
Totals	2,342,639	2,222,088	120,551	..	92,820,069

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
1933	1,821,258	,, 20,764	99,272	..	4,259
1934	2,060,315	Inc. 239,057	100,715	1,443	..
1935	2,115,184	,, 54,869	97,398	..	3,317
1936	2,140,217	,, 25,033	111,078	13,680	..
1937	2,277,799	,, 137,582	116,499	5,421	..
1938	2,222,088	Dec. 55,711	109,206	..	7,293
1939	2,342,639	Inc. 120,551	111,537	2,331	..

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 1939.

Imports.

Country whence imported.	Tons.	Value.
		£
United Kingdom	2,822	3,791
Australia	108,715	106,972
Totals	111,537	110,763

Exports: Bunkers.

Produce of New Zealand.		Produce of other Countries.	
Tons.	Value.	Tons.	Value.
	£		
43,973	59,894	..	..

Exports: Cargo.

Country to which exported.	Produce of New Zealand.		Produce of other Countries.	
	Tons.	Value.	Tons.	Value.
		£		
Fiji	15	71	..	..
Western Samoa	2	6	..	..
Totals	17	77	..	..

No. 8.

NUMBER OF PERSONS ORDINARILY EMPLOYED AT OR ABOUT MINES OTHER THAN COAL-MINES DURING THE YEAR ENDED 31ST DECEMBER, 1939.

County or Borough.	Number of Persons ordinarily employed at				Total.	
	Gold-quartz Mines.	Gold Alluvial Mines.	Gold-dredges.	Mines other than Gold and Coal.	1939.	1938.
NORTHERN INSPECTION DISTRICT.						
County of Thames	45	..	..	..	45	69
„ Ohinemuri	60	..	..	..	60	99
„ Coromandel	30	..	..	..	30	48
„ Piako	2	..	..	..	2	2
„ Manakau	..	..	..	..	..	2
„ Franklin	..	..	..	13	13	6
„ Whangarei	..	..	..	9	9	4
„ Bay of Islands	..	..	..	3	3	2
„ County of Wanganui	..	..	..	4	4	..
Borough of Thames	25	..	..	..	25	32
„ Waihi	635	..	..	..	635	607
WEST COAST INSPECTION DISTRICT.						
County of Marlborough	..	51	..	2	53	74
„ Waimea	..	12	..	..	12	23
„ Takaka	..	12	..	..	12	34
„ Collingwood	..	18	..	1	19	34
„ Murchison	..	123	32	..	155	191
„ Buller	..	55	..	..	55	78
„ Inangahua	305	50	58	..	413	426
„ Grey	..	193	124	..	317	355
„ Westland	..	135	168	..	303	273
SOUTHERN INSPECTION DISTRICT.						
County of Taieri	..	9	..	..	9	5
„ Ashburton	..	3	..	..	3	3
„ Tuapeka	..	59	..	..	59	77
„ Vincent	3	122	42	..	167	162
„ Maniototo	..	78	..	..	78	85
„ Waihemo	17	16	..	..	33	30
„ Waitaki	..	18	..	..	18	18
„ Lake	4	99	6	38	147	133
„ Wallace	..	63	..	..	63	58
„ Southland	..	72	8	..	80	73
„ Waikouaiti	..	1	..	..	1	2
„ Bruce	..	1	..	..	1	3
„ Clutha	..	..	..	..	..	3
„ Fiord	..	..	..	..	..	1
Totals	1,126	,190	438	70	2,824	3,012

IN ADDITION, THE FOLLOWING PERSONS WERE EMPLOYED IN OIL-BORING OPERATIONS.

Geologists, geophysicists, &c.	55
Surveyors	9
Draughtsmen	4
Laboratory Assistants	5
Drillers, &c.	23
Others	36
Total	132

Summary of Persons ordinarily employed in or about New Zealand Mines during 1939 and 1938.

	1939.	1938.	Increase or Decrease.
Gold, silver, and tungsten mines	2,794	2,998	Dec. 204
Other metalliferous mines	30	14	Inc. 16
Coal-mines	4,762	4,563	„ 199
Totals	7,586	7,575	Inc. 11

In addition, 132 persons were 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, 15th May, 1940.

I have the honour to present my report on metalliferous mines and stone-quarries, together with statistical information, for the year ended 31st December, 1939.

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, 1939, to the 31st March, 1940.

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; (4) Prosecutions. 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; (4) Legislation affecting Metalliferous Mines.

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 from metal-mines and of the value of production from stone-quarries under the Stone-quarries Act during 1939 and 1938:—

Mineral.	1939.		1938.	
	Quantity.	Value.	Quantity.	Value.
	Oz. dwt.	£	Oz. dwt.	£
Gold and silver (estimated)	569,297 0	1,566,977	509,759 0	1,214,054
Platinum	13 6	104	1 6	7
	Tons cwt.		Tons cwt.	
Iron-ore	1,586 0	3,018	1,218 10	3,666
Stone	..	545,533	..	555,295
Pumice	3,680 2	11,172	3,046 6	8,811
Tungsten-ore	41 0	8,240	45 13	8,604
Manganese-ore	486 0	1,944	90 0	450
Silica-sand	2,335 0	2,227	1,459 0	1,126
Fuller's earth	73 18	233	56 0	154
Diatomaceous earth	..	332	..	70
Mica	18	12	..	..
			lb.	
Quicksilver	..	..	760	190
Totals	..	2,139,792	..	1,792,427

The following statement shows the value of New Zealand minerals (other than coal and coke) and allied substances exported during 1939 and 1938, and since 1st January, 1853:—

	1939.	1938.	Increase or Decrease.	Total from the 1st January, 1853, to the 31st December, 1939.
	£	£	£	£
Gold	1,623,072	1,287,421	Inc. 335,651	105,593,367
Silver	35,132	38,857	Dec. 3,725	3,579,547
Tungsten-ore	7,728	10,804	,, 3,076	355,893
Kauri-gum	112,650	103,777	Inc. 8,873	23,730,179
Sand, lime, and building-stone	11,172	8,811	,, 2,140	660,998
Other minerals	40	261		
Totals	1,789,794	1,449,931	Inc. 339,863	133,919,984

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, 1939.
	Northern.	West Coast.	Southern.	
Gold, silver, and tungsten	797	1,338	659	2,794
Cinnabar	2	..	..	2
Iron-ore	6	1	..	7
Manganese	13	..	..	13
Silica	5	..	..	5
Pumice	1	..	..	1
Fuller's earth	1	..	..	1
Diatomaceous earth	1	..	..	1
Totals for 1939	826	1,339	659	2,824
Totals for 1938	871	1,488	653	3,012

In addition, the following persons were employed in oil-boring operations:—

Geologists, geophysicists, &c.	55
Surveyors	9
Draughtsmen	4
Laboratory assistants	5
Drillers, &c.	23
Others	36
Total	132

III. ACCIDENTS.

During 1939 three fatal and nine serious but non-fatal accidents occurred in or about metalliferous mines, at which 2,824 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	3	3	1	1
Explosives	..	..	..	..
Miscellaneous, on surface	..	..	4	4
Miscellaneous, underground	..	..	4	4
Totals	3	3	9	9

The three fatalities which occurred in 1939 in metalliferous mines were all in the Southern District and were caused by falls of earth or stone. One occurred underground in a "deep lead" working, one in a tail-race, and the third at the bottom of an elevator.

A short statement concerning these fatalities appears in the report of the Inspector of Mines for the Southern District.

It is pleasing to record the absence of fatal accidents during 1939 in the Northern and West Coast Inspection Districts.

There were eight serious non-fatal accidents in the West Coast District, three of them on dredges and, of the others, three were caused by falling rock. There was one serious non-fatal accident in the Southern District. No serious non-fatal accidents occurred in the Northern District during the year.

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, 1939.* (All Mines.)		Dividends paid, 1939. (By Registered Companies only.)†	Number of Persons ordinarily employed at Productive and Unproductive Mines, 1939.	Number of Productive Quartz-mines, Alluvial Mines, and Dredges, 1939.
	Quantity.	Value.			
	Oz.	£	£		
Quartz-mining	472,309	717,219	86,987	1,126	62
Alluvial mining‡	18,512	150,169	15,809	1,190	774
Dredge mining	78,476	699,589	90,254	438	23
Totals, 1939	569,297	1,566,977	193,050	2,754	859
Totals, 1938	509,759	1,214,054	217,748	2,955	1,171

* 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 774 alluvial claims, but the dividends are only obtainable from those few that are the property of registered companies.

(1) QUARTZ-MINING.

Inspection District.	Statute Tons of Ore treated.		Value of Bullion.		Dividends paid (by Registered Companies only).	
	1939.	1938.	1939.	1938.	1939.	1938.
			£	£	£	£
Northern	180,284	189,334	444,897	426,580	61,988	81,292
West Coast	54,523	48,646	265,351	188,941	24,999	23,749
Southern	2,133	2,163	6,971	6,815	..	..
Totals	236,940	240,143	717,219	622,336	86,987	105,041

The average value per ton of ore treated during 1939 amounted to £3 0s. 6d., as compared with £2 11s. 9d. during 1938.

At the Martha Mine, Waihi, 175,665 tons of quartz was mined and treated, from which 49,981 oz. of gold, valued at £386,121, and 384,897 oz. of silver, valued at £35,581, were recovered. The dividends paid during the past year, £61,988 1s., were £12,397 13s. 6d. less than those paid in 1938. The total dividends paid to date from the Martha Mine are £6,623,336 13s.

Development work was done during 1939 on the Nos. 2, 3, 5, and 8 levels, and stoping was continued in all levels from No. 3 level down to No. 14 level.

In the Grand Junction section of the Martha Mine only maintenance work was done.

At the Golden Dawn Mine a winze was sunk on the No. 5 reef and some driving was done from near the bottom of the winze, but the results ware disappointing. The winze is to be extended another 100 ft. A crosscut off an intermediate level above No. 3 level was continued, but nothing payable was met.

Only 44 tons of ore from the Golden Dawn Mine was treated in 1939, yielding 8 oz. of gold, valued at £78.

At the Talisman-Dubbo Mine, near Karangahake, the No. 4 level was cleaned up, driving was continued to the No. 2 Crown block, and rises were then put up. Stoping was continued in the No. 7 Hauraki level and in the Dubbo and Nos. 1 and 2 Talisman levels. Two small sections of the mines were worked by tributers, and from all workings 2,013 tons of ore were treated at the new mill, yielding 291 oz. of gold, valued at £2,979, and 1,374 oz. of silver, valued at £136.

From two other mines in the Karangahake district 708 tons of quartz was mined, yielding 752 oz. of gold, valued at £2,608, and 267 oz. of silver, valued at £27. Most of this ore was treated at the Talisman-Dubbo battery.

At Thames the Una Hill Mine was reopened early in 1939 and an incline sunk 140 ft. at a steep angle below the No. 4 level. From the foot of this inclined shaft a 30 ft. crosscut has been driven and then another steep incline put down. In the upper incline a rich leader was cut, but it has not yet been followed. At 120 ft. down the lower incline a vertical leader, up to 12 in. in width and showing good gold, was cut. It is intended to continue sinking until the No. 2 reef is met and then develop the mine according to knowledge gained from the exploratory work.

In the Blackwater Mine development was continued in Nos. 11, 12, and 14 levels to the north and in a branch drive west of the north end of No. 13 level north, also in Nos. 13 and 14 levels to the south.

No. 11 level north was extended for 209 ft. north of the Prohibition Shaft, the 20 in. reef continuing to average over 11 dwt. In the No. 13 level south the values were a little higher, and those in Nos. 13 north and 14 north averaged 13·92 and 15·52 dwt. respectively, while in the No. 14 south the 29 in. reef averaged 17·60 dwt.

Near the old battery, and using the water which drove it, an A.C. generator has been installed; and the 1,000 cubic feet compressor, which formerly was steam driven, is now electrically driven.

During 1939, 49,482 tons of ore from the Blackwater Mine was crushed and treated, from which 25,416 oz. 4 dwt. of gold was recovered. From a clean-up of the old mill, 1,026 oz. 4 dwt. were obtained, making a total, from the clean-up and the mine ore, of 26,442 oz. 8 dwt., valued at £230,559.

Dividends amounting to £18,749 8s. were paid during 1939, making the total dividends paid to date from the Blackwater Mine £399,986 6s.

At the Alexander Mine the No. 5 intermediate and No. 6 levels were extended, but most of the ore was from the slopes above the No. 5 intermediate level. Much driving and crosscutting was done in the No. 6 level before the lode was located, and it is evident the country thereabouts is very much faulted.

During 1939 the tonnage treated was 50 per cent. more than that of the previous year, being 3,259 tons, which yielded 2,192 oz. of gold, valued at £19,621.

At the Big River Mine the shaft was sunk 74 ft. below the No. 6 level, and below the No. 5 level a winze was sunk 39 ft. on a narrow ore-body which cut out at the bottom of the winze. The No. 6 level was continued, but only a small lens of good ore was met. Some crosscutting off this level shows that the lode has been displaced between the No. 5 and the No. 6 levels. Below the No. 6 level a winze was sunk 74 ft. on rich stone which increased in width from 12 in. at the top of the winze to 60 in. at the bottom. Then it was decided to sink the shaft to the No. 7 level.

Most of the 1,522 tons which was treated in 1939, and from which 1,449 oz. of gold was recovered, valued at £14,080, was from the stopes above No. 5 level.

The Mines Department continued its prospecting operations in the Perseverance and Golden Treasure Mines, near Reefton.

After the No. 1 crosscut in the Perseverance Mine had been restored, a winze was sunk some 74 ft., mostly in the reef. In the No. 2 level, over 700 ft. of driving and crosscutting has been done but no reef was met. A rise was then put up to connect with the winze from No. 1 level. From this rise an intermediate level was driven 205 ft. on the reef.

The crosscut in the Perseverance Mine was extended another 1,800 ft. until it connected with the bottom of the old Golden Treasure shaft. The Golden Treasure No. 3 level was then retimbered and extended. About 400 ft. of driving and crosscutting was done in the north end of the mine, and by rising up from No. 3 level and sinking from an old intermediate level a connection was made and the old upper workings examined. If values warrant it, a fairly large tonnage can be worked above No. 3 level.

(2) Dredge Mining.

The following is a statement showing the capacity and production of bucket gold dredges and dividends declared by dredging companies during 1939. (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.	D = Diesel. S = Steam. E = Electrical. H = Hydraulic.	Average Depth of Ground dredged.	Quantity and Value of Bullion obtained during 1939.		Dividends declared.	
									During 1939.	Total to End of 1939.
West Coast.						Ft.	Oz.	£	£	£
Mataki	Murchison ..	7	20	120	S	17	1,077	9,111	..	8,435
Mataki Junction ..	,, ..	6	21	370	D.E.	20	1,863	16,913	..	5,000
Worksop	Antonios ..	4	12	140	D	12	1,180	11,168	..	20,800
Mossy Creek	Hukarere ..	4	26	225	E	11	1,335	12,150	1,250	16,250
Grey River	Ikamatua ..	16	28	1,266	E	25	13,219	125,223	7,125	7,125
Argo	Blackball ..	4½	18	210	E	20	2,264	21,076	10,000	41,200
Blackball Creek ..	,, ..	5	20	383	E	33	2,209	22,213	5,400	5,400
New River	Dunganville ..	4	15	140	D	14	1,498	12,356	4,228	5,637
Nemona	Marsden ..	4½	23	255	E	9	1,199	11,009	..	21,000
Bundi	Camerons ..	10	18	500	S	24	1,663	12,224	..	..
White's Electric ..	Barrytown ..	4	10	226	E	16	1,459	11,646	..	..
Barrytown	,, ..	12	21	879	E	30	8,928	75,032	..	..
Arahura	Arahura ..	18	21	1,500	E	83	5,554	49,124	..	..
Rimu	Rimu	12	23	922	E	53	9,956	94,185	37,501	194,552
Kanieri	Kanieri ..	18	21	1,487	E	42	14,700	124,279	15,000	15,000
Five Mile Beach ..	Okarito ..	5	10	..	H	20	1,244	10,096	3,500	42,000
Gillespies Beach ..	Wehcka ..	5	13	225	E	28	1,174	11,036	..	21,000
Otago and Southland.										
Molyneux	Molyneux River..	9	12	580	E	30	1,725	12,727	..	..
Nevis Crossing ..	Nevis	3½	10	12	S	10	183	1,413	..	..
Rainbow	Maitland ..	2½	12	38	D	7	303	2,869	..	172
Aitkens	,, ..	6	10	32	S	14	177	1,397	..	..
Goldfields	Big Beach ..	8	18	305	E	23	64	500	..	..
Clutha River ..	Clutha River ..	12	12	570	E	65	5,502	51,842	6,250	25,000
Totals, 1939 ..	..	..	..	..	..	..	*78,476	699,589	90,254	Unknown.
Totals, 1938 ..	..	..	..	..	..	..	54,124	442,132	98,888	Unknown.

* Includes 1,438 oz. of silver, valued at £139.

Of the eighteen dredges which were working in the West Coast district during 1938, one, the Stafford, which sank in March, 1938, did not resume operations, and the company went into voluntary liquidation.

The former Maori Gully Gold Dredging Co., now called "Maori Gold, Ltd.," purchased the Nevis Diesel dredge, transported it from Central Otago to the West Coast, and re-erected it on their new dredging-area at Callaghans.

The Arahura all-steel dredge, weighing 650 tons, was completed, and commenced dredging in August, 1939, while the all-steel Ngahere dredge, weighing 600 tons, was completed and given a trial run at the end of the year.

The Snowy River dredge is under construction and will be operating during the present year. Preparations are in hand for the construction of seven more dredges for the West Coast district.

Of the six dredges working in the Southern district in 1938, four, the Nevis Crossing, Molyneux, Clutha, and Rainbow dredges, continued to operate during 1939.

The Aitkens dredge was removed from the Maitland area and reconstructed in the Chatton district.

The Goldfields (Big Beach) dredge was worked early in 1939, but later on closed down, and the company went into liquidation.

The construction of the large all-steel dredge at Lowburn, Central Otago, was hampered by the outbreak of war, but this dredge should soon be operating.

(3) Alluvial Mining.

The following is a statement showing the production of, and dividends declared by, alluvial gold-mines during 1939 :—

Name of Owner.	Estimated Quantity and Value of Gold produced.		Dividends declared.	
			During 1939.	Total to End of 1939
West Coast.	Oz.	£	£	£
Glenroy Gold, Ltd.	40	319	..	..
Addison's Flat Gold-mining Co., Ltd.	703	5,765	1,300	6,045
Totara Gold-mining Co., Ltd.	209	1,685	..	..
Newton Flat Gold-sluicing Co., Ltd.	9	76	..	..
Waitahu Gold-mining Co., Ltd.	635	5,271	..	1,333
Auckland Alluvials, Ltd.	69	620	..	..
Golden Sands, Ltd.	527	4,961	1,167	8,333
Golden Valley Syndicate	33	250	..	..
Kumara Goldfields Syndicate	51	387	..	..
Moonlight Goldfields, Ltd.	1,076	10,388	1,981	4,458
Stafford Sluicing, Ltd.	11	94	..	..
All other claims	4,312	32,507	..	..
Otago and Southland.				
Enterprise Gold-mining Co., Ltd.	20	135	..	..
Paddy's Point Gold-mining Co., Ltd.	465	3,721	1,401	4,203
Macrae's Gold-mining Co., Ltd.	872	6,871	..	9,000
New Gabriels Gully Gold-mining Co., Ltd.	104	761	..	..
Jones Nevis Sluicing Co., Ltd.	58	463	..	813
Central Shotover Gold-mining Co., Ltd.	179	1,380	..	..
Sandhills Gold-mining Co., Ltd.	94	724	..	2,000
Short and Party, Ltd.	55	384	..	..
Nokomai Gold-mining Co., Ltd.	1,536	12,124	..	..
Kildare Consolidated Gold-mining Co., Ltd.	277	2,192	..	1,000
Vinegar Hill Hydraulic Sluicing Co., Ltd.	257	2,046	450	1,650
Mining House Concessions, Ltd.	66	625	..	..
Sailors Gully (Waitahuna) Gold-mining Co., Ltd.	335	2,991	210	14,135
Golden Arrow Mining Co., Ltd.	86	658	..	1,660
Nevis Sluicing Claims, Ltd.	44	351	..	..
Round Hill Gold-mining Co., Ltd.	2,321	19,671	9,000	30,929
Tuapeka Mouth Gold-mining Co., Ltd.	188	1,594	300	2,100
All other claims	3,880	31,155	..	..
Totals, 1939	18,512	150,169	15,809	Unknown.
Totals, 1938	19,929	149,586	13,819	Unknown.

In the West Coast and Southern Inspection Districts 1,190 men were employed at alluvial mining in 1939, as compared with 1,374 men in the previous year.

In the West Coast district a further decrease from 858 men to 649 men was shown, but in the Southern district there was an increase from 516 men to 541 men. The 193 men in the Grey district alluvial mines produced 2,968 oz. of gold in 1939 ; in the Murchison district 123 men produced 883 oz. ; in the Buller district 55 men produced 1,185 oz. ; and in the Westland district 135 men produced 1,141 oz.

At Waikakaho the work was confined to the driving of a crosscut from the bottom of the shaft.

The test of the drag-line plant at Maud Creek proved the cost of operating it was not economical through frequent removals and resetting.

At Addison's Flat 147,000 cubic yards were treated, yielding 703 oz of gold, valued at £5,765, and at the Waitahu claim 251,500 cubic yards were elevated and sluiced, yielding 635 oz. of gold, valued at £5,271.

At the Golden Sands sluicing claim, 1,076 oz. of gold, worth £4,961, was recovered from 154,000 cubic yards, and at the Moonlight Goldfield sluicing claim 243,730 cubic yards were treated, from which 1,076 oz. was recovered, valued at £10,388.

The two 12 in. gravel-pumps at the Nokomai Gold-mining Co.'s claim continued to operate very satisfactorily in 1939, and 1,536 oz. of gold was recovered, valued at £12,127.

The two gravel-pumps owned by Macrae's Gold-mining Co. elevated 121,200 cubic yards of wash during 1939 for a return of 872 oz. of gold, valued at £6,871.

The Paddy's Point Gold-mining Co. recovered at Waitahuna 465 oz. of gold, worth £3,721, and in a valley east of Waitahuna Gully the Sailors Gully Sluicing Co. recovered 355 oz. of gold, valued at £2,991.

The Round Hill Gold-mining Co. at their claim at Round Hill, in Southland, recovered 2,321 oz. of gold, valued at £19,671.

An area has been taken up covering the main drives in the Bell-Kilgour and Bell-Hooper Mines, and it is intended to sluice off the deep overburden before sluicing the pillars of the deep lead which were not extracted by underground operation.

(4) Prosecutions.

There were two prosecutions by the Inspectors in 1939, one in the Northern district and one in the West Coast district.

A Northern district battery superintendent was charged with failing to permit a workmen's inspector to inspect a refinery, but the information was dismissed.

A West Coast dredgemaster was convicted and fined for employing labour on a Sunday without first having obtained authority to do so from the Inspector.

V. MINERALS OTHER THAN GOLD.

Iron.

At the large limonite deposit at Onekaka prospecting operations were continued in 1939 by the State Iron and Steel Department. Approximately 319 tons of limonite, valued at £100, was quarried and ground by the Onekaka Iron and Steel Co., Ltd., for sale for gas-purification purposes.

Near Kamo, North Auckland, 830 tons of limonite, valued at £1,584, was mined in 1939, and at Okaihau, North Auckland, a further 437 tons of limonite, valued at £1,334, was won.

Asbestos.

Some further prospecting was done at Upper Takaka, and a road is under construction for the conveyance of machinery to the field, but no asbestos was produced for commercial purposes during 1939.

Mica and Felspar.

At Mabel Bay, near Charleston, a small quantity of rock was crushed for the purpose of ascertaining its mica and felspar content.

Sulphur.

No work was done on any sulphur deposit during the year.

Manganese.

Near Bombay 486 tons of manganese-ore was mined from a freehold property, and preparations are under way to work a deposit near Hunua.

Quicksilver.

No mercury was produced in 1939, but at Puhipuhi an excavator is being used for stripping the cinnabar-ore.

Tungsten.

From the Glenorchy and Macrae's districts of Otago 40 tons of scheelite concentrates was produced in 1939, valued at approximately £8,000

A ton of scheelite, valued at £240, was recovered from the retreatment of tailings in the Wakamarina district.

Silver.

From the bullion recovered by five West Coast dredges 1,290 oz. of silver was obtained, valued at £123.

The Clutha River dredge recovered 148 oz. of silver, valued at £16.

Platinum.

Together with the gold recovered from two sluicing claims at Round Hill and Orepuki, in Southland, 13 oz. 6 dwt. of platinum, valued at £104, was saved.

Silica.

From the Wanganui and North Auckland districts 321 tons of silica was mined, valued at £693. From Hyde, Central Otago, and Mount Somers, Canterbury, 2,014 tons of silica sand, valued at £1,534, was produced in 1939.

Fuller's Earth and Diatomaceous Earth.

At Kamo, near Whangarei, 74 tons of Fuller's earth and 221 cubic yards of diatomaceous earth were produced during 1939.

Petroleum.

The bore being drilled at Totangi, near Gisborne, reached a depth of 5,700 ft., but in November the hole caved up to the bottom of the lowest casing at 4,824 ft. On drilling being resumed the drill failed to follow the old hole. Little progress was made, and after several attempts to carry the hole to greater depth it was abandoned on 24th November, 1939. The site of another hole was then selected at Morere, about a mile north-west of Waikokopu, in the Wairoa County, and boring commenced in February, 1940.

Northern Oilfields, Ltd., put down two bores near Dargaville in 1939, the first bore reached a depth of 837 ft., but had to be abandoned owing to difficulties with the drilling plant. The second hole reached a depth of 1,461 ft. on 3rd February, 1940, when boring operations ceased.

No drilling was done on the Kotuku fields in 1939, but from seepages 800 gallons, valued at £23, were obtained.

Neither was there any drilling done on the Moturoa fields. From the three producing wells owned by Moturoa Oilfields, Ltd., Nos. 1, 2, and 4, a total of 103,631 gallons of petroleum was obtained, all of which was treated by New Zealand Refineries, Ltd.

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 1939:—

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 ..	R. T. H. Dale, Mines Dept., Huntly	237	1,144	988,453	1,400	704	122,044	269,724	..	50,063	295,105
	E. J. Scoble, Mines Dept., Waihi (Hauraki Mining District only)	25	150	122,315	..	1,514	..	..	..	..	42,107
Hawke's Bay	R. T. H. Dale, Mines Dept., Huntly	25	51	26,405	..	..	32,148	..	..	..	8,945
Taranaki ..	Ditto	28	72	35,976	..	..	..	..	..	..	9,573
Wellington	,, ...	31	166	118,216	6,573	..	18,156	..	..	25,000	39,643
Nelson .. Westland .. Buller .. Marlborough Canterbury .. Otago .. Southland ..	G. W. Lowes, Mines Dept., Greymouth	24	102	44,407	20,765	..	14,694	99,911	..	765	28,234
	T. McMillan, Mines Dept., Dunedin	50	398	155,639	29,011	10,875	204,027	28,924	..	..	121,926
Totals, 1939	..	420	2,083	1,491,411	57,749	13,093	391,069	398,559	..	75,828	545,533
Totals, 1938	..	429	2,667	1,443,525	55,173	25,339	481,712	332,455	..	180,263	555,295

Quarry Accidents.

The following is a summary of serious accidents during 1939 at quarries under the Stone-quarries Act:—

Cause.	Number of Accidents.		Number of Sufferers.	
	Fatal.	Serious.	Killed.	Seriously injured.
Haulage	..	..	..	..
Machinery	..	..	..	..
Explosives	1	1	1	1
Falls of ground	3	2	4	2
Miscellaneous	..	..	..	..
Totals	4	3	5	3

There were three fatal accidents in North Island quarries in 1939, and two men were killed by a large fall in a South Island quarry.

Two of the North Island fatalities occurred to men shovelling on quarry floors. At a Takapuna quarry a man was killed instantly by a large block of sandstone crushing him against the motor-lorry he was loading, and at the Mamaku Quarry a man was struck by a fall of earth and stone dislodged by stripping operations.

At Ruatangata a quarryman had his right leg severely injured by a premature explosion of a detonator and a small charge of explosive. He died from the injury the following day.

The South Island fatalities occurred at the Cave limestone quarry, near Timaru. Three men were scraping down loose clay-rock on the 100 ft. high face of the quarry and another man was loading a 20 ft. vertical "bulled" hole with explosives when a very large fall occurred at the quarry face, completely burying one of the men and killing him instantly. Another of the three was thrown some distance from the fallen debris, but he suffered internal injuries from which he died eight weeks later. The shot-loader felt the movement and called out. He grasped a rope hanging down the quarry face, but was struck by some of the falling rock and slid down the face of the quarry and was buried up to his waist. He received a dislocated shoulder. The fourth man heard the warning cry of the shot-loader and managed to get clear of the fall without sustaining any injury.

VII. STATE AID TO MINING.

(1) Subsidized Prospecting.

During the year ended 31st March, 1940, individual gold prospectors were assisted from the Mines Department vote to the extent of £18,503. This sum includes all payments made in respect of subsidies, wages, and equipment connected with the Department's subsidized gold-mining scheme, but does not include salaries and allowances paid to mining engineers and supervisors. The average number of men employed under the scheme was 293.

In addition, a total sum of £19,229 was advanced by way of subsidy, loan, or other form of financial assistance to companies and individuals engaged in prospecting and/or mining for gold, coal, and other minerals.

The Department has also undertaken surveys, prospecting, mining, and development work in selected areas at a cost of £8,120.

(2) Government Prospecting Drills.

The following table gives details of the drilling done for twelve months ended 31st December, 1939:—

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

Number of Holes drilled.	Total Depth.	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 Carbons' Wear.	Remarks
	Ft.	In.				s. d.		s. d.	
9	357	4	Gold	Gravels, &c. ..	Labour Department (Employment Division)	9 4·5		..	..
						s. d.	s. d.		
2	212	6	Gold	Gravels, &c. ..	Rimu Gold Dredging Co., Ltd.	10 7	2 5	..	..
38	1,007	6	Gold	Gravels, &c. ..	Rimu Gold Dredging Co., Ltd.	4 11·9	2 1	..	..
2	300	4¾ and 6	Gold	Sand and gravels	Mines Department	..	..	..	..
217	2,262	4 and 4⅝	*	Sand	State Iron and Steel Department	..	..	..	..
33	497	6	Gold	Gravels, &c. ..	Slab Hut Syndicate	..	..	..	In progress.
5	462	6	Gold	Gravels, &c. ..	T. H. Lee ..	9 2	4 2	..	..
13	390	6	Gold	Gravels, &c. ..	T. H. Lee ..	11 5	10 4	..	..
1	85	1⅞	Coal	Claystone and sandstone	State Coalmines	..	..	..	..
1	114	3½	Coal	Sandstone, grits, &c.	United Brunner Collieries, Ltd.	..	..	..	..
321	5,686								

* Testing depth of ironsand.

(3) Subsidized Roads on Goldfields.

The expenditure in the form of subsidies and direct grants upon roads on goldfields amounted to £597 11s. 8d., as compared with £5,220 12s. 3d. during the previous year.

(4) Legislation affecting Metalliferous Mines.

By the Statutes Amendment Act, 1939, sections 384 to 392, 419, 422, 426, and paragraph (*c*) of section 425 of the Mining Act, 1926, were repealed and, instead, entirely new provisions were enacted setting out the manner in which moneys appropriated by Parliament to assist the mining industry are to be applied.

There was no amendment made to the regulations under the Mining Act during 1939.

It is with extreme regret that I have to record the death of Mr. Arthur W. Turner on 28th September, 1939. He was a very able mining engineer, and for three years had been one of the two Inspectors of Mines for the West Coast district.

During Mr. Turner's illness just prior to his death and until the end of March, 1940, when his successor, Mr. R. C. Ruffin, took up his duties, Mr. G. W. Lowes carried on alone as Inspector for the district.

I desire to acknowledge again his efficient help and co-operation, as well as that of the other Inspectors of Mines, which I have received during the year.

I have, &c.,

George Duggan,

Inspecting Engineer of Mines.

ANNEXURE A.

SUMMARY OF REPORTS BY INSPECTORS OF MINES.

NORTHERN INSPECTION DISTRICT (E. J. Scoble, Inspector of Mines).

QUARTZ-MINING.

Martha Gold-mining Co. (Waihi), Ltd.—Active mining operations continued with little interruption. The ore was obtained from thirteen lodes and branch veins, the most productive being the Martha, Royal, and Edward lodes in that order. Supplies were drawn from thirteen levels, ranging from No. 2 level down to No. 14, but the greater part of the tonnage was obtained from Nos. 6, 7, and 8 levels and intermediates connected with same. The quantity of water lifted to the surface throughout the year was 324,651,000 gallons. The footage for the year amounted to 8,836, made up of driving and crosscutting, winzing, and rising. The sinking of No. 7 footwall pass was continued, and at the end of 1939 a depth of 650 ft. had been reached. The average number of men employed was 635. Output: 175,665 long tons of quartz were mined and treated for a recovery of 49,980 oz. 12 dwt. of gold and 384,896 oz. 18 dwt. of silver, valued at £386,121 and £35,581 respectively. Dividends were paid during the year to the amount of £61,988 7s. 6d. The total yield of bullion (gold and silver) since the beginning of operations, including that won by the Waihi Gold-mining Co., Ltd., is 28,209,068 oz. 18 dwt. 11 gr., worth £20,195,185 6s. 3d.

Golden Dawn Gold-mines, Ltd., Owharoa.—No. 3 level: No. 1 winze south on No. 5 reef was sunk to a depth of 56 ft., where work was suspended. The reef here averaged 4½ ft. in width and carried low values down to 25 ft., but was payable from this point to 42 ft., where values practically gave out. Driving north and south along the line of reef at 42 ft. was carried out for a total distance of 81 ft., with unsatisfactory results, the average of forty samples taken from the reef (5 ft. wide) giving a return of £1 9s. 6d. per ton only. It is now proposed to resume sinking and carry the winze down to 156 ft. with the object of proving more lasting and profitable values at the lower horizon referred to. The crosscut west off the intermediate (70 ft. above No. 3 level) was extended to 301 ft., with nothing to report. Other contributary or related work was also undertaken here, with negative results.

Talisman-Dubbo Gold-mines, Ltd.—Stoping operations were undertaken mainly on the No. 7 Hauraki level and on the Dubbo and Nos. 1 and 2 Talisman levels. Most of the ore sent to the mill was mined from stopes at 60 ft. south in the first-named level, where the reef averaged 9 ft. in width but proved to be fairly low grade. Development work was chiefly confined to opening up and cleaning out No. 4 level for the purpose of exploiting the No. 2 Crown block of ore, which is situate at a distance of 840 ft. south of the main crosscut, or approximately 1,000 ft. from its portal. The block is now exposed on the hanging-wall side of the level from the Talisman (old mine) stoping system north to Cogan's crosscut in the south, a distance of 240 ft. It varies from a few inches up to 2 ft. in width, and four short rises were put up on same. The first rise, constructed at 100 ft. north of Cogan's crosscut, was carried to a height of 40 ft. on stone with fair values and an average width of 18 in. The second, third, and fourth rises were constructed at 24 ft., 30 ft., and 40 ft. south of Cogan's crosscut and were carried to 20 ft., 40 ft., and 20 ft. respectively. The first of these is on stone 2 ft. wide with values of about £2 per ton, the second is located in what appears to be an old water-course, and the third on stone that progressively decreases from 2 ft. (with payable values) to a few inches in width where it becomes valueless. Tributers worked on two small sections of the company's property.

Waiawa Mine, Karangahake.—A limited amount of development work was undertaken in this mine, with indefinite results where the proving of additional blocks of stone are concerned. The ore won therefrom amounted to 457 tons, portions of which were treated in the owner's mill and portions by the Talisman-Dubbo plant.

Talisman Extended, Karangahake.—Work consisted of winning ore that had run from an old stope in the mine.

New Maoriland Mine, Waitekauri.—Surface and underground operations resulted in the production of 108 tons of ore, which yielded 282 oz. 4 dwt. of bullion, worth £902 3s.

Golden Spur Co., Ltd., Maratoto.—This company owns the Golden Loop and Golden Spur claims, but work was confined to the latter only and consists of the following: No. 2 level was advanced for a distance of 225 ft., but operations were suspended at this point as the last 25 ft. of driving disclosed nothing of value. A rise was then put up at 27 ft. back from the face, and this holed through to No. 1 level at a distance of 40 ft., with satisfactory results where ventilation is concerned. Back from the rise and for a length of 80 ft. a stoping block has been prepared. Good-grade ore was met with underfoot at 190 ft. in No. 2 level, but this could not be explored at depth owing to the presence of water, and a low level, known as No. 3, was therefore constructed, with the result that No. 2 level is now free of water. No. 3 level must be advanced a distance of 200 ft. before it reaches the random of the high-grade stone met with on the level above.

Golden Crown Gold-mining Co. (N.L.), Komata.—Work at the company's mine has been confined to the developing of a small block of ore on No. 1 level, and the restoring of the old No. 2 level, Te Ao Marama section, which is in a state of total collapse. The level has been restored to the Komata shaft, with excellent results where ventilation is concerned, and nothing now remains to be done but to connect with the main filling pass (distant 120 ft. from the shaft), and afterwards drive on for an additional 130 ft., when the first block of stone should be encountered.

Graceville Syndicate, Neavesville.—Remuera section: It is stated that surface trenching and open-cut work has revealed evidence of a large tonnage of low-grade ore in this place, but the absence of machinery to operate a rock-drilling plant greatly handicaps the development of the area. The intermediate level (40 ft. below the surface level) has been extended southwards for 132 ft. At this point promising ore can be seen, and it is hoped that stone can be opened up for regular stoping. Prospecting was undertaken in the Golden Belt and Champion sections also, and is to be continued, with particular attention being given to surface work on the former.

Wealth of Nations Mining Syndicate, Tairua.—No work of importance was done on this syndicate's property, and the concern is practically defunct.

Kernick's Freehold, Tapu.—No work was done on No. 1 level, but prospecting operations in the Gully level led to the discovery of a narrow leader which, when followed up, proved to be a dropper from the main reef. The leader was cut at 14 ft. south-west of the crosscut, and the latter was therefore advanced for an additional 13 ft., with the result that the main body of stone was intersected as described. Two stopes were carried on east and west of the main crosscut, and these produced quartz with high values. No. 2 level: The reef was driven on south from the crosscut for approximately 50 ft., and stoped for 25 ft., with poor returns. Values disappeared altogether at 50 ft. No. 3 level (27 ft. below No. 2 level): Further stoping from the level proved unsatisfactory, and driving was then undertaken in a north-west direction for about 100 ft., with the face in unaltered country rock, or slate, when work ceased. No. 4 level south was continued until the reef was cut at 150 ft., but values were poor and driving was suspended. Three new drives were constructed with the object of testing the property at greater length, but one only of these is promising. The 2½ ton ball mill, completed at the end of last year, commenced operations in March, but was then held up over considerable periods for want of water, a difficulty that was later overcome by returning the already used water to the plant after settlement.

Shannon Claim, Black Swan Creek, Tapu.—About 100 ft. of driving and 4 ft. of winze-sinking was done on this claim for the year. Winze work was discontinued on account of the presence of water, and it is hoped that this trouble will be overcome by the driving of a low level, which is in course of construction.

Mountain King Claim, Puhoi.—A limited amount of development work only was carried out.

Hector McDonald Claim, Puhoi.—Practically nothing apart from stoping on a narrow reef was undertaken.

Golden Ridge Claim, Puru.—The ore won from this property amounted to 25 tons.

Virginia Claim, Thames.—Operations have been suspended, and it is doubtful if they will be resumed.

Advance Claim, Hape Creek, Thames. On tribute to a party of three men for a part of the year, and these produced 5 tons of ore, worth £30 9s. 9d.

Sylvia Gold, Silver, and Base-metal Mines (N.L.).—This company was formed to reopen the old Sylvia Mine, Thames, and develop a line of reef of the same name. The reef carries gold, silver, lead, copper, and zinc, and averages about 5 ft. in width. It has been extensively stoped from the lowest level (No. 5) to the surface for a length of about 500 ft., and from No. 4 level to No. 3 level of from 200 ft. to 300 ft. It stands nearly vertical, and alternately increases and decreases in width in some of the workings, but at Nos. 4 and 5 levels is rarely under 5 ft. wide, and occasionally exceeds 10 ft, with intrusions of country rock. Development work now in hand consists of sinking a shaft in the firm rock away from the propylitized country of the reef system at 1,600 ft. from the portal of No. 4 level. The shaft will be sunk to a depth of 200 ft. so as to make available an unstoped block above No. 5 level and provide an additional block of 80 ft. from below that point. It is also proposed to crosscut at 190 ft. in order to intersect the reef below No. 5 level, and simultaneously crosscut to No. 5 level itself, and then possibly sink to 470 ft., or 10 ft. below sea-level. The shaft measures 12 ft. by 4 ft. 6 in. Sinking is in progress, and had been carried to a depth of 39 ft. at the end of the year.

Una Hill Consolidated Gold-mines, Ltd.—The reopening of this mine (closed for several years) was undertaken on 4th January, and operations were conducted without interruption for the year. Development consisted in the sinking of two inclines (8 ft. by 6 ft. each) with a connecting intermediate crosscut 30 ft. in length. The first incline has a length of 140 ft. for a vertical gain of 103 ft. The second had been sunk to 120 ft. at the end of the year for a vertical gain of 85 ft. The object of the work is to locate the junction of the Occidental and the No. 2 reefs at 200 ft. below the old No. 4 adit, at which depth they should also converge on a fault line known as No. 1 flinty, where good values should be got. Water was encountered at 85 ft. in the upper incline, and this necessitated the cutting of a 6 ft. sump in continuation of the incline for pumping purposes. Water was again encountered at 85 ft. in the lower incline, and two pumps were therefore installed and are now in operation, with satisfactory results. A leader, cut at 45 ft. in the upper incline, showed gold freely in the stone, and its position has been marked for future development, but no work was done to open up the leader. In the lower incline the flinty break was met at 85 ft. and went out at 105 ft. Good reefing-country was found on its hanging-wall side, and at 120 ft. a vertical leader of specimen type was cut. It is probable that this is a "dropper" from No. 2 reef, which should be met with a little farther on. The leader varies in width from a mere line to a mixture of stringers and country rock over a width of 12 in., and some very good specimens have been recovered therefrom. The gold is generally very coarse or in thick leaf, but is found in the stone itself in many samples. In other cases it is superficial and loose, particularly in the vughs, but the development is promising. It is proposed to continue the incline so as to intersect No. 2 reef and then plan developments in relation to the fixed position of all the known features.

Commissioner Claim, Thames.—Work here has consisted of testing several narrow veins of quartz, which were intersected (within a narrow compass) at about 500 ft. from the portal of the main crosscut, with by no means satisfactory results, and operations were given up in consequence. Ventilating-pipes and all plant are to be removed from the property.

Lap Claim, Thames. Sixty cubic yards of old tailings were buddled.

Hopeful Claim, Una Hill, Thames. A small amount of driving and sinking, practically all on reef some 2 inches in width, was done.

Waitangi Mine, Thames.—Nos. 3 and 4 levels were reconditioned and connected with one another. A truck road was laid down in each, and the sampling of some 2,000 ft. of exposed reef was undertaken in 5 ft. sections therein. Work was suspended at about the middle of the year.

Progress Mine, Waiotahi Creek.—The main reef formation drive has been extended for a distance of 30 ft., and No 2 leader has been driven on seaward and hillward for 72 ft. and 35 ft. respectively. A block of stone in No. 2 winze has been stoped from the intermediate up to the main level (approximately 20 ft.) and over a distance of 85 ft. A section of stone, 100 ft. in length, on No 2 leader has been timbered and is ready for stoping.

Southland Claim, Tokatea, Coromandel.—Some rising and sinking and a large amount of driving has been done on this claim, with fair results, though output figures are low. The claim is several miles from the State mill in this area, and is difficult of access, and the owners therefore decided to purchase and erect a treatment plant consisting of a 2½ ton ball mill, &c.

Speedmint Claim, Coromandel.—Operations were carried out on the top level exclusively, and comprised 60 ft. of driving, 17 ft. of winze-sinking, and 40 ft. of stoping.

Pukewhau Claim, Tiki Hill, Coromandel. Stoping has been carried out on the main leader inside the rise, but the ore generally was not so good as that worked in the past year, though blotches and colours of gold were met from time to time. A rise was put up to a height of 10 ft. on a small leader in the hanging-wall, and from this a little gold was obtained. Subsequent investigation revealed that the leader referred to was only a fragment and that the greater portion had been extracted many years ago. Some surface prospecting was undertaken, but this proved disappointing.

Hauraki Mines Consolidated, Ltd., Coromandel.—Tributers got 1 ton of ore which gave a return of 1 oz. 16 dwt. of bullion, valued at £11 0s. 3d.

Opitonui Consolidated Gold-mining Co., Ltd., Opitonui. No great amount of work was done for the last six months of the year at the company's mine or battery, but 350 tons of ore which was won and treated over previous months yielded 91 oz. of gold and 39 oz. 10 dwt. of silver, valued at £685 16s. 8d. All work ceased on the property during the latter part of the year, and has not since been resumed.

New Royal Oak Claim, Coromandel.—A total of 250 ft. of driving, 100 ft. of rising, and 50 ft. of stoping was done in the main and other levels. The ore won was 1 ton 2½ cwt. only, and from this was obtained 23 oz. 6 dwt. of bullion, worth £130 10s. 6d.

Lone Hand Claim, Coromandel.—The intermediate level was advanced for 25 ft. on a reef 1 ft. wide showing small prospects of gold. A small quantity of ore (1½ tons) was produced, and this gave a return of 7 oz. 6 dwt. of bullion, worth £42 13s. 5d.

Heather Bell Claim, Boat Harbour, Whenuakite.—Operations suspended, but preparations for a resumption thereof were put in hand towards the end of the year.

Coromandel (now Green Hill) Gold-mines, Ltd., Coromandel.—This mine was idle almost up to the end of the year, but the boiler was then retubed and the shaft top and surface cleaned up and restored with a view to starting work in the early part of the present year.

Hardy's Mines, Waiorongomai.—The Hero or 1,400 ft. level was the only place worked during the year, and from this was obtained 10½ tons of ore which, on treatment, gave a return of 71 oz. 1 dwt. of gold, worth £663 16s. 3d., and 64 oz. 15 dwt. of silver, valued at £4 17s. 6d.

Boring Operations.

Drilling Prospectors, Ltd., Thames. This company continued its operations on the foreshore portion of the New Shotover Special Quartz Claim, and during the year put down four holes to depths of 353 ft., 147 ft., 357 ft., and 254 ft. respectively. Drilling is still in progress.

Prospecting.

Practically all prospecting work carried out in the district was done under the Department's assisted scheme. The average number of men so helped declined from fifty-seven in the previous year to thirty-seven in 1939, and recoveries suffered a similar fall. The subsidized men produced a total of 984 oz. 17 dwt. of bullion, valued at £4,314 6s. 8d., which is made up as follows from the respective areas: Thames, 341 oz. 4 dwt., valued at £2,978 15s. 3d.; Coromandel, 98 oz. 13 dwt., valued at £648 17s. 4d.; Karangahake, 545 oz., valued at £686 14s. 1d.

Miscellaneous.

Mercury.—None has been obtained for the year, though there seems every possibility of a syndicate, now operating on the area formerly held by Mercury Mines (N.Z.), Ltd., at Puhipuhi, being producers in the near future. The deposit was previously exploited by underground methods, but an excavator is now in use and has already bared a considerable portion of same on the surface. Excavating work is in progress.

Manganese.—Mr. W. S. Miller, of Khyber Pass, Auckland, is engaged at developing a deposit at Moumoukai, near Hunua, and at the end of the year was awaiting the arrival of equipment from England so as to enable work to proceed. The equipment arrived in January, and the production stage should be reached by April, 1940.

A total of 486 tons of the ore was produced from Mrs. G. H. Longshaw's freehold property near Bombay. The ore was mined from the period January to March, both months inclusive, and was sold for £4 per ton. No work was carried out during the remainder of the year.

Silica.—Gilberd's Mine, Wanganui district, produced 167 tons, valued at £259. Brunett's and the Makirikiri (McConochie and Clarke) Mines had an output of about 50 tons, worth £75. Silica Deposits, Ltd., North Auckland, produced 104 tons, valued at £359.

Pumice.—Approximately 395 cubic yards of this mineral were obtained from Roarikia, Wanganui, and disposed of to the local freezing-works for insulation purposes.

Fuller's Earth.—Seventy-three tons eighteen hundredweight were got from the estate of the late A. Crawford, Kamo, Whangarei. The value, f.o.b. Whangarei, was £3 2s. 11d. a ton, or £233 3s. 6d. in the aggregate.

Diatomaceous Earth.—Two hundred and twenty-one cubic yards, worth £1 10s. per cubic yard f.o.r., or a total of £332 2s. 4d., were produced from Mr. S. C. Crawford's property near Kamo.

Sulphur.—None of the deposits were operated on.

Limonite.—Reyburn's Lime Co., Ltd., Whangarei, produced 830 tons, and Okaihau Quarries, Ltd., 437 tons, from areas at Kamo and Okaihau, which realized (in the aggregate) £1,583 17s. 6d. and £1,334 12s. 11d. respectively. The ore was crushed to various sizes.

Accidents.

It is pleasing to be able to record that the district was free from fatal or serious accidents.

Prosecutions.

On the 22nd August, 1939, an information was laid under section 289 (4) of the Mining Act, 1926, against a battery superintendent (being a mine-manager) for not giving the workmen's inspector full and free facilities for the inspection of a smelthouse and refinery. The information was dismissed.

WEST COAST INSPECTION DISTRICT (G. W. Lowes, Inspector of Mines).

Quartz-mining.

Marlborough County.

Owing to the outbreak of war and the demand for scheelite, a survey was made of the Mountain Camp Mine workings, Deep Creek, with the object of reopening this mine and ascertaining the true value of a well-defined lode showing in No. 1 level and a winze sunk 30 ft. below it. Expenditure was authorized, and the work will commence early in 1940.

The only lode product being won in Marlborough is scheelite, obtained by treatment of tailings stacked during the milling operations of the Dominion Consolidated Mining Co.

Buller County.

Mokihinui District.—Red Queen Mine: Crosscutting, on the low level at 513 ft., encountered the Red Queen lode at 35 ft. west and the Swastika at 136 ft. west, the former being 7 in. wide and carrying high values with free gold showing, the latter being 48 in. wide between walls which enclosed a mixture of quartz and reef track which assayed 4 dwt. per ton. At 159 ft. from the portal, a crosscut 54 ft. in length intercepted the Red Queen lode, which was 8 in. wide and of high grade. This lode was driven on for 18 ft. south of the crosscut, width and value being maintained, and the two crosscuts on this level have established the fact that the lode channel is approximately 400 ft. in length. Surface trenching at a lower level disclosed the ore channel at a point farther north than the development work in the upper levels.

Lyell District.—Alpine Mine: Two hundred and three feet of crosscutting was carried out on No. 7 level through intensely hard rock, but nothing of economic importance was discovered; consequently, it was decided to abandon the mine and withdraw all rails and pipes at the end of the year.

Inangahua County.

Blackwater Mine.—The total development footage amounted to 3,286 ft., as per the following summary: Driving, 2,272 ft.; rising, 407 ft.; winzing, 502 ft.; crosscutting, 105 ft.

Results from the main development points were as follows:—

No. 11 Level Drive North: This drive was continued on the reef north of the Prohibition fault for a distance of 209 ft., of which 200 ft. were on reef averaging 11·15 dwt. over a width of 20 in.

No. 12 Level Drive North: This drive was restarted, and continued along the Prohibition fault until the reef was encountered. Further driving exposed 99 ft. of reef averaging 14·56 dwt. over a width of 32 in.

No. 13 Level Drive South: This drive was advanced 374 ft., of which 360 ft. exposed reef averaging 11·52 dwt. over a width of 32 in.

No. 13 Level Drive North: A branch drive was put out to the west of the north end of the main drive in order to locate the reef north of the Prohibition fault on this level. The reef was intersected after driving 71 ft. in country rock and through the fault, and by the end of the year 35 ft. of reef averaging 31·91 dwt. over a width of 38 in. had been exposed.

No. 14 Level Drive South: This drive was advanced 725 ft., of which 580 ft. exposed reef averaging 17·60 dwt. over a width of 29 in.

No. 14 Level Drive North: This drive advanced 432 ft., of which 366 ft. exposed reef averaging 15·52 dwt. over a width of 27 in., and reached the northern limit of the main ore body at the Prohibition fault.

The reef in the bottom of the mine continues to show up well.

No shaft-sinking was carried out during the year, but a considerable amount of work was done on the Nos. 11, 12, and 13 levels north to locate and drive on the reef north of the main Prohibition fault, and results obtained were most encouraging.

Ore reserves at the end of the year showed a total of 102,349 tons, being an increase of 10,702 tons over the figure for the previous year.

A new hydro-electric plant was erected near the site of the old battery, utilizing the water previously used to drive the old battery, and was put into commission during the month of May. The 1,000 cubic feet steam-driven compressor at the north shaft was completely electrified, and has been in service since the early part of 1938.

Alexander Mine.—No. 5 intermediate level, 80 ft. above No. 6, was extended the full length of the ore body, which maintained its average width, value, and length of 260 ft. The stopes above this intermediate level have yielded most of the ore milled during the year, and the tonnage treated was 1,096 tons in excess of that milled in the previous year. On No. 6 level the country was found to be much disturbed, and considerable difficulty was experienced in locating the reef. A considerable footage of driving in the lode channel and crosscutting into the foot and hanging walls was carried out before the first block was discovered. This block, although carrying high values, was short and narrow, with a flat dip. A rise from No. 6 was put up on the ore chute, and at a point half-way between the main and intermediate levels the lode was faulted. A sub-level was driven on the fault-line and several disconnected lenses of ore located, but it is evident from the amount of development carried out on and above No. 6 level that the present horizon of the mine is in country that has been subject to strong faulting.

Big River Mine.—The following stoping and development operations were carried out:—

No. 5 Level: A winze was sunk to a depth of 39 ft. on a narrow ore-body which cut out at the depth stated.

No. 6 Level: A considerable distance was driven on the lode channel, but only one small lens of very rich ore was discovered. Crosscutting in the walls of the ore channel disclosed that this level had been affected by earth movements which had displaced the lode between Nos. 5 and 6 levels. Development on this horizon in the earlier period of this mine's history had the same result as the present work and proved that this zone is unproductive. On the small rich chute discovered in No. 6, a rise was put up to connect with a winze sunk from No. 5, but the ore cut out a short distance above the level and the rise will be continued through country rock until the connection is established that will provide an air-course and travelling-way. A winze was started on 12 in. of rich ore exposed in the floor of No. 6 and eventually reached a depth of 74 ft. The width of ore gradually increased until a maximum of 60 in. was disclosed, with values maintained. In order to expedite the development of the ore-body proved by the winze, it was decided to retimber the main shaft down to No. 7 level, and, despite the shortage of skilled labour and inability to work more than a single shift, a depth of 74 ft. had been reached by the end of the year.

New Welcome Gold-mining Co.—A party of five men have driven on hand steel the low-level tunnel a distance of 801 ft. from the portal through hard greywacke. At 450 ft. a lode 60 in. wide was met, but proved to be barren when sampled and assayed. This drive should reach its objective during the coming year—namely, the west reef of the Boatman's main lode.

Lankey's Creek.—Watts and party who operate this mine produced 260 tons of cemented gravels yielding 52 oz. 14 dwt. of gold which realized £438 19s. 2d. A considerable part of their time was spent on development work which became necessary owing to an upthrow fault being encountered, and this increased the difficulties of mining and transport to such an extent that wash worth £1 per ton became unpayable.

Murray Creek Mine.—During the year an overhaul of the winding plant was commenced, a two-stage compound steam-driven air-compressor installed, and a new head-gear erected. No underground work was carried out other than draining the mine and preparing the main shaft for the sinking of another 150 ft. lift.

State-controlled Prospecting Operations, Globe-Progress Area, Perseverance Mine: After the restoration of No. 1 crosscut was completed and the lode in the floor of the main level sampled, a winze was sunk to a depth of 74 ft., of which 60 ft. was on solid reef and the remainder on track with veins of quartz. On No. 2 level a total distance of 719 ft. was driven and crosscut without encountering the lode. In order to facilitate the search, a rise was put up through country rock to connect with the winze sunk from No. 1 and to drive an intermediate level 70 ft. above No. 2. The intermediate level was driven on reef for a distance of 205 ft., and at the north end of the block a winze will be sunk on the lode to No. 2 level and the main level continued until it holes into the winze and then along the reef to its extreme north end.

Golden Treasure Mine: The Perseverance crosscut was extended 1,800 ft. and holed into the Treasure shaft, which was proved to be 308 ft. deep from collar to floor of chamber at No. 3 level. The cleaning-out and retimbering of 650 ft. of No. 3 level was completed, also some crosscuts of old workings were made accessible for the purpose of gaining information concerning the structure of the country. Four hundred and six feet of driving and crosscutting were carried out in the north end of the mine on the lode channel and east and west walls, and entry was effected to some of the upper workings by repairing a rise put up from No. 3 and a winze sunk from an intermediate level situated below No. 2. It was ascertained after examination of the mine above No. 3 that the ore-body of considerable width and unknown length had not been worked to any extent below No. 2 level; consequently, when this ore-body is developed on No. 3 level a considerable tonnage of ore will be available for treatment if values justify it being mined. The development work was carried out by contractors using modern rock-drills.

Grey County.

On the cessation of State subsidized prospecting operations in the Paparoa Ranges and the Moonlight and Langdon's Creek districts at the end of 1938, lode mining came to a standstill in the county, and no activity in this direction has ensued during 1939.

Westland County.

Lode prospecting was carried out at Totara Valley, near Ross, for a short period during the year, and no discoveries of economic importance were recorded. At the Seven-mile and in the Taipo Valley a party of men are engaged in prospecting lodes in the district.

Greenland Gold, Ltd., Mount Greenland.—The new company installed additional treatment plant and treated a small tonnage extracted from stopes that were accessible when the claim was taken over. No development work was undertaken during the company's period of activity, and the mine closed down in August and has not resumed operations.

Dredge Mining.

Mataki Dredge, Murchison County.—This dredge, using 7-cubic-feet buckets, is one of the two steam-powered dredges out of a fleet of seventeen operating in this district. Dredging operations continued upstream in ground averaging 17 ft. deep.

Mataki Junction Dredge, Murchison County.—This Diesel-electric dredge working in ground of an average depth of 20 ft. dredged 681,000 cubic yards using 6-cubic-feet buckets.

Worksop Dredge, Inangahua County.—This small Diesel-powered dredge dug the satisfactory figure of 421,500 cubic yards from which was recovered 1,180 oz. 5 dwt., which realized £11,167 11s. 1d.

Mossy Creek Dredge, Inangahua County. During the year this electrically-operated dredge, fitted with 4-cubic-feet buckets, treated 416,000 cubic yards from ground which averaged 11 ft. in depth.

Grey River Dredge, Inangahua County. This electrically-driven dredge during its first year's operation dug 4,500,518 cubic yards, from which was recovered 13,218 oz. 12 dwt., which realized £125,223. An average output of 87,500 cubic yards per week has been maintained by a crew of thirty-five men operating the dredge in ground of an average depth of 25 ft. The dredge is fitted with 16-cubic-feet buckets. The maximum digging rate has been 744 cubic yards per hour, and the all-in cost came to 3·49d. per cubic yard, expended to recover gravel of an average value of 6·68d. per cubic yard. The operations for the months of January and February were confined to digging a narrow cut along the eastern boundary of the area from the construction-site to a point south of the county road where the dredge was turned in a westerly direction and the cut opened out to about approximately 500 ft. in width. Three cuts were taken from east to west across a portion of the valley, when the transverse system of digging was altered to longitudinal digging, and a 550-ft.-wide cut was started towards the southern end of the property. The close of the year found the dredge digging about 1,600 ft. from the south boundary of the property. Except for some minor changes to machinery and gold-saving equipment which would tend to improve the mechanical and metallurgical efficiency of the dredge, no major alterations were made in the original design.

Argo Dredge, Grey County.—During the year this electrically-operated dredge, fitted with 4½-cubic-feet buckets and digging ground of an average depth of 20 ft. and employing thirteen men, recovered 2,263 oz. 13 dwt., valued at £21,075 10s. 4d., from 605,800 cubic yards.

Blackball Creek Dredge, Grey County.—This dredge, operating on ground averaging 33 ft. in depth and employing twelve men, treated 580,000 cubic yards, from which 2,209 oz. 5 dwt., valued at £22,212 10s. 7d., were recovered. The dredge is electrically operated and fitted with 5-cubic-feet buckets.

New River, Grey County.—This Diesel-powered dredge, fitted with 4-cubic-feet buckets, dug 308,045 cubic yards in the New River, which yielded 1,498 oz. 4 dwt. of gold, valued at £12,356 0s. 11d.

Nemona Dredge, Grey County. Operating in Cockeye Creek, this electrically-operated dredge, fitted with 4½-cubic-feet buckets, dug 400,300 cubic yards, which yielded 1,199 oz. 9 dwt. of gold, worth £11,008 11s. 6d.

Bundi Dredge, Grey County.—This dredge operated on two shifts, employing fifteen men for part of the year, and dug 279,516 cubic yards for a return of 1,663 oz. 8 dwt. 23 gr., to the value of £12,224 4s. 9d. Operations ceased on 31st August, and offers were invited for the purchase of the company's plant and dredging claim soon after this date.

White's Electric Dredge, Grey County. Equipped with gold-saving apparatus suitable for the recovery of gold from the black-sand deposits at Barrytown, this electrically-operated dredge, using 4-cubic-feet buckets in 16 ft. ground, dug 335,420 cubic yards and recovered 1,458 oz. 9 dwt. of gold, which realized £11,645 12s.

Barrytown Dredge, Grey County. The yardage treated by this dredge was 3,018,000, from which 8,928 oz. 4 dwt. 19 gr. of gold was obtained, the value being £75,032 0s. 8d. The average depth of ground worked during the period was 30 ft., using 12-cubic-feet buckets, and difficulties were experienced on part of the area dredged due to encountering buried timber. Experiments with a pilot flotation plant were carried out with the object of increasing the gold recovery, exhaustive tests being taken, but the savings effected were not commensurate with the expense incurred in treatment; consequently, the idea of utilizing the flotation process was abandoned.

Ngahere Dredge, Grey County. A new dredge erected by the Railways Department's engineering staff for the Ngahere Gold Dredging, Ltd., was completed and had a trial run by the last month of this year. An area containing a large proved yardage of payable ground situated north of the Grey River and opposite Ngahere will give many years of dredging. The following details of the dredge were kindly supplied by the company's manager:—

Construction: All steel. Electrically operated. The pontoon dimensions are; Length, 170 ft.; width, 72 ft.; depth, 12 ft.; and there are twenty-eight water-tight compartments; total weight of hull, 600 tons. The digging-ladder is 142 ft. 4 in. long between centres and weighs 187½ tons, the weight with rollers and bottom tumbler being 241 tons. The normal digging depth is 70 ft. at 45 degrees, and the maximum is 75 ft. at 48 degrees. These depths are below water-level. The dredge will dig to 104 ft. when carrying a bank of 29 ft. The buckets are 18-cubic-feet capacity, and there are ninety-five on the band, discharging at the rate of twenty-two per minute. The buckets pins are 8 in. diameter, and the working weight of the band is 215 tons. The screen is 9 ft. diameter and 52 ft. 6 in. in length over all, and makes 5·92 revolutions per minute. Perforations: Five bands $\frac{5}{16}$ in. to $\frac{7}{16}$ in., 1 band $\frac{3}{8}$ in. to $\frac{1}{2}$ in., one band $\frac{7}{8}$ in. to 1 in. The stacker ladder is 203 ft. betwen centres, and the conveyor belt 44 in. in width. The dredge is spud operated with two spuds each weighing 53 tons. Gold saving is effected by short riffle tables discharging into Bendelari jigs, of which there are twelve four-hutch primaries. Concentrates from primary jigs is pumped to two secondary jigs, the first two hutches of which discharge to amalgamating plates, the remaining two hutches in each being in closed circuit. The total water-pumping capacity provided is 14,650 gallons per minute. The total motor horse-power provided is 1,573. The principal units are—Main Drive: Two 250 horse-power, one each side, driving through Vulcan hydraulic couplings and Richardson gear-boxes. Ladder Hoist: One 250 horse-power, driving through Richardson reduction gear-box. Mooring-winch: One 80 horse-power, driving through Richardson reduction gear-box. Screen: One 100 horse-power, driving through Richardson reduction gear-box. High-pressure Pump: One hundred and seventy horse-power direct coupled. Low-pressure Pump: One hundred horse-power direct coupled. Hopper Pumps: Sixty horse-power direct coupled. Jigs: Two 40 horse-power and two 7½ V-belt drives. Smaller motors operate cranes, footbridge, concentrate, and saveall pumps. The complete total weight of the dredge is estimated at 2,855 tons.

Maori Gold Dredge, Westland County.—Maori Gold, Ltd., formerly Maori Gully (Kokiri) Gold Dredging Co., Ltd., acquired and tested an area at Callaghan's, south of Kumara, and re-erected the Nevis Diesel-electric dredge, which was purchased, dismantled, and transported from the Nevis Valley, Otago, to its present site. The re-erection was practically completed by the end of 1939.

Rimu Dredge, Westland County.—Operating in ground of an average depth of 53 ft., this electrically-driven dredge, fitted with 12-cubic-feet buckets, handled a total of 2,334,721 cubic yards for a return of 9,955 oz. 16 dwt. of gold, which realized £94,185.

Kanieri Dredge, Westland County.—Despite breaks in dredging-time due to encountering old workings, with a subsequent lowering of water-level and renewals of plant, 4,776,000 cubic yards were dredged and 14,700 oz. 2 dwt. 14 gr. of gold were recovered, which realized £124,279 9s. 11d.

Arahura Dredge, Westland County.—Dredge-construction was completed by the New Zealand Railways Department's engineering staff by the end of July, and on 1st August digging commenced. By the end of the year 1,600,000 cubic yards had been dug and treated for a recovery of 5,553 oz. 10 dwt. of gold, valued at £49,124 0s. 5d.

Okarito Five-mile Beach Dredge, Westland County.—A volume of 310,638 cubic yards of black sand were dredged for a return of 1,244 oz., which realized £10,096.

Gillespie's Beach Dredge, Westland County.—A broken working year due to the general overhaul of the dredge and attaching of auxiliary pontoons resulted in smaller yardage and decreased returns. Altogether, 546,636 cubic yards of material were treated for a return of 1,174 oz. 4 dwt., which realized £11,036 7s. 8d.

Dredge-construction.

The Arahura, Ngahere, and Maori Gold Dredges were completed during the year, and the first mentioned added to the total gold-production for 1939.

The Snowy River Dredge is well advanced and will be in operation during 1940.

Associated Gold Dredges, Ltd., have preparations in hand for the construction of five dredges—two at Atarau, one at Redjacks, one at Marsden, and a fifth at Mawheraiti.

Financial arrangements are completed for the erection of a large dredge on the Teremakau River, and a similar plant on the Mikonui River, near Ross, by two companies who have prospected the areas and proved them worthy of exploitation with gold at its present value.

Alluvial Mining.

Marlborough County.

Waikakaho Deep Lead Gold-mining Co.—Operations in this mine have been confined to driving from the bottom of shaft a crosscut through schist rock which will terminate at a distance of about 250 ft. from the shaft chamber and under the deepest part of the gutter proved by boring.

Sparke and Party, Mahakipawa.—This party struck a very rich patch of gold in their workings south of the old King Solomon Mine, but drainage difficulties and heavy ground forced them to abandon the claim before the remaining profitable wash could be worked out.

The rest of the alluvial gold produced in the county was won in the Wakamarina and Deep Creek areas chiefly by subsidized miners. Fifty-one men were employed in alluvial mining in this county and won 489 oz. 1 dwt. 8 gr., valued at £3,758 11s. 9d.

Collingwood County.

Production of gold in this county was confined to the efforts of eighteen subsidized miners, who produced 108 oz. 11 dwt. 12 gr., worth £875 19s.

Takaka County.

Glover's Flat Syndicate.—Manoy Bros. claim: A small yardage was treated by two men and a working manager with the use of mechanical appliances for the handling of heavy boulders and elevating the wash to surface sluice-boxes. A total of twelve subsidized and other alluvial miners won 16 oz. 11 dwt. 8 gr., which realized £124 9s.

Waimea County.

Twelve subsidized men employed on claims situated on the Baton and Wangapeka Rivers produced 26 oz. of gold, valued at £201 14s. 2d.

Murchison County.

Glenroy Gold, Ltd.—This claim was worked for a short period after completing the new tunnel tail-race and produced 39 oz. 10 dwt. 23 gr., to the value of £319 9s. 2d., before closing down.

Newton Flat Gold-mining Co.—This ground-sluicing proposition was worked for a few months, only a small yardage being handled. The company's finance has been expended chiefly on the installation of a stoning plant, which did not operate successfully.

The Maud, Maggie, Louis, and New Creek areas continue to produce the bulk of alluvial gold won in the county.

At the beginning of the year the re-erection of Tait's drag-line plant in the Maud Creek had been completed by the provision of a Government subsidy, and an exhaustive test was made of the machine's capabilities. It was proved that the cost of operating the plant was too high, chiefly on account of the necessity for frequent removals and re-setting-up, which was brought about owing to the difficulty of disposing of tailings; consequently, work was discontinued, and the owner offered his plant for sale as it stands on the ground at Maud Creek.

During the year 123 men were employed in the county at alluvial mining and produced 882 oz. 16 dwt. 3 gr. of gold, realizing £6,869 12s. 2d. These figures exclude returns from dredges, but include gold won from all other alluvial-mining operations.

Buller County.

Addison's Flat Gold-mining Co.—The company employed ten men on hydraulic sluicing and elevating operations on their claim and worked 10 acres of ground, which averaged a depth of 12 ft. Renewal of plant and adjustment of pipe-line during the period were effected and reduced the working-time on production by three months and a half; also, one month was lost owing to shortage of water in the autumn. A total of 147,000 cubic yards of material were treated for a return of 703 oz. 8 dwt. 12 gr., which realized £5,765 0s. 7d.

Totara Gold-mining Co.—The company operated intermittently on black-sand deposits near Charleston.

Fifty-five men were engaged at alluvial mining in this county and produced 1,184 oz. 13 dwt. 2 gr., valued at £9,629 8s. 2d.; these figures include all alluvial gold won in the county during the year under review.

Inangahua County.

Waitahu Gold-mining Co.—Nine men were employed on this claim, and by hydraulic elevating and ground sluicing put 251,500 cubic yards through the sluice-boxes for a recovery of 634 oz. 14 dwt., worth £5,271 5s. 7d.

Mount David Sluicing Co.—No mining was carried out on the claim during the year, but arrangements were made between the receivers and a tribute party to recondition the main water-race and work the claim. The party of four men carried on until all available funds were exhausted, and then ceased operations.

During the period under review fifty men were employed in alluvial mining in the county, and the total production was 858 oz. 1 dwt. 3 gr., valued at £6,984 11s. 6d. These figures include all gold won from alluvial workings.

Grey County.

Golden Valley Sluicing Claim.—This claim was worked until March and employed four men, who recovered 33 oz. 9 dwt., valued at £250 9s. 3d. The pipe-line and plant on the claim were partially dismantled on cessation of operations.

Golden Sands Sluicing Claim, Barrytown.—The company carried on continuous sluicing and hydraulic elevating during the year and treated 154,000 cubic yards for a return of 527 oz. 5 dwt., valued at £4,961 2s. 5d.

Moonlight Goldfields Sluicing Claim.—Sixteen men were employed by the company in recovering by ground sluicing 1,076 oz. 9 dwt. from 243,720 cubic yards of wash and overburden. This return realized £10,388.

The 30 in. pipe-line, one and a half miles in length, has been overhauled and relaid, an improvement that will tend to reduce working-costs and lessen the risk of breakdowns and subsequent loss of sluicing-time due to shortage of water.

Welshman's Claim, Marsden.—Part of the area comprising this claim was worked by Auckland Alluvials, Ltd., successors to Addison's Exploration, Ltd., which went into liquidation. The new company substituted a two-stage 10 in. Thompson pump driven by a 160 horse-power electric motor for the mechanical shovel and wheel transport used by their predecessors, and ground sluiced 6·6 acres. The company ceased operations at the end of the year.

Hohonu Sluicing Claim, Greenstone.—This claim is now privately owned, and the holder employed four men in ground-sluicing operations on a face up to 200 ft. in height.

Kumara Goldfields Syndicate, Payne's Gully.—Tributers worked this claim for part of the year and won 51 oz., valued at £387.

The total number of men engaged in alluvial mining in the Grey County was 193, and the gold-production was 2,968 oz. 3 dwt. 22 gr., valued at £25,371 14s. 3d. These figures include the yields from all mining claims in the county with the exception of dredges.

Westland County.

Stafford Sluicing Co.—Operations were conducted intermittently during the year after the restoration of the pipe-line and water-races was completed.

McIntosh, Hyndman, and Party.—Five men were employed in ground sluicing at Back Creek, near Rimu. A mechanical stoning plant was in use, which enabled the party to work successfully the heavy ground encountered in a high terrace face.

The total number of men engaged in alluvial mining in the Westland County was 135, and the gold-production was 1,140 oz. 13 dwt. 13 gr., valued at £8,507 8s. 10d. These figures include the Stafford sluicing claim and McIntosh, Hyndman, and party's claim and all the small alluvial claims, but not the dredges.

Minerals other than Gold.

Asbestos.—The Hume Pipe Co., holders of an extensive mineral license at Upper Takaka, drove 170 ft. at the lowest level prospected on the lease, and proved that the asbestos deposit is of sufficient magnitude to warrant the construction of a new road of sufficient width and suitable grade to enable machinery for treatment purposes to be transported to the field. Four men were employed on prospecting operations and a contract party on road-construction work. A small crusher was installed to reduce the asbestos rock and obtain samples of fibre, but no production for commercial purposes was undertaken.

Iron-ore.—The State Iron and Steel Department's prospecting campaign was continued on several blocks, and the estimation of tonnage has reached a stage where definite figures can be submitted. The Onekaka Iron and Steel Co., Ltd., quarried and ground approximately 319 tons of iron-ore for shipment for gas-purification purposes.

Mica and Felspar.—A small quantity of selected rock was quarried at Mabel Bay, Charleston, and crushed to obtain powdered mica and felspar, which was despatched to Wellington to be used for experimental purposes.

Petroleum.—Approximately 800 gallons were produced from the Kotoku field, valued at £23. No drilling was carried out on the areas held under license, which include the Kotoku seepages.

Silver.—From the bullion recovered by five dredges in the West Coast district, the total of silver returned was 1,290 oz., valued at £123 8s. 6d.

Steatite.—The prospecting syndicate which holds a mineral license over an area at Wainihinihi, Taipo River, carried out further prospecting operations and organization of a company to exploit the steatite deposit.

Tungsten.—Twenty hundredweight of scheelite, valued at approximately £240, were recovered by two men from the retreatment of tailings stacked at the Golden Bar battery, Wakamarina.

Prospecting.

The Mines and Labour Departments up to 31st March, 1939, jointly continued prospecting operations on the Reefton field, and on the 1st April the Mines Department took over all the mining responsibilities of the Labour Department. Subsidized mining has been discontinued in the Inangahua, Buller, Takaka, and Collingwood Counties, but operations in the Grey, Westland, Murchison, and Marlborough Counties are continuing on a reorganized basis. Alluvial drilling was continued both on new areas and ahead of operating dredges, a total of 198 holes being bored on eighteen areas.

Fatal Accidents.

It is pleasing to record that no fatal accidents occurred during the year under review.

Serious Non-fatal Accidents.

On 10th January F. Thomson, an employee at the Alexander Mine, had the misfortune to cut his right foot severely with an axe, thereby losing a toe.

On 15th March while employed at the Blackwater Mine on stoping operations, Joseph Devis was struck by a piece of rock which fell out of the back or side of the stope, and sustained a fracture of the vertex of the skull.

On 3rd April William Hamilton, bush foreman employed by the Barrytown Gold-dredge, was struck by the headline while inspecting same and suffered a simple fracture between the calf and the ankle.

On 29th May D. W. Gillies, employed in the shore gang working on the Kanieri Dredging Co.'s claim, was caught in the starboard bowline and sustained a compound fracture of the leg.

On 22nd June, while employed on stoping operations at the Alexander Mine, Peter Davis received a severe injury to his eye, caused by a piece of quartz which flew from a rock he was breaking. The injured man's eye was later removed.

In August G. Kilmartin, a subsidized prospector working at the Big Bend, in the Anatoki area, Takaka County, had his leg jammed by a boulder which fell from the face of the drive he was putting in. His injuries consisted of a broken lower leg and bruises.

On 22nd August Frederick Harwood, a miner employed at the Blackwater Mine, had his right leg fractured by a fall while timbering in the stope.

On 10th December James Lamberton, a labourer employed on the Kanieri Dredge, slipped on the bucket ladder and broke his left leg.

General Remarks: Mining.

Gold won from alluvial mining (other than dredging) amounted to 7,674 oz. 11 dwt. 23 gr., valued at £62,323 8s. 10d., which represents a decrease of 389 oz. 9 dwt. 4 gr., but owing to the increased price of gold the value is still greater by £1,335 13s. 8d. when compared with the preceding year's figures. The number of men in this branch of the industry decreased by 209 to 649.

Gold won by dredges amounted to 69,231 oz. 12 dwt. 7 gr., valued at £628,717 5s. 9d., which represents an increase of 26,229 oz. 8 dwt., valued at £274,891 1s. over last year's production. Although three new dredges were added to the fleet, the Arahura Dredge operated for only four months of the period, and the Ngahere and Maori Gold (Callaghan's) were just completed at the end of the year and did not contribute towards the gold yield from dredging.

The number of men engaged in active dredging operations was 382, an increase of 62 over the previous year. The average number of men engaged on dredge-construction showed a decline when compared with the previous year's figures, owing chiefly to the completion of contracts by the Railways Department's engineering staff.

Gold won from quartz-mines during the year amounted to 30,217 oz. 4 dwt., valued at £265,350 13s. 3d. These figures show an increase over the previous year's figures of 7,363 oz. 4 dwt. 12 gr., valued at £76,409 6s. 10d. the disparity between the number of ounces and the value being accounted for by the increased value realized on gold sales during 1939. The number of men employed in producing quartz-mines was 305, a decrease of 5 over the previous year.

The total quantity won from all branches of mining was 107,123 oz. 8 dwt. 6 gr., valued at £956,391 7s. 10d. This represents an increase of 33,203 oz. 3 dwt. 8 gr., valued at £352,636 1s. 6d. In these totals the disparity between the number of ounces and the value is accounted for by the increased value realized on gold sales during the year under review.

During the year the total number of men engaged in actual gold-mining operations decreased by 152 to 1,336. A considerable amount of employment indirectly connected with the year's gold-production was given to lode and alluvial prospectors, dredge-construction crews, and gangs of men employed in road and water-race construction and the laying of pipe-lines.

PROSECUTIONS.

A dredgemaster was prosecuted and fined 10s. and costs for committing a breach of section 260 of the Mining Act, 1926, this being the only prosecution during the year.

BORING.

A summary of boring activities carried out during the year by Government Departments, companies, and syndicates is set out hereunder:—

N.Z. Prospecting and Mining, Ltd.

(1) *Kotuku.*—Situation: On ordinary prospecting licenses held by the company in Block II, Brunner Survey District. Operations were carried out with a Keystone machine using 6 in. casing and $7\frac{3}{4}$ in. shoe. Seven holes were put down on the area.

Rimu Gold-dredging Co., Ltd.

(1) *Rimu Flat.*—Situation: Drilling on the Rimu Flat ahead of the company's dredge was continued during part of the year, six holes only being put down. A Keystone drill was used with 6 in. casing and $7\frac{1}{2}$ in. shoe.

(2) *Totara Flat.*—Situation: On ordinary prospecting licenses in Block XIII, Mawheraiti Survey District, held in the name of W. J. Radford. The Mines Department's No. 5 alluvial drill, equipped with 6 in. casing and $7\frac{1}{2}$ in. shoe, was used to put down a further two holes. Operations ceased in January.

Kanieri Gold-dredging, Ltd.

(1) *Kanieri.*—Situation: On company's special dredging claim No. K. 604, Block I, Kanieri Survey District. Thirteen holes were bored with a Keystone drill equipped with 6 in. casing and $7\frac{1}{2}$ in. shoe.

Grey River Dredging Co., Ltd.

(1) *Ikamatua.*—Situation: On company's area held under special dredging claim license No. 8649. A Government No. 5 drill using 6 in. casing and $7\frac{1}{2}$ in. shoe was used to put down thirty-eight holes.

Barrytown Gold-dredging, Ltd.

(1) *Barrytown.*—Situation: On company's special dredging claim, Block V, Waiwhero Survey District. The company using a Keystone drill equipped with 6 in. casing and $7\frac{1}{2}$ in. shoe, put down eight holes.

Arahura Gold-dredging, Ltd.

(1) *Arahura.*—Situation: On company's special dredging claim, Block II, Kanieri Survey District. A Keystone drill equipped with 6 in. casing and $7\frac{1}{2}$ in. shoe was used to put down three holes.

Burma Malay Tin, Ltd.

(1) *Kapitea Area.*—Situation: Block XII, Waimea Survey District, on ordinary prospecting licenses held by Walter Rogers. The Company's own drill, using 6 in. casing and $7\frac{1}{2}$ in. shoe, put down thirteen holes.

(2) *Ikamatua.*—Situation: Blocks XI and XV, Mawheraiti Survey District, on old title freehold land owned by J. O'Malley. The company's drill, equipped with 6 in casing and $7\frac{1}{2}$ in. shoe, was used to put down eight holes.

(3) *Camerons.*—Situation: New River areas, Block III, Waimea Survey District, on land held under ordinary prospecting licenses by Bundi Tin, Ltd. This company's drill, equipped with 6 in. casing and $7\frac{1}{2}$ in. shoe, was used to put down thirteen holes.

Austral Malay Tin, Ltd.

(1) *Reefton.*—Situation: On an area at Capleston held under ordinary prospecting licenses by W. L. Hughes. The company's drill, equipped with 6 in. casing and $7\frac{1}{2}$ in. shoe, bored five holes.

(2) *Shellback.*—Situation: Block XVI, Waiwhero Survey District, on areas held under ordinary prospecting licenses by W. L. Hughes and D. T. Cochrane at Shellback, also at Baxter's and Caledonian Creeks. Thirty-one holes were put down by the company's drill, using 6 in. casing and $7\frac{1}{2}$ in. shoe. Drilling was still in progress at the end of the year on this area.

Hohonu Development Syndicate.

(1) *Teremakau Settlement.*—Situation: Block XIII, Hohonu Survey District. Five holes were put down with a Government No. 2 alluvial drill using 6 in. casing and $7\frac{1}{2}$ in. shoe.

Department of Labour.

(1) *Wakamarina Valley.*—Situation: Block XIV, Wakamarina Survey District. A Government No. 5 percussion drill, equipped with 4 in. casing and $5\frac{1}{4}$ in. shoe, was used to drill nine holes during the year.

Mines Department.

(1) *Ross Aerodrome.*—Situation: In Block II, Totara Survey District. A Government alluvial drill No. 3 was used to put down two holes. The drill used $4\frac{3}{4}$ in. and 6 in. casings with $5\frac{5}{8}$ in. and $7\frac{3}{4}$ in. shoes, the work being completed in February. One hole was bored in 1938, making a total of three when the work was abandoned.

Drilling by J. S. Langford.

(1) *Reefton.*—Situation: At Italian and Raglan Creeks, on ordinary prospecting licenses held by J. S. Langford and T. L. Blair in Blocks VI and VIII, Reefton Survey District. A Keystone machine, using 6 in. casing and $7\frac{1}{2}$ in. shoe, was used to put down twenty-one holes.

Drilling by McMahon and Lee.

(1) *Teremakau.*—Situation: At Teremakau Beach, Block VII, Waimea Survey District. McMahon and Lee used a Government No. 2 alluvial drill to put down thirteen holes. The drill was equipped with 6 in. casing and $7\frac{1}{2}$ in. shoe.

Drilling by Slab Hut Syndicate.

(1) *Ikamatua.*—Situation: Block IV, Waitahu Survey District. The Slab Hut Syndicate used a Government No. 3 alluvial drill to put down thirty-three holes. The drill was equipped with 6 in. casing and $7\frac{1}{2}$ in. shoe.

DIAMOND DRILLING.

The Consolidated Goldfields.—On the Globe-Progress area, No. 2 hole, which was down to a depth of 1,278 ft. at the end of 1938, was drilled to a depth of 1,480 ft., when it was decided to abandon operations. This work was completed at the end of April.

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

Quartz and Alluvial Mining.

Waitaki County.

Sluicing operations have been continued by the tribute party in the Golden Gully areas held by the Maerewhenua Goldfields Developments, Ltd., whenever water has been available. Five men employed. Prospecting and sluicing operations have also been carried on in the Maerewhenua mining area by Mining House Concessions, Ltd.

A total of eighteen men (inclusive of companies) has been employed in the Waitaki County during the year, winning 223 oz. 19 dwt. 8 gr., valued at £1,874 12s. 3d.

Waihemo County.

Macrae's Flat Gold and Scheelite Co., Ltd., Golden Point Mine, Deep Dell, Macrae's.—Eight men have been employed at the mine and treatment plant. Mining operations have been carried on in both the home reef and the dip reef above the low-level tunnel. Several tons of scheelite-bearing ore were recovered during the year.

Callery Party, previously known as Callery and Bradbrook, Round Hill Mine, alongside the Macrae's–Golden Point Road. Prospecting and mining operations have been actively carried on during the year. There have been 764 tons of ore treated at the treatment plant in Deep Dell.

Galli Gold-mining Co., Macrae's.- Work was carried on at the 70 ft. level during the early part of the year. The inflow of water below the 70 ft. level was larger than the capacity of the pump, and sinking operations were carried out on the surface for a short period. Operations were then suspended.

Macrae's Gold-mining Co.—The two gravel-pumping plants have been operating steadily on the lower and mid sections of the Macrae's Flat, above and below the township. The depth of operations has ranged from 10 ft. to 50 ft., and 121,200 yards of auriferous gravels have been elevated by the gravel-pump method.

The Macraeburn Mining Co. has done further prospecting work on the upper end of the Macrae's Flat, and has installed some plant, but is held up at present until a suitable transformer is obtained.

A total of sixteen men has been employed in the alluvial mines of the Waihemo County during the year, winning 892 oz. 4 dwt. 9 gr. of gold, valued at £7,027 15s. 2d.

Maniototo County.

Earl and Brown Mining Party, Ophir.—Two men have been employed at this mine during the year, and 170 tons of ore were treated at the treatment plant during the year.

Kildare Consolidated Gold Mining Co., Ltd.—Sluicing operations have been carried out in Redmile Gully and neighbouring areas.

Vinegar Hill Sluicing Co., Ltd., Vinegar Hill, Cambrians.—Active mining operations have been carried on at the Vinegar Hill alluvial mine. The available supply of water is utilized to the best advantage.

Patearoa Hydraulic Sluicing Co., Patearoa.—Mining operations have been carried on in the two mines by sluicing and elevating whenever water has been available. In order to further improve the water-supply, another large storage dam has been constructed during the year.

The various privately owned alluvial mines in the Naseby, Cambrians, Vinegar Hill, Kyeburn, and Patearoa districts have been operated steadily whenever water has been available.

A total of seventy-eight men (inclusive of companies) has been employed in the alluvial mines of the Maniototo County during the year, winning 1,469 oz. 19 dwt. 18 gr. of gold, valued at £11,451 4s.

Tuapeka County.

New Gabriels Gully Sluicing Co., Ltd., Blue Spur.—Sluicing operations were carried on for some time in the remaining portion of the hard cement at the head of Gabriels Gully; then, on account of the hardness and low values, the plant was removed to the tailings beyond the original blacksmith's shop. These tailings are now being tested, and, if results are satisfactory, will be again sluiced and elevated.

M. S. Thompson, Wetherstones.- Sluicing and elevating operations have been carried on in the Wetherstones area during the year whenever water has been available.

Paddy's Point Gold-mining Co., Ltd., Waitahuna.—Sluicing and elevating operations have been carried on steadily in the south-west corner of the Waitahuna Township.

Sailors Gully Sluicing Co., Ltd., Waitahuna Gully.—Sluicing and elevating operations were discontinued in the bed of the Waitahuna Valley on account of the hard, low-value cement. The gully on the right-hand or eastern side of the valley was then sluiced; when this was worked out, the plant was shifted to the valley east of Waitahuna Gully, where sluicing and elevating operations have been continued during the year.

Tuapeka Mouth Sluicing Co., Ltd.—The low-pressure turbine "Rees-Roturbo" pumping plant has been in operation whenever the water-supply has been adequate.

The Fifty-five Gold Mine, Tuapeka Mouth.—Operations were continued at the lower end of the mine, but on account of heavy boulders progress was slow. The plant and pipe-lines were then removed to the mid-section of the mine, and opening-out operations were commenced in this section. This mine was closed down temporarily during the latter part of the year.

The Fruidburn Sluicing Co. closed down, and the plant has now been removed.

Pleasant Valley, Clutha River Gorge, above Coal Creek.—The electric-power line was extended from the Roxburgh-Alexandra Main Road to the mine in the gorge. A winch was also installed for hauling large stones. The pump was installed on the bank of the Clutha River. Operations were commenced by sluicing methods, and then the gravel-pump had to be brought into commission in order to locate the deep lead or buried river course. This operation proved to be very difficult on account of a mass of large boulders, which had apparently slipped from the steep side of the gorge and buried up the channel. Operations were suspended during the latter part of the year.

A total of fifty-nine men (inclusive of the companies) was employed during the year, and the gold won amounted to 1,414 oz. 5 dwt. 11 gr., valued at £11,571 2s. 7d.

Bruce County.

Glenore Mining Syndicate.—Gravel-pump operations were continued on the Tokomairiro River flats between Glenore and Mount Stuart for a short period. Operations were then suspended.

Taieri County.

A total of nine men was employed in the Taieri County during the year, winning 12 oz. 3 dwt. 8 gr. of gold, valued at £87 9s. 7d.

Waikouaiti County.

One man has been employed in this county, winning 7 dwt. 10 gr. of gold, valued at £2 15s. 6d.

Southland County.

Nokomai Gold-mining Co., Ltd., Nokomai, near Parawa.—Sluicing, elevating, and gravel-pumping operations have been actively carried on during the year. The extreme weather conditions during the winter months caused a short cessation of work at this mine. The large-dimension gravel-pumps have operated successfully, and it is now the intention of the company to expedite operations and reduce wear-and-tear of pump liners and impellers by installing a drag-line to drag the major portion of the tailings as they emerge from the end of the sluice-boxes. The gravel-pumps will thus handle less rough abrasive materials and the tailings will be deposited more directly into the worked ground, and thus cut out handling on the surface and prevent blockage of the creek.

Winding Creek Syndicate.—Sluicing operations were continued on the King Solomon tailings dump.

A. Mutch, Happy Valley, Waikaia.—Active sluicing and elevating operations have been carried on at the lower end of Happy Valley in shallow alluvial material.

Freshford Mining Syndicate.—Prospecting operations were continued for some time, but, on account of low values, operations were suspended and the plant was sold for removal.

Stewart Gold Co., Little Waikaka.—Very little work has been done on this area during the year.

A total of seventy-two men (inclusive of the companies) has been employed in the alluvial mines of the Southland County during the year, winning gold to the amount of 2,017 oz. 15 dwt., valued at £16,658 19s.

Wallace County.

Round Hill Gold-mining Co., Ltd., Round Hill.—Active sluicing and elevating operations have been carried out during the year, and approximately 10 acres, with an average depth of 50 ft., have been mined by means of the plentiful water-supply from the Longwood Range. This water is used effectively. The large quantities of driftwood contained in the overburden are handled by means of a main- and tail-rope haulage.

Orepuki Mining Syndicate, Old Township Diggings, Orepuki.—Operations have been continued in the previously driven ground by sluicing methods. *J. Telfer* is also sluicing in these old diggings.

Other small parties and independent miners are employed in the old workings in the Orepuki, Round Hill, and Pahia mining areas.

A total of sixty-three men (inclusive of the companies) was employed in the Wallace County, and the gold won amounted to 2,685 oz. 9 dwt. 18 gr., valued at £22,569 9s. 11d.

Fiord County.

No gold has been won in the Fiord County during the year.

Lake County.

Glenorchy Scheelite Mining Co., Ltd.—Mining operations have been carried on at this mine on the western slope of Mount Judah during the major portion of the year. Stoping operations have been carried out mainly in the No. 1 and No. 1A levels. Prospecting work has been carried out in other portions of this mine. Two hundred tons of ore have been sent to the plant, and this has yielded 9 tons 5 cwt. of scheelite concentrates. On account of the outbreak of war and the necessity of ensuring that New Zealand ore would not reach enemy countries, the export of concentrates was prohibited, and only a small proportion of this output was sold during 1939. The approximate value is £1,850.

Heather Jock Syndicate.—This high-altitude mine has been in active operation during those portions of the year when weather conditions were suitable. A considerable amount of prospecting and development was carried out in the southern end of the mine during the early part of the year, and the operations were transferred to the northern section of the mine. Five men were employed, and the picked scheelite ore amounted to 27¼ tons. This yielded 9 tons of concentrates when treated at the treatment plants.

Tungsten Minerals, Ltd.—This mine is south of the Glenorchy scheelite mine. Only a small amount of work has been done at this mine during the year.

Sunshine Mine.—Only a small amount of work has been carried out at this mine during the year. Work has been carried out in other sections of the Bonnie Jean Basin during the major portion of the year.

Sharpe Bros. have continued to operate their mine in the Bonnie Jean Gorge, and have erected screening and jigging plant for the treatment of the ore obtained.

J. R. Tripp has continued to operate at *Groves*, alongside the Bonnie Jean Track, and has installed a screen and a jig, together with a small jaw crusher, operated by a pelton wheel. Driving, stoping, and prospecting work has been carried out in this area.

Messrs. Valpy and Cruickshank have continued operations in the bed of the Bucklerburn above the junction, in order to obtain gold and scheelite.

E. W. Paulin and Partner have continued operations on the slopes of Mount McIntosh and in the Long Gully area.

G. Ross has continued to operate his mine on the right-hand terrace of the Bucklerburn, near the foot of Long Gully. Prospecting, driving, and stoping have been carried out, and a small crusher, to be belt driven by a internal-combustion engine, is to be installed for the purpose of treating the low-grade ore.

W. McLaren and Partners have continued operations on the slopes of Mount McIntosh, and on Black Peak a considerable amount of prospecting and driving has been carried out during the working seasons of the year.

In the Precipice Creek area operations were continued in the creek-bed for gold and scheelite. Prospecting work has also been carried out at the Twelve-mile, and the Harris Party has continued its mining operations on the Muddy Terrace section on the left-hand slopes of the mid Rees River district, where scheelite ore is being won from slipped country.

Prospecting for scheelite has also been carried out in Campbelltown and other sections of the Glenorchy field.

Sluicing operations have been continued at the Five, Eight, and Twelve Mile sections, on the shores of Lake Wakatipu.

Moonlight Valley Gold (N.L).—Sluicing operations were commenced at the beginning of the year, and the No. 1 mine was opened up at the bottom end of Shipyard Terrace, on the north side of Butchers Creek. Forty thousand cubic yards of overburden were sluiced off the auriferous gravels, and 20,578 cubic yards of wash yielded 23 oz. 18 dwt. 7 gr. of gold. The main head-race from Moonlight Creek had to be repaired, as it passes through difficult country and, as a consequence, will need attention from time to time until it reaches full carrying-capacity. Work at the mine ceased on the 17th June for the winter. Work was not resumed after the winter, as the head-race had suffered considerably from the very severe winter conditions, and extra finance was required.

Oxenbridge Shotover Gold, Ltd.—A small amount of work was done in the gorge of the Shotover River below the Moke Creek junction, but without much success. Operations were then suspended, and the company has gone into liquidation. The plant has been removed.

The Wheeler Party operated near the Star Beach, at the mouth of the Shotover Gorge, above Arthurs Point, until Mr. D. Wheeler met with an accident which resulted in his death.

Arthurs Point Sluicing Co., Ltd., Sugar Loaf Mine.—James McMullan continued to prospect this area. His efforts were not successful at the lower end of the claim, and he removed the plant to the upper end and endeavoured to reopen this section of the mine, but it had to be abandoned. A portion of the plant has been sold, and another portion is to be loaned to J. McMullan and partners, who have taken up the Star Beach area. This area will be worked by means of the water formerly in use at the Sugar Loaf Mine.

Sandhills Gold-mining Co., Ltd., Upper Shotover.—Sluicing and elevating operations were carried out in the bed of the Upper Shotover River in the neighbourhood of Waterfall Creek during the working season.

Short and Party, Ltd, Shotover River.—Sluicing and elevating operations have been carried out in the bed of the Shotover River below Rogers Terrace and in the vicinity of the Nugget Battery.

Skippers Ltd. (Maori Point and Skippers).—During the year the major portion of the steel fluming on the Maori Point Beach has been dismantled and removed, together with other plant not required by the tributers. The sheet piling has been sold to the Public Works Department. During the latter part of the year the tributers reconditioned the plant on the river-bed below Skippers Township, and operations were resumed in the river-bed. River conditions, however, have been difficult on account of heavy rainfall, with a consequent rise of the river and a flooding of the paddock.

Mountain Terrace Sluicing Co., Skippers Creek.—No work was done at this mine during the year.

Skippers Sluicing Co., Skippers.—Sluicing operations have been continued during the working seasons of the year on the western terrace of the Shotover River between Pleasant and Stony Creeks.

Central Shotover Gold Mining Co., Ltd., Deep Creek, Shotover River.—Sluicing and elevating operations in the bed of the Shotover River, downstream from the Deep Creek junction, have been carried out whenever river conditions were suitable.

Crystal Quartz-mine, Sawyers Gully, Skippers.—Driving, rising, sinking, and stoping operations have been carried out during the working seasons of the year. The rising operations proved that faulting had displaced the reef between the two levels. Stoping operations have been carried out below the low level, and 191 tons of ore have been sent to the treatment plant situated in Sawyers Gully.

Beale and Son continued to sluice on the terrace above the Macetown Township until the winter season set in. Operations were not resumed in the spring-time, and the plant is to be sold.

The Hamer Anderson Party discontinued operations in the bed of the Arrow River, and they are now driving in the high-level terraces on the right-hand bank of the Arrow River at the Eight-mile. Driving operations were continued by the Paterson Party on the eastern bank of the Arrow River above and below the Billy Creek junction, but nothing of importance was located. Work was discontinued at the end of the year, and the plant is being sold for removal.

Douglas and Party.—This party has continued to operate in the bed of the Arrow River below Scoles Bend whenever conditions were suitable and water was available from the Arrow River irrigation pipe-line.

The Golden Arrow Gold Mining Co., Ltd.—Mining operations have been carried on in the bed of the Arrow River above the Bush Creek junction whenever river conditions were suitable and water was available from the Arrow River irrigation pipe-line. Operations have been hampered, however, by flood conditions in the river.

Junction Reward Mining Co., Ltd., Bush Creek, near Arrowtown. The tributers worked the bed of the creek to the Golden Arrow boundary. Operations were then suspended, and the plant was sold.

A total of ninety-nine men (inclusive of the companies) has been employed in the alluvial mines of the Lake County, winning 838 oz. 7 dwt. 16 gr. of gold, valued at £6,476 3s. 3d.

Vincent County.

J. Holm, Right Bank of Kawarau River, Cornish Point, opposite the upper end of Cromwell Township.—Driving operations were continued during the year, and the auriferous area was opened up by development drives. Blocking-out operations were commenced when the limits of the auriferous deposit had been located by the drives. Blocking operations were being continued at the end of the year, and a prospect drive was being extended to the down-river section of the mine.

The Bates Party continued its prospecting operations upstream from the Holm Party. The main drive was connected to the shaft workings, and prospect drives were driven up and down stream, but nothing of importance was located, and operations were suspended during the latter part of the year.

Thomas and Party have taken up an area covering the main drives of the Bell-Hooper and Bell-Kilgour Mines, and propose to sluice off the heavy overburden and then sluice the remaining stumps and pillars on the line of the deep lead. Water has been obtained from the main race of the Cromwell Development Co., and water-races, dam, and penstock are being constructed.

Small parties of prospectors are operating on the Cairnmuir and Kawarau areas.

Nevis Mining-field: J. Williamson, Stone Huts, Upper Nevis.—Sluicing and elevating operations were continued in the deep-lead channel near the Stone Huts. The ground proved to be very tight and, as the water pressure was low, progress was slow, and the elevating paddock was closed down for the winter. When operations were resumed in the spring-time elevating was carried on in the deep lead, and a second pipe-line was installed to test an unworked shallow-ground deposit in Camerons Gully.

Jones Nevis Sluicing Co., Ltd., Whittons Creek, Nevis.—No work was done during the beginning of the year, but when the season opened at the end of the winter F. Jones took over the mine on a tribute basis.

The McLean Bros. continued to sluice and elevate in the old township workings, and D. Adie and A. Graham continued to operate on the right-hand terrace of Schoolhouse Creek.

Nevis Sluicing Claims.—During the beginning of the year J. H. Johnston worked the mine on a tribute basis, but he discontinued operations at the end of the season. The mine was taken over by J. Stephens and a party at the end of the winter season. The Stephens Party prospected the bottom end of the mine by cutting a deep tail-race and sluicing into this tail-race.

J. Morrell continued to work the shallow ground below the old workings to the north of the Nevis sluicing claims.

Reward Gold-mining Co., Ltd.—Sluicing operations have been continued at this mine, which is situated between Gorge Creek and Fruitlands.

The Devonshire Sluicing Syndicate operated for a short period in a previously driven area in the old Devonshire diggings. The pump was operated by a Diesel engine. Operations were discontinued before the end of the year.

Shine Again Gold-mining Co., Ltd.—During the early part of the year operations on the opencast ore-body were suspended, and the mine was shut down until the latter part of the year. The mine plant was reconditioned, the water was pumped out, and preparations were carried out on the 60 ft. level for the sinking of a winze on the east and west ore-body. The chamber was completed at the end of the year, and sinking operations will be carried out during 1940 for the purpose of testing the lower levels of this reefing system.

A total of 122 men was employed in the alluvial mines of the Vincent County during the year, winning 1,250 oz. 3 dwt. 4 gr. of gold, valued at £9,894 0s. 3d.

Canterbury District: Ashburton County.

Three men have been employed during the year in the Rakaia Mouth and other beaches, winning gold amounting to 24 oz. 13 dwt. 10 gr., valued at £169 19s. 8d.

DREDGING.

Goldfields Dredging Co., Ltd., Big Beach, Shotover River, near Arthurs Point, Lake County.—Dredging operations were carried out during the early part of the year, but the results did not come up to expectations, and the dredge was closed down. The company has now gone into liquidation. This dredge is electrically operated, and the company's power-station is situated at Wye Creek.

Nevis Crossing Dredge, Lower Nevis, Vincent County.—Dredging operations were continued on the left-hand river-flat above the Schoolhouse Creek junction in shallow ground until the winter season caused a cessation of operations. Mr. Fache, the owner, succumbed to a severe illness during the winter. Operations were resumed by the estate at the beginning of the spring season. This dredge is steam driven, and coal from the local coalfield is used for steam-generation.

The Bendigo Goldlight Dredge is still beached near the Bendigo Gorge.

Molyneux Gold-dredging Co., Ltd.—Dredging operations were continued in the Clutha River from below Gibraltar Rock. Dredging operations were held up for four months in the winter months, as the river was too low to negotiate the falls upstream from this rock. Afterwards the dredge was moved upstream for 260 chains, of which approximately 60 chains proved payable. The remaining 190 chains was prospected by dredging, but proved almost barren, and in many places bare bedrock with a few feet of drift. The bedrock is hard schist rock, and in the narrow

sections it is bare of wash. The dredging depths were variable and reached 50 ft. in places. This dredge is electrically operated, and power is obtained from the Otago Power Board. A Diesel generator is also provided on the dredge, for use in case of power failure or other contingencies.

Clutha River Gold-dredging, Ltd.—Dredging operations were continued in the Clutha River, downstream from the Manuherikia River junction, until the winter low level. The dredge was then taken upstream, and safely negotiated the passage below the Alexandra-Roxburgh Suspension Bridge. The intention of the company was to recondition the dredge so that it would be suitable to dredge the Earnscleugh Flats. The outbreak of war, however, made this reconditioning impossible, and the dredge is now operating in the Clutha River between Alexandra and Earnscleugh. The dredging depth reached 65 ft. This dredge is electrically operated, and power is obtained from the Otago Central Power Board. A Diesel generator is also provided on the dredge for use in case of power failure or other contingencies. Drilling operations in the Alexandra Flats were discontinued early in the year, and the drilling crews were paid off.

Aitken's Dredge, Maitland, Waikaka Valley, Southland.—This privately-owned dredge exhausted the auriferous freehold ground at Maitland, and was then dismantled and removed to the Chatton district, on the east side of the Mataura River. The dredge was reconstructed, and had been running only a few weeks when it caught fire in the early hours of a Sunday morning, and was burnt and sank in the dredge paddock. This dredge was again reconstructed and is now operating in shallow ground. It is steam-driven, and local lignite is used for fuel.

Rainbow Dredging Co., Ltd., Maitland, Waikaka Valley, Southland.—Dredging operations have been continued in freehold land in Section 23, Block I, Chatton Survey District, in the Maitland area. The ground dredged has been shallow, averaging about 7 ft.

There were fifty-six men employed on the working dredges during the year, and the gold won amounted to 7,806 oz., valued at £70,732.

Dredge under Construction.

The Austral New Zealand Mining, Ltd., Lowburn, near Cromwell.—Construction work has been continued during the year, and thirty men have been employed thereon. It is expected that this dredge will be ready for a trial by the end of April, 1940.

Minerals other than Gold.

Platinum.—The platinum won during the year was produced by the Round Hill Mining Co., Ltd., at their alluvial mine at Round Hill, and by the Orepuki Mining Syndicate in the old township workings, Orepuki. There were 13 oz. 6 dwt. produced, with a value of £104.

Silver.—The Clutha River Dredging Co., Ltd., won 148 oz., valued at £16.

Silica Sand.—A total of 2,014 tons of silica sand was produced, valued at £1,534. The producers were the Blackburn Coal Co. at Mount Somers, and R. Christie, Hyde, Central Otago.

Tungsten.—The total yield of scheelite concentrates from the Glenorchy and Macrae's districts during the year amounted to 40 tons, with an approximate value of £8,000.

Boring Operations.

Vincent County.

Clutha River Gold-dredging, Ltd., continued an extensive drilling programme on the Alexandra Flat, sixty-one holes being drilled. No. 15 and No. 16 machines, belonging to the company, were used. One hole was drilled in the Earnscleugh area. The total footage of drilling was 5,026 ft.

Accidents.

There were three fatal accidents during the year, as follows:—

Daniel John Wheeler received very severe injuries through being caught by the fall of a large rock in his mine at Arthur's Point, Queenstown, on the 5th April, 1939, his pelvis being completely fractured and the circulation of the lower limbs cut off. He succumbed to his injuries the same day.

James Williamson was killed by a fall of stone while working at his alluvial mine, Upper Nevis, on the 20th May, 1939. Death was due to a broken neck and a badly fractured skull.

Percy Brown, employed at the Round Hill Alluvial Mine, Coal-pit Gully, Kyeburn Diggings, suffered a fractured pelvis, a compound comminuted fracture of the left leg, cuts on the right side of the face, and other injuries through being struck down into the tail-race by a fall of clayey gravel from the side of the race on the 14th November, 1939.

There was one serious accident during the year: John Scott, employed as a trucker at the Golden Point Mine, Macrae's, now operated by the Macrae's Flat Gold and Scheelite Mining Co., Ltd., received injuries to his ribs and back through falling into the 40 ft. main ore pass.

General Remarks.

The gold won from quartz mining amounted to 909 oz. 13 dwt. 19 gr., valued at £6,971, this being a decrease of 119 oz. 1 dwt. 3 gr, with an increase in value of £156. The number of men increased by two.

The gold won from alluvial mining amounted to 10,836 oz. 13 dwt. 16 gr., valued at £87,845 18s. 10d., this being a decrease of 1,028 oz. 7 gr. in quantity and £752 7s. 2d. in value. The number of men employed increased by twenty-five. The decrease in the quantity can be accounted for by the growing difficulty of production and by the floods in the rivers adversely affecting the river claims in the Shotover and Arrow districts.

The amount of gold won by dredging amounted to 7,805 oz. 12 dwt. 20 gr., with a value of £70,731 12s. 10d. this being a decrease of 2,515 oz. in quantity and of £17,498 in value. The number of men employed decreased by sixteen. The decrease in the output can be accounted for by the decrease in the returns of the Clutha River, Nevis Crossing, and Aitken's dredges, and the cessation of dredging by the Goldfields Dredge.

With regard to scheelite-mining, the market was uncertain during the early months of the year. Prices hardened later on, and when war broke out the private export of scheelite concentrates ceased. The New Zealand Government is now purchasing all scheelite on behalf of the Imperial Government.

The subsidized mining scheme was taken over from the Department of Labour (Employment Division) on the 1st April, 1939.

Since the 1st April the supervision of the subsidized miners has been carried out by one supervisor.

An average total of forty-one men has been employed on the scheme in the Vincent, Lake, Maniototo, and Tuapeka Countries.

The majority of the men have been employed in prospecting for gold, and in the Glenorchy district of Lake County they have been employed prospecting for scheelite.

During the period under review 183 oz. of gold, valued at £1,372, and approximately 6 tons of scheelite, valued at £1,200, have been won.

Mining work is being carried out in the Cromwell-Kawarau Gorge, Nevis, Galloway, Clutha River Gorge below Alexandra, Devonshire, and Matakanui in Vincent County, at the Five, Eight, and Twelve Mile Creeks, on the shores of Lake Wakatipu and Upper Shotover in Lake County, at Naseby, Hyde, and Kyeburn in Maniototo County, and at Wetherstones in Tuapeka County.

Prospecting work under the subsidized mining scheme (8A) has also been carried out in the Upper Waikaia district in Southland.

ANNEXURE B.

STONE QUARRIES.

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

(R. T. H. Dale.)

The following is my report for the year ending 31st December, 1939, for stone quarries and tunnels worked under the Stone Quarries Act, 1910, in the North Island district. The statement attached gives details of the number of quarries worked, the number of men employed, and the output and value of the various classes of stone.

Quarries.

A total of 321 quarries was worked during 1939, a decrease of 2 as compared with the previous year. The number of men employed decreased from 1,954 in 1938 to 1,433 in 1939, a decrease of 521. This decrease in the number of workmen is due to the tapering-off of the work on city reserves, which involved quarrying, and also to the more efficient handling by means of machinery of the outputs of some of the large quarries.

Tunnels.

Wellington City Council's Sewerage Tunnels.—The tunnel has been driven north from Drummond Street to Everton Terrace, and is now being continued towards Wellesley College and from Wellesley College towards Sydney Street. At the last inspection the total distance driven was 7,500 ft., 6,700 ft. of which was lined and completed. The tunnel is being driven in sections from shafts varying from 15 ft. to 50 ft. in depth. They are supported on timber, most of which is recovered when the tunnel is lined, which lining consists of precast concrete crowns and inverts set in flat concrete walls. The tunnel is semicircular top and bottom, and 6 ft by 3 ft. in the clear. With the object of reducing the risk of surface damage due to tunnelling operations, 1,700 ft. of concrete pipe, 4 ft. internal diameter, has been forced, by means of hydraulic jacks, under the shallow sections. This work was done in sections up to 128 ft. in length between jacking points. The jacking was done from each end of the section, and in every case an excellent connection was made. The tunnels are well ventilated, and electric lighting is installed throughout. The work throughout is of a very high standard. An average of forty-five men was employed for the year.

Birkenhead Borough Council.—The tunnels to provide the borough's sewerage scheme with an outfall at Brassey Road had, at the last inspection, been driven by the contractor for a total distance of 3,830 ft. in papa and clay formation. They are 6 ft. by 3 ft. 6 in. in the clear and are timbered where necessary. A total distance of 3,311 ft. has been laid with concrete sewerage pipes and sand stowed. Twenty men were employed in tunnelling and lining.

Output of Stone.

The bulk of the output of stone in the North Island district is being used for roading purposes, and during 1939 the output from quarries supplying material for this purpose has again increased. The output of stone for road use in 1939 was 1,169,050 tons, an increase of 58,972 tons on the 1938 total of 1,110,078 tons. A total of 172,348 tons of limestone were quarried during 1939 for the manufacture of agricultural lime and 269,724 tons for cementmaking. The tonnage of limestone used for agricultural purposes in 1939 was 172,348 tons, as compared to 181,008 tons in 1939, a decrease of 8,660 tons. The tonnage used for cement-manufacture was 269,724 in 1939, an increase of 50,606 tons on the 1938 tonnage of 219,118 tons.

The tonnage of stone used for miscellaneous purposes, which includes soft stone for brick and tile manufacture, has decreased from 180,263 tons in 1938 to 75,063 in 1939. This decrease is due to the completion of various filling and reclamation works on city reserves.

The total tonnage of stone produced during the year was 1,694,862 tons, valued at £353,266 at the quarries. The tonnage for 1938 was 1,697,057 tons, valued at £325,952.

Accidents.

The following accidents occurred in quarries during 1939:—

Fatalities.

On 21st March at Smale's quarry, Takapuna, Luka Yelarich, while filling a lorry at the floor of the quarry, was struck by a falling block of sandstone weighing about 2 tons and was crushed against the back of the lorry.

On 15th May, at Going's lime quarry, Ruatangata, William Kaire, quarry foreman, aged forty-nine years, while preparing a charge, received fatal injuries from a premature explosion of gelignite.

On 15th November, at the Rotorua County Council's quarry at Mamuku, Hector Wiringi, labourer, who was engaged cleaning up the quarry floor, received fatal injuries from a fall of earth and stone which was dislodged by stripping operations.

Serious Accidents.

On 13th June, at McCallum Bros.' quarry, Karamuramu Island, Edward Davies, labourer, was assisting in the charging of a down hole with lythyte when a premature explosion occurred. He sustained injuries to his face, eyes, and hands.

On 29th October, at Sinclair's quarry, Tomorata, James Scott, quarry foreman, was working alone, and was struck by a rolling stone, receiving injuries which necessitated the amputation of his right forearm.

ANNEXURE C.

MINING STATISTICS.

Table I.

STATEMENT SHOWING THE QUANTITY OF QUARTZ CRUSHED AND BULLION OBTAINED IN THE NORTHERN INSPECTION DISTRICT FOR THE YEAR ENDED 31ST DECEMBER, 1939.

Locality and Name of Mine.	Average Number of Men employed.	Quartz crushed.	Bullion obtained by Amalgamation.	Bullion obtained by Cyanidation.	Value.
WAIHI BOROUGH.					
		Tons cwt. qr.	Oz. dwt. gr.	Oz. dwt. gr.	£ s. d.
Waihi—					
Martha	635	175,665 0 0	..	434,877 10 0	421,702 0 0
Silverton Battery-site	..	..	7 8 0	..	21 12 0
	635	175,665 0 0	7 8 0	434,877 10 0	421,723 12 0
OHINEMURI COUNTY.					
Karangahake—					
Talisman-Dubbo	16	2,013 0 0	..	1,664 15 0	2,933 12 6
Talisman Extended	2	251 0 0	..	318 6 0	531 5 6
New Talisman	1	79 4 0	..	78 15 0	257 2 5
Waiawa	8	457 0 0	..	701 5 0	2,103 9 7
New Tarver	2	170 0 0	..	167 9 0	407 15 8
Talisman Battery-site	1	52 10 0	..	127 16 0	500 18 1
Comstock	..	12 0 0	..	22 3 0	86 16 5
Rhoderick Dhu	1	4 0 0	..	9 12 0	14 8 0
Waitekauri—					
New Maoriland	1	108 0 0	282 4 0	..	902 3 0
Frewin's	..	27 0 0	29 14 0	..	121 13 5
Owharoa—					
Golden Dawn	10	44 0 0 ..	.. 741 2 0	42 6 0 ..	81 3 8 4,077 19 8
Maratoto—					
Long Drive	2	7 0 0	..	37 8 0	17 19 9
Komata—					
Te Ao Marama	12	141 0 0	..	318 18 0	617 2 11
	56	3,368 14 0	1,053 0 0	3,488 13 0	12,653 10 7
THAMES COUNTY.					
Neavesville—					
Remuera	6	52 0 0	34 17 0	..	165 16 4
Tapu—					
Kernick's	7	329 0 0	771 13 0	..	5,129 7 3
Shannon	2	3 0 0	25 17 0	..	153 11 4
Tapu	2	5 0 0	5 8 0	..	30 13 1
Tararu—					
Eclipse	2	3 0 0	4 1 0	..	23 13 8
Puru—					
Golden Ridge	1	25 0 0	24 5 0	..	140 4 0
Puhoi—					
Hector McDonald	2	27 0 0	34 12 0	..	253 9 8
Mountain King	2	30 0 0	32 8 0	..	197 15 3
Tairua—					
Western	2	102 10 0	36 11 0	..	186 5 9
Puketui	2	90 0 0	30 16 0	..	144 15 1
Prospectors	2	7 0 0	7 6 0	..	39 17 3
	30	673 10 0	1,007 14 0	..	6,465 8 8
THAMES BOROUGH.					
Thames—					
Progress	4	70 0 0	126 15 0	..	702 17 8
Little Horseshoe	2	37 10 0	89 2 0	..	512 16 6
Hopeful	2	5 0 0	19 10 0	..	110 9 4
Cambria	2	5 10 0	3 6 0	..	20 3 1
Lap	1	..	9 9 0	..	48 18 3
Commissioner	3	2 10 0	2 18 0	..	16 14 4
Advance	3	5 0 0	5 18 0	..	30 9 9
New Era	1	5 0 0	4 2 0	..	24 4 4
Prospectors	2	15 0 0	3 6 0	..	18 10 2
Collections	..	..	49 6 0	..	243 14 5
	18	145 10 0	313 12 0	..	1,728 17 10

Table 1—*continued.*

STATEMENT SHOWING THE QUANTITY OF QUARTZ CRUSHED AND BULLION OBTAINED IN THE NORTHERN INSPECTION DISTRICT FOR THE YEAR ENDED 31ST DECEMBER, 1939—*continued.*

Locality and Name of Mine.	Average Number of Men employed.	Quartz crushed.	Bullion obtained by Amalgamation.	Bullion obtained by Cyanidation.	Value.
			COROMANDEL COUNTY.		
Coromandel—		Tons cwt. qr.	Oz. dwt. gr.	Oz. dwt. gr.	£ s. d.
Hauraki	1	1 0 0	1 16 0	..	11 0 3
Belle View	2	29 0 0	9 1 0	..	51 15 0
Tokatea—					
New Royal Oak	6	1 2 2	23 6 0	..	130 10 6
Gem	2	14 0 0	22 3 0	..	130 11 3
Southland	2	17 0 0	10 9 0	..	69 2 2
Speedmint	2	2 0 0	11 0 0	..	67 7 3
Tiki—					
Pukewhau	2	2 9 0	10 8 0	..	61 8 0
Progress Castle Rock	2	1 1 0	46 4 0	..	253 5 4
Dredgers Ltd.	2	0 3 0	9 6 0	..	55 14 5
Waikoromiko—					
Lone Hand	1	1 10 0	7 6 0	..	42 13 5
Colville—					
Bot	..	2 0 0	1 10 0	..	27 14 6
Opitonui—					
Rexman	6	350 0 0	..	130 10 0	685 16 8
Prospectors	2	..	12 15 0	..	79 4 0
	30	421 5 2	168 4 0	130 10 0	1,657 2 9
			PIAKO COUNTY.		
Waiorongomai—					
Hardy's	2	10 10 0	..	135 16 0	668 13 9
	2	10 10 0	..	135 16 0	668 13 9
	771	180,284 9 2	2,549 18 0	438,632 9 0	444,897 5 7
			SUMMARY.		
Waihi Borough	635	175,665 0 0	7 8 9	424,877 10 0	421,723 12 0
Ohinemuri County	56	3,368 14 0	1,053 0 0	3,488 13 0	12,653 10 7
Thames County	30	673 10 0	1,487 14 6	..	6,465 8 8
Thames Borough	18	145 10 0	313 12 0	..	1,728 17 10
Coromandel County	30	421 5 2	168 4 0	130 10 0	1,657 2 9
Piako County	2	10 10 0	..	135 16 0	668 13 9
Totals, 1939	771	180,284 9 2	2,549 18 0	438,632 9 0	444,897 5 7
Totals, 1938	827	189,333 11 1	2,080 15 0	409,742 8 0	426,579 15 6

Table I—*continued.*

STATEMENT SHOWING THE QUANTITY OF QUARTZ CRUSHED AND BULLION OBTAINED IN THE WEST COAST INSPECTION DISTRICT FOR THE YEAR ENDED 31ST DECEMBER, 1939.

Locality and Name of Mine.	Average Number of Men employed.	Quartz crushed.	Bullion obtained by Amalgamation.	Bullion obtained by Cyanidation and Concentration.	Value
INANGAHUA COUNTY.					
		Tons. cwt. qr.	Oz. dwt. gr.	Oz. dwt. gr.	£ s. d.
Alexander River					
Alexander	34	3,259 0 0	1,480 7 0	711 15 0	19,621 4 0
Big River					
Big River	21	1,522 0 0	1,132 16 0	315 17 0	14,079 18 2
Crushington					
Laukey's Creek (Watts and party)	3	260 0 0	52 14 0	..	438 19 2
Waiuta —					
Blackwater	240	49,482 0 0	18,110 11 0	8,331 17 0	230,559 8 11
Mount Greenland —					
Greenland Gold	2	..	..	81 7 0	651 3 0
Totals, 1939	300	54,523 0 0	20,776 8 0	9,440 16 0	265,350 13 3
Totals, 1938	310	48,646 0 0	18,828 13 15	4,025 5 21	188,941 6 5

STATEMENT SHOWING THE QUANTITY OF QUARTZ CRUSHED AND BULLION OBTAINED IN THE SOUTHERN INSPECTION DISTRICT FOR THE YEAR ENDED 31ST DECEMBER, 1939.

Locality and Name of Mine.	Average Number of Men Employed.	Quartz crushed.	Bullion obtained by Amalgamation.	Bullion obtained by Concentration.	Value.
VINCENT COUNTY.					
		Tons cwt. qr.	Oz. dwt. gr.	Oz. dwt. gr.	£ s. d.
Bendigo —					
Shine Again Gold-mining Co., Ltd.	2	55 0 0	10 3 11	..	66 10 6
R. T. Symes	1	..	2 9 19	..	20 18 0
Skippers —					
J. R. Tripp	4	191 0 0	151 15 10	..	1,207 3 9
Macrae's Flat					
Macrae's Flat Gold and Scheelite Mining Co., Ltd.	9	1,108 0 0	499 11 9	7 5 0	3,802 1 6
Callery and Bradbrook ..	7	764 0 0	..	225 14 3	1,775 4 2
L. C. Galli	1	15 0 0	12 14 15	..	99 2 5
Total, 1939	24	2,133 0 0	676 14 16	232 19 3	6,791 0 4
Totals, 1938	22	2,163 0 0	905 13 10	123 1 12	6,814 11 9

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)	771	180,284	441,182 7 0	444,897 5 7
West Coast (South Island)	300	54,523	30,217 4 0	265,350 13 3
Southern (Otago and Southland) ..	24	2,133	909 13 19	6,971 0 4
Totals, 1939	1,095	236,940	472,309 4 19	717,218 19 2
Totals, 1938	1,159	240,143	435,705 15 10	622,335 13 8

In addition, 31 persons were employed at unproductive quartz-mining.

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, 15th May, 1940.

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, 1939, 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 Coal-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 1939.				Total Output to the End of 1939.
	Northern District (North Island).	West Coast District (South Island).	Southern District (South Island).	Totals.	
	Tons.	Tons.	Tons.	Tons.	Tons.
Bituminous and sub-bituminous	71,029	973,580	..	1,044,609	52,829,029
Brown	731,676	58,441	369,876	1,159,963	34,451,156
Lignite	..	1,351	136,716	138,067	5,539,884
Totals for 1939 ..	802,705	1,033,372	506,592	2,342,639	92,820,069
Totals for 1938 ..	762,717	984,389	474,982	2,222,088	90,477,430

The following is a table showing the annual production of coal and the quantity of coal imported since 1912: —

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.
1912 ..	2,177,615	364,359	2,541,974	1926 ..	2,239,999	483,918	2,723,917
1913 ..	1,888,005	468,940	2,356,945	1927 ..	2,366,740	378,090	2,744,830
1914 ..	2,275,614*	518,070	2,793,684*	1928 ..	2,436,753	247,861	2,684,614
1915 ..	2,208,624	353,471	2,562,095	1929 ..	2,535,864	215,656	2,751,520
1916 ..	2,257,135	293,956	2,551,091	1930 ..	2,542,092	157,943	2,700,035
1917 ..	2,068,419	291,597	2,360,016	1931 ..	2,157,756	179,060	2,336,816
1918 ..	2,034,250	255,332	2,289,582	1932 ..	1,842,022	103,531	1,945,553
1919 ..	1,847,848	391,434	2,239,282	1933 ..	1,821,258	99,272	1,920,530
1920 ..	1,843,705	476,343	2,320,048	1934 ..	2,060,315	100,715	2,161,030
1921 ..	1,809,095	822,459	2,631,554	1935 ..	2,115,181	97,398	2,212,582
1922 ..	1,857,819	501,478	2,359,297	1936 ..	2,140,217	111,078	2,251,295
1923 ..	1,969,834	445,792	2,415,626	1937 ..	2,277,799	116,499	2,394,298
1924 ..	2,083,207	674,483	2,757,690	1938 ..	2,222,088	109,206	2,331,294
1925 ..	2,114,995	572,573	2,687,568	1939 ..	2,342,639	111,537	2,454,176

* Includes 21 tons shale.

The output of New Zealand collieries for 1939, 2,342,639 tons, was 120,551 tons more than the 1938 output and is the highest since 1930. From the Northern District coal-mines there was an increase of 39,988 tons, from the West Coast mines an increase of 48,983 tons, and from the Southern District mines an increase of 31,610 tons, although in that district twenty-three less men were employed in the mines than in 1938.

In the Northern District forty-four more men were employed, and the output per man, 5,064 tons, is 11·6 tons higher than the 1938 return.

At the Kamo Colliery most of the miners are working in the No. 3 mine, where the main dip headings are now over 27 chains down from the surface. A 50 ft. downthrow fault was met and driven through. Headings to east and west outbye this fault are being driven, and those on the west side are now in over 6 chains from the main dip.

Pillaring from the east working of the No. 4 mine has been completed, and a pair of places are being driven to work an area north of the Kamo Railway-station.

In the Hikurangi Mine the main or No. 1 stone drive reached the coal-seam at the No. 12 level in June, 1939, and before the end of the year it had been connected to the No. 14 west level off the No. 2A dip.

All levels above the No. 9 west level had been stopped at faults when in only a few chains, but the No. 9 and the lowest west levels were driven farther in, and the No. 16 west level reached a distance of 7 chains from the line of the main drive before an inrush of water early in the year inundated all the west side workings.

All places to the east are in troubled country, and the outlook for this mine appears to be a very gloomy one.

From the Rotowaro Mine the 1939 output was chiefly from pillar-extraction. A new mine is being opened up west of the Rotowaro Township to work a seam of coal fully 15 ft. in thickness.

A branch railway is being made from the Rotowaro Railway-station, and a new all-steel screening plant has been ordered from a reputable English maker.

At the Renown Colliery, development to the north was observed after extensive repairs had been made to the haulage road to stop a widespread "creep." The main headings in this direction, however, are approaching an area of stony coal, so may not extend much farther. Development continues steadily to the south and east in good coal, and consideration is now being given to working an area farther to the east from a pair of new headings to be driven from the surface.

At the Wilton No. 1 mine, pillar-extraction was continued, and the main heading in the No. 2 mine was advanced 15 chains in the 8 ft. seam.

In the Glen Afton Colliery, development was chiefly in the "E" section headings and in three panels to the east off these headings. In the "L" section, a stone dip was started to cross a 70 ft. downthrow fault, and in September, 1939, it was close to the 11 ft. seam which had been proved by a borehole ahead. Owing to the fire in the main return airway, no work has been done in "L" section since September, 1939, nor in the remaining pillars in "K" section.

In the MacDonald Colliery the No. 4 section has been extended nearly a quarter of a mile in good coal 23 ft. thick, and panels are being formed to the north-west and south-east. Headings are being driven to an area of unworked coal west of "A" section.

At the Rotowaro carbonization works, 39,573 tons of coal were carbonized in 1939, or 161 tons more than in 1938. From the raw coal, 22,089 tons of carbonettes were produced, 163,922 gallons of light and heavy oils, together with 47,766 gallons of creosote and 638 tons of pitch.

At the Sockburn plant the output of briquettes, 6,312 tons, was 423 tons more than the output for 1938.

From Messrs. Briquettes, Ltd.'s, plant at Onehunga, 1,016 tons of briquettes were produced in 1939.

At Denniston a large steam plant is being installed to generate electric power for the Buller district. The older plant has been supplying Granity and the Millerton Colliery as well as the Denniston Collieries with electricity for some time, and now, to augment their hydro station supply, the Westport Borough is to purchase power from the Westport Coal Co.

At the power-house on the Denniston plateau a large Babcock and Wilcox two-drum water-tube boiler is being installed. It is 18 ft. wide and 12 ft. high, and has a heating surface of 4,780 square feet. It is constructed for a final working pressure of 250 lb. per square inch and a fuel temperature of 606° F. both measured at the superheater outlet. The boiler's automatic chain-grate stoker is 9 ft. wide and 12 ft. long, and the superheater has 1,780 square feet of heating surface.

Owing to the much higher efficiency of such a boiler over the older plant, it is anticipated there will be a large saving in coal consumption at the power-house.

The compressed-air-driven "Korfmann" coal-cutting machine purchased for use in the Strongman State Colliery was given a trial at that mine, but as the coal appeared to be of too hard a nature for such a light machine it was taken to the Morgan Dip section of the Liverpool State Colliery, where it has given satisfactory results.

Beside the development in the Morgan dip area of the Liverpool Colliery, headings and levels have been driven during the year in the Kimball west dip section, and the Anderson dip has been extended another 10 chains.

The main drive of the Strongman Colliery intersected the upper seam early in 1939, and after the completion of the return airway coal-production commenced in February, 1939.

The two-mile long endless-rope system from the steel bins at Rapahoe to the engine some 30 chains underground was brought into use in September, and by the end of the year nearly 30,000 tons of coal had been produced from the new colliery. The dip of the upper seam varies considerably, and it is much faulted so development cannot, as yet, be carried out to a set plan.

At the Blackball new mine the two dip drives in stone intersected the coal-seam, and a belt conveyor has been installed to carry the output up to the screens on the other side of Ford's Creek.

Another conveyor from the coal face will feed the one already in place.

The air-driven "Korfmann" coal-cutter is still at the Wallsend Colliery, but it has not had much use lately.

The lower places in the No. 1 slant dip were flooded, and a new electrically-driven pump has been ordered to dewater this area. In the Rope Road extension section development has been continuous, and the main heading is now 38 chains down below the brow of No. 1 slant dip.

In the Dobson Colliery development is steadily proceeding to the dip and in the Nos. 3 and 4 west level sections, but very little work has been done during the year in the No. 4 east level section. Although the compressed-air system already installed is sufficient for present needs, consideration is being given to the power requirements for future workings farther to the dip.

Of the nineteen producing co-operative mines in the Grey district, the output from eight of them was solely from the extraction of pillars. The production from four mines was from solid work only, and from the remaining seven mines partly from solid work and partly from pillar-extraction.

A new mine was opened in the Nelson District at Westhaven during 1939, and the Mount Burnett Mine near Collingwood closed down. In the Buller district the Cardiff Mine near Seddonville, Penberth's mine in the Buller Gorge, and Price's freehold mine near Tirimoana were not worked, nor was the Phœnix and Venus Mine near Reefton, but the old Times Street mine near the town of Reefton was reopened under the name of the Terrace Mine.

There was little of interest to record concerning the year's work in the Canterbury, North Otago, and Central Otago coal-mines.

At the Kaitangata Colliery most of the year's development has been in the "Samson" seam dipping about 1 in 2. About a mile and a half south of the present Kaitangata Mine a prospect dip was driven in stone 1,250 ft. before it met an 8 ft. seam of coal. Another haulage road will have to be driven to work this area.

In the Ohai district production by the Mossbank Coal Co. ceased when the No. 3 mine was flooded in June, 1939.

Unfortunately, the dip drives put down about half a mile south of the old mine did not reach any coal, although the main dip was driven 949 ft.

Production from the Star Mine ceased also, but a new south dip was driven in stone east of the old mine and reached the seam. Levels to the east of this dip have already been driven 10 chains.

In the Linton Colliery development has been continued in the Nos. 7 and 8 sections, but the north headings in the No. 7 area have reached a fault and pillaring will soon be commenced.

In the Wairaki Colliery development in the new area to the east is still in good coal. Boring by this company on Mills's area has also proved very successful, for workable coal was found in four out of the five bores put down.

A new colliery will probably be opened up to work the area which has been bored.

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 1939.	Total Output to 31st December, 1939.	Total Number of Persons ordinarily employed.
			Tons.	Tons.	
Northern District.					
Waro	Hikurangi ..	Sub-bituminous	19,788	59,295	68
New Kamo	Kamo ..	,,	44,738	143,658	93
Rotowaro	Rotowaro ..	Brown ..	176,020	2,797,713	304
Pukemiro	Pukemiro ..	,, ..	110,987	2,815,753	225
Wilton	Glen Massey ..	,, ..	89,930	739,566	167
Glen Afton	Glen Afton ..	,, ..	72,388	1,923,981	164
MacDonald	Waikokowai ..	,, ..	139,380	1,142,214	261
Renown	,, ..	,, ..	121,164	1,101,683	241
West Coast District.					
Westport-Stockton	Ngakawau ..	Bituminous ..	140,310	3,846,666	254
Charming Creek	,, ..	,, ..	30,316	183,370	53
Millerton	Millerton ..	,, ..	79,429	8,615,467	129
Denniston	Denniston ..	,, ..	168,109	11,171,803	392
Cascade	Cascade Creek	,, ..	20,749	207,976	20
Burke's Creek	Reefton ..	Brown ..	22,418	335,295	10
Paparoa	Roa ..	Semi-bituminous	41,052	929,717	57
Blackball Creek	Blackball ..	Bituminous ..	12,507	132,850	28
Liverpool (State)	Rewanui ..	,, ..	157,372	3,246,605	343
James (State)	Rapahoe ..	Sub-bituminous	30,607	576,108	37
Strongman	Nine-mile ..	,,	29,786	29,786	155
New Point Elizabeth	Dunollie ..	,,	9,152	105,611	14
Old Runanga	Rewanui ..	,,	9,046	83,964	16
Dobson	Dobson ..	Bituminous ..	71,677	960,545	184
Wallsend	Brunnerton ..	,, ..	53,999	774,002	137
Southern District.					
Klondyke	Bush Gully ..	Lignite ..	10,389	55,280	16
Kaitangata	Kaitangata ..	Brown ..	133,786	5,829,621	300
Linton (2 collieries)	Ohai ..	,, ..	107,713	1,539,457	170
Wairaki	,, ..	,, ..	44,271	571,764	78
Star	,, ..	,, ..	13,327	74,272	33
Birchwood	,, ..	,, ..	30,610	252,602	71
Black Lion	,, ..	,, ..	17,034	212,847	20
Black Diamond	Nightcaps ..	,, ..	14,355	292,472	14
Paper Mills	Mataura ..	Lignite ..	11,341	11,341	4
119 other collieries	All coalfields ..	Various ..	308,889	13,012,375	674
Collieries abandoned or suspended, &c.	Various ..	,, ..	..	29,044,410	..
Totals	..	..	2,342,639	92,820,069	4,762

SECTION II. PERSONS EMPLOYED.

Inspection District.	Average Number of Persons employed during 1939.		
	Above Ground.	Below Ground.	Total.
Southern	265	665	930
West Coast	603	1,644	2,247
Northern	352	1,233	1,585
Totals, 1939	1,220	3,542	4,762
Totals, 1938	1,195	3,368	4,563

The following statement shows the tons of coal raised, persons employed, lives lost by accidents in or about collieries, &c., to 1939: —

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 ..	1,941,247	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 ..	2,275,644	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	0·89	4
1932 ..	1,842,022	1,257	3,379	4,636	545	6·51	2·59	12
1933 ..	1,821,258	1,192	3,194	4,386	570	3·84	1·59	7
1934 ..	2,060,315	1,229	3,249	4,478	634	3·88	1·78	8
1935 ..	2,115,184	1,127	3,104	4,231	681	0·94	0·47	2
1936 ..	2,140,217	1,103	3,154	4,257	678	1·87	0·94	4
1937 ..	2,277,799	1,129	3,288	4,417	693	2·64	1·36	6
1938 ..	2,222,088	1,195	3,368	4,563	659	4·86	2·41	11
1939 ..	2,342,639	1,220	3,542	4,762	661	7·26	3·57	17
Totals ..	92,820,069	..	..	..	..	..	..	518

* 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 1939, 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.
Carbon-monoxide poisoning	1	11	..	..
Explosions of fire-damp or coal-dust ..	..	..	..	..
Falls of ground	3	4	9	9
Explosives	..	..	..	..
Haulage	..	..	5	5
Miscellaneous—Underground	2	2	3	3
On surface	..	..	1	2
Totals	6	17	18	19

Seventeen fatalities occurred in New Zealand coal-mines during 1939, and, of these, eleven resulted from carbon-monoxide poisoning in the Glen Afton Colliery on Sunday, 24th September, 1939. Owing to this tragedy the fatal accident rate reached the high average of 3·57 deaths per thousand persons employed, or at the rate of 7·26 per million tons of coal produced.

A small fire was found in the main return airway of the Glen Afton Colliery during the morning of Saturday, 23rd September, when only the mine officials and some repair men were in the mine. It was thought to have been completely extinguished before work ceased at 2 p.m. Although no direct evidence could be got as to the actual cause of the fire, which generated a very large volume of deadly carbon-monoxide gas before men entered the mine to fix an electrical fault on the Sunday morning, the Commissioners who were appointed under the Commissions of Inquiry Act, 1908, to inquire into the cause of the loss of eleven lives arrived at the conclusion that the small fire of the Saturday morning had revived and it had caused an electrical "short."

Of the other six fatalities, five occurred in the West Coast District, and one in the Wilton Colliery, in the Northern District, on 2nd June, when J. Cooper, a trucker, dislodged a carrying set of timber when he was pushing a trolley loaded with timber underneath it. A bar resting on the carrying set in falling broke his neck.

All of the fatal accidents in the West Coast District in 1939 were caused, directly or indirectly, through falls of coal or stone: one in the Ironbridge Mine; another in the Liverpool Mine; two by a fall of loose material through which the men were driving in the Millerton Mine; and the fifth in the Strongman Mine, where a miner received injuries from which he subsequently died. The fatality in the Liverpool Mine was a very unusual one, for, in endeavouring to avoid a small fall of coal in his working-place, the miner struck his head violently against a prop, breaking his neck.

Nineteen serious non-fatal accidents were reported to the District Inspectors during 1939. Thirteen of them occurred in the West Coast District, four in the Southern District, and two in the Northern District. Seven of the accidents in the West Coast District and two in the Southern District were caused by falls of stone or coal. Four serious accidents were due to runaway tubs, and one man was seriously injured by being jammed between mine-tubs. Two men fell into a creek-bed when the high flume along which they were walking collapsed when struck by a falling boulder.

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

(*a*) Permitted Explosives.

(Regulations 230 to 231 inclusive.)

The following is a table showing the quantity of permitted explosives used and the number of shots fired in New Zealand coal-mines during 1939:—

Inspection District.	Quantity of Permitted Explosives used (lb.).		Number of Shots fired.	Number of Misfired Shots.					Approximate Quantity of Coal produced.
	A2 Monobel.	Samsonite.		By Defective Explosive.	By Defective Detonators.	By Defective Leads.	Other Causes.	Total.	
									Tons.
Northern (*i.e.*, North Island) ..	139,053	666	182,921	..	29	4	..	33	709,869
West Coast (of South Island) ..	148,513	124,557	328,285	18	137	96	..	251	1,012,027
Southern (*i.e.*, Canterbury, Otago, and Southland)	..	104,444	152,220	..	16	20	..	36	381,955
Totals	287,566	229,667	662,526	18	182	120	..	320	2,103,851

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

The following is a list of mines as at the 31st December, 1939, at which permitted explosives are used:—

Northern Inspection District.

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

West Coast Inspection District.

Wyndale, Murchison.
Puponga, Puponga.
Owen, Owen River.
Brighton, Brighton.
Charming Creek, Ngakawau.
Cascade, Burnett's Face.
Coal Creek, Seddonville.
Hydro, Seddonville.
Glencrag, Buller Gorge.
Westport Coal Co.'s Denniston mines.
Westport Coal Co.'s Millerton mines.
Westport-Stockton, Ngakawau.
Archer's, Capleston.
Clele, Merrijigs.
Coghlan's, Capleston.
Morrisvale, Reefton.
Defiance, Reefton.
Burke's Creek, Reefton.
Waitahu Colliery, Reefton.
Burnwell (Honey's), (Times Street), Reefton.
Schultz Creek, Twelve Mile.
Hilltop, Ten Mile.
Kaye's, Ten Mile.
Bellbird, Ten Mile.
Hunter's, Ten Mile.
Briandale, Ten Mile.
Cliffside (Moore's), Nine Mile.
Bellvue, Rapahoe.
Cain's, Rapahoe.
Jubilee, Rapahoe.
Baddeley's, Dunollie.
Braehead, Dunollie.
Castlepoint, Dunollie.
Hunter's, Rewanui.
Moody Creek, Dunollie.
New Point Elizabeth, Dunollie.
Fiery Cross, Dunollie.
Smith's, Dunollie.
Old Runanga, Rewanui.
Spark's, Rewanui.
State Colleries (Liverpool), James, and Strongman).
Goldlight, Rewanui.
Blackball, Blackball.
Blackball Creek, Blackball.
Paparoa, Roa.
Dobson, Dobson.
Wallsend, Brunnerton.
Westhaven, Mangarakau.
McCaffrey's, Reefton.

Southern Inspection District.

Kaitangata, Kaitangata.
Wairaki, Ohai.
Birchwood, Ohai.
Linton, Ohai.
Jubilee, Saddle Hill.
East Taieri, East Taieri.
Black Diamond, Ohai.
Black Lion, Ohai.
Star, Ohai.
Fernhill, Abbotsford.
Willowbank, East Taieri.

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

The following is a list of the mines as at the 31st December, 1939, 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, Renown—Nos. 1, 2, 3, and 4 North Sections.

West Coast Inspection District.

Dobson, Dobson.
Spark's, Rewanui.
State Mine (Liverpool No. 2), Rewanui.
Moody Creek, Dunollie.
Old Runanga (Nos. 1 and 2 Sections), Rewanui.
Kaye's, Ten Mile.
Paparoa, Roa.
Wallsend, Brunnerton.
Millerton (Old Dip Section), Millerton.
Owen, Owen River.
Strongman, Nine Mile.
Wyndale, Murchison.
Hunter's, Rewanui.
Bellbird, Ten Mile.

Southern Inspection District.

Kaitangata, Kaitangata.
Wairaki, Ohai.
Birchwood, Ohai.
Linton, Ohai.
Black Diamond, Ohai.
Black Lion, Ohai.
Star, Ohai.

(*d*) Dangerous Occurrences Reported.

Of the twenty-one dangerous occurrences reported in 1939 to the District Inspectors of coal-mines, fifteen were of actual fires underground or of heating in underground workings. Five were in the Rotowaro No. 1 Mine, two in Rotowaro No. 3, and two in the Renown Mine.

There were four reports of accumulations of firedamp, and one report of an ignition of gas detected by a mine-manager acting as fireman-deputy during an examination before the commencement of work.

(*e*) Electricity at Collieries.

(Regulation 241.)

The following is a summary of the annual returns, in accordance with Regulation 241 (*e*), regarding electrical apparatus at collieries:—

Number of collieries at which electrical apparatus is installed	61
Number of continuous-current installations	12
Number of alternating-current installations	51
Number of collieries electrically lighted	21
Number of collieries using electrical ventilating-machines	49
Number of collieries using electrical pumping plants	36
Number of collieries using electrical haulage plants	47
Number of collieries using electrical screening plants	35
Number of collieries using electrical coal-cutting machines	2
Number of collieries using electrical miscellaneous plants	28
Number of collieries using electrical locomotives	1
Total horse-power employed from motors on surface	8,136
Total horse-power employed from motors below ground	4,677

(*f*) Prosecutions.

Seven informations were laid during 1939 by the Inspectors of Coal-mines for breaches of the Coal-mines Act and the regulations thereunder, and convictions were obtained in all cases. A miner and a trucker working in safety-lamp mines were charged: the miner with having smoking-material in his possession in the mine, and the trucker with having matches.

A mine-manager was prosecuted for failing to start the ventilating-fan and run it continuously while workmen were in the mine, and another manager who was also the underviewer for the mine was convicted for not remaining underground until work had been finished for the day.

A shot-firer was charged with failing to stonedust a place before firing a shot there, and a miner who did not hold a gas-testing certificate was convicted for firing a shot in his working-place. A colliery-owner was convicted for failing to forward a half-yearly return of output to the District Inspector.

SECTION V.—LEGISLATION AFFECTING COAL-MINES.

There was no amendment to the Coal-mines Act, 1925, in 1939, but in the Statutes Amendment Act, 1939, a clause was inserted dealing with the application of moneys appropriated to assist the coal-mining industry.

The consolidation and revision of the regulations under the Coal-mines Act was completed early in the year, and the new regulations were gazetted on 19th July, 1939. Included therein are provisions for dealing with the operation and maintenance of mines rescue stations in coal-mining districts. The establishment of such stations is an innovation in coal-mining in New Zealand.

It is with great regret that I have to record the death of Mr. William Barclay on 15th March, 1939. For nearly eighteen years Mr. Barclay had been Inspector of Coal-mines for the Northern District, and he was on duty to within a fortnight of his death.

The vacancy was filled by Mr. R. H. Schoen who had previously been Inspector of Stone Quarries for the same district.

I desire to acknowledge the efficient help and co-operation which I have received from all the District Inspectors.

I have, &c.,

George Duggan,

Inspecting Engineer and Chief Inspector of Coal-mines.

ANNEXURE A.

SUMMARY OF REPORTS BY INSPECTORS OF COAL-MINES.

NORTHERN INSPECTION DISTRICT (R. H. Schoen, Inspector of Coal-mines).

The following is my report on the working of coal-mines in the Northern Inspection District for the year ended 31st December, 1939.

Summary of Operations of each Colliery for the Year 1939.

North Auckland District.

Kamo Colliery.—No. 4 Mine: Pillaring of the developed area to the north of Station Road has proceeded steadily and is now complete to a line some 16 chains from the mine entrance.

From a point 10 chains from the mine-mouth a pair of headings have been driven in a westerly direction through old workings with the object of opening up an area of unworked coal to the west of the Railway reserve. These drives are now 9 chains in from the main dip and appear to be just entering the solid coal. Old workings to the north are flooded, and those to the south of the drives have been sealed off to prevent heating. Serious heating occurred during the year in old workings lying to the west of the main return and adjacent to the Railway reserve, and in spite of a vigorous attempt to control it by means of numerous stoppings it was found necessary in November to flood the mine and seal it off, in the hope that it might be possible to re-enter it later. The mine has now been reopened, and prospecting to the west is being continued.

No. 2 Section: Stoppings surrounding the workings in the top and bottom seam to the north of Kamo Station, an area stowed in 1938, have been maintained and renewed when necessary.

No. 3 Mine: The stone drive reached the coal-seam in January and has been extended in the coal throughout the year, having now reached a point 27 chains from the surface. A large downthrow fault with a displacement of 50 ft. was passed through at 23 chains from the surface.

Ventilation has been obtained by driving a stone drive a distance of 6 chains from the surface to the coal-seam at a grade of 1 in 1 and extending a back heading in the coal-seam parallel to the main dip. This has now been connected to within a short distance of the face of the drive, a short 1 in 1 stone drive being required to connect through the 50 ft. downthrow fault. A modern fan has been erected.

Pairs of development headings have been driven to east and west of the main drive with a view to opening up in these directions.

The east roads have made contact with the large fault met with in the main drive and are now being driven parallel with it in a north-east direction.

Two pairs of headings have been set away west, the upper having now reached a distance of 6 chains from the main heading. Some trouble has been experienced in crossing a fault met as a small downthrow in the main dip but increasing its displacement to the west.

Waro Colliery.—No. 1 Main Stone Drive: Extension of this drive was continued in hard limestone, and the drive reached the coal-seam at No. 12 level west of 2A coal dip in June, and has since been extended 1½ chains in the coal-seam to connect with No. 14 level.

Besides the improvement of ventilation, this extension of the main drive allowed of considerable improvement of the mine haulage system, laybye accommodation being made in No. 12 level, and the coal being hauled to the surface by a new electrically-driven winch at the No. 1 drive.

No. 2A Coal Dip: Pumping of this dip continued, but progress was slow owing to the inrush of water in November, 1938, having practically filled the lower part of the dip and workings with slurry. Great difficulty was experienced in extending the suction columns in this material, and a large amount had to be loaded and removed to the surface. The difficulty was finally overcome by means of a sand-pump and holding dams in adjacent levels. The pumps were advanced to No. 14 level and the water held at that point, the dip being used as a sump.

Development to the west continued, but Nos. 5, 6, 7, and 9 levels west encountered steep rises and faulty country, and though No. 9 was extended some 3 chains past a 20-foot fault which thinned the seam, work was finally abandoned owing to the poor and stony quality of the coal.

In August two coal dips were started at distances of 4 chain and 3 chains respectively west and east of the main dip and starting from No. 12 level.

The west dip has been advanced 7½ chains parallel to the main dip. Levels 11 to 16 west were driven to distances varying from 5 to 7 chains west of the main dip in coal of varying quality up to 6 ft. thick, the levels passing through several small downthrows of 2 ft. and generally terminating on a sharp rise cutting out the seam.

Extension of No. 17 level west caused an inrush of water in January, inundating the lower part of the west workings and temporarily stopping extension of the west dip.

The east dip was extended some 8½ chains below No. 12 level east and parallel to the main dip. This drive went level in coal 7 ft. thick for 45 ft. when it met an upthrow of 2 ft., thinning the seam to 5 ft. This thickness persisted to 80 ft., the coal dipping at this point. At 4 chains from No. 12 level a downthrow of 4 ft. 6 in. crossing the dip pinched the coal to 1 ft. 6 in., which height persisted for 22 ft., when the height of seam recovered to 6 ft. At 7 chains from No. 12 level a further downthrow of 2 ft. was crossed, again thinning the seam to 4 ft. 6 in.

Faults, rolls in the floor, and pinching out of the seam were encountered in all levels from No. 8 downwards driven to the east of this dip. This was anticipated from the occurrence of faulty ground met in levels to the east above No. 8, where two or three parallel lines of faulting were found. It would appear from information obtained from the lower levels that still other lines of faulting occur to the east of the dip, and it is unlikely in view of this that the coal to the east of this dip can be profitably worked.

On 20th December, bore No. 2 was struck in No. 19 level east of the east dip, the coal here being approximately 6 ft. thick, as indicated when the boring was done.

Fearnley's Coal-mine (Rocks Area).—Marketable coal was worked out early in the year, and production ceased in March.

Tipton and Party (Tauranga Block).—Development of a small area of coal has been carried out by a party of five men, a small but regular output being maintained. The coal is 3 ft. thick and of good quality, and was left unworked in the bottom seam during former mining carried out by the Northern Coal Co.

Silverdale Coal-mine.—The available coal was worked out, and operations ceased in January, 1939.

Silverdale Fireclay-mine. A party of four men is operating an opencast fireclay pit under permit on the lease formerly worked by the same party for coal. A steady output is maintained from a face 15 ft. high, the fireclay being sold to the Kamo Brickworks.

Ruatangata Coal-mine.—Development of the main dip has been stopped in 4 ft. of coal some 1½ chains from the Railway reserve, and three levels are being developed in a north-west direction in coal of good quality, 5 ft. thick. The mine employs eight men, the output being sold locally.

Whareora Coal-mine.—Work was resumed early in the year, and a small output has been maintained by two men from small pillars in a seam 4 ft. thick previously worked by Fox and Party. A start has been made to open up by a short dip drive what is thought to be a block of unworked coal 5 chains to the north of the present workings.

Avoca Coal-mine.—Owing to haulage and pumping difficulties the drive into the new area has been stopped after reaching the coal-seam, and the small output has been obtained by stripping and opencasting pillars near the outcrop of the previously worked section. The seam is blocky and highly inclined, but the coal is of good quality and commands a ready sale locally.

Ngunguru Fireclay Opencast.—Opencast working of a fireclay deposit 30 ft. thick was carried out intermittently by two men on a Native lease near Kiripaka. The fireclay is shipped to Auckland, being loaded on the Ngunguru River a short distance from the opencast. Intermittent working is caused by the infrequent calls of the scows for loading.

Waikato District.

Rotowaro Collieries.—No. 3 Mine (Bottom Seam): In this seam, which is separated from the upper seam by 40 ft. to 70 ft. of measures, development was continued in the Brown's Haulage section and is still being proceeded in the Green's Jig area in coal 9 ft. to 10 ft. thick, while in the Jones' Jig area pillar-extraction was commenced late in the year.

Pillar-extraction and splitting of pillars was continued in Moody's Jig section, and the splitting of pillars in the eastern part of the section, which lies under a surface swamp, was completed, complete extraction being impossible here.

Pillaring in Wilkie's dip section, north of C section haulage, continued, while in the Taylor's Jig section, to the south of this haulage, splitting of the pillars only was undertaken owing to the surface swamp.

Pillaring was also carried out in the Main Jig section.

Development of the stone-drive headings was continued, the main drives standing at 26 chains from the main haulage in December, while development drives to the east had advanced 14 chains.

No. 1 Mine (Top Seam): Pillar-extraction was continued in the New Haulage section, No. 4 east section, and Hogg's Jig section, north-east of the main haulage. In the Hill 60 section, south-west of the main haulage, where pillaring proceeded throughout the year, small heatings occurred in the waste, but were properly controlled by the erection of stoppings.

In the Main Rope End section the second working of the seam proceeded, partly by pillar-extraction and partly by splitting pillars under the surface swamp and stream.

A surface fire on the outcrop in this locality caused a good deal of trouble, owing to danger of its affecting a pillar in one of the working sections. By the erection of concrete dams underground, flooding, and packing with clay, the fire was eventually got under control and is now safe.

Work in the Callaghan's dip section, which is being driven south-east in the bottom seam from the end of the Main Rope, was recommenced late in the year, hand methods being employed. In preparation for this a stone drive had been driven above the haulage drive originally driven in the coal-seam, in order to give a better grade. This drive is well timbered throughout with hardwood legs and rail girders, and the material taken out has been used to stow the underdrive.

An accident which occurred to a miner in the Ollis dip pillars in November illustrates the use of the hard hat preventing serious injury. Owing to a small fall from the lip, the miner was knocked down and partially buried. He was sent to hospital, but was found to be suffering only from bruises and scratches on the neck and face, and was discharged three days later. His hard hat was damaged, and evidently saved at least a serious head injury.

Development of the No. 4 mine section, north-east of the old No. 2 mine workings, has been rapidly pushed ahead. The seam worked is 20 ft. thick and of good quality. Daylight has now been reached to the north and the area is limited, but as the mine has been connected to the screens by an endless-rope jig and a haulage its coal forms a useful addition to the company's output.

Allison Mine.—Preparations are being made to open up a fresh area of coal to the west of Rotowaro Village. The area should present no difficulties as regards drainage and haulage, as it lies to the rise of the two main inclines which have already been driven to the seam and are producing a small output. A switch line has been laid from Rotowaro Station to the site of the screens, the earthwork having been done by mechanical excavator. It is intended to erect a modern set of screens by Norton Tividale, Ltd., which have already been ordered.

Pukemiro Colliery.—During the year an output of 550 tons was maintained, mostly from pillaring, though a fair amount of development of previously unworked sections was carried out in the South Mine.

In the North Mine, pillar-extraction was continued in the Straight Heading section. Conditions were somewhat difficult due to the old bords of the first working, which were driven many years ago, having fallen owing to their great width and height. Clean extraction of the remaining pillars, often only 30 ft. by 80 ft., was impossible under the circumstances, and a small area here had to be sealed off in November owing to heating.

Pillaring was also continued at the entrance to the worked-out West Drive or Brickyard area. Two dams were erected in the drive leading to this depillared section.

Pillars were also extracted to the west of the stone drive, on No. 1 auxiliary haulage.

About one-third of the output from the South Mine was obtained from pillar-extraction, which proceeded satisfactorily in the Mid section, where the seam had thinned to 7 ft., and the Rope End section. In the latter section pillaring was commenced on the completion of panel development, while development proceeded in previously unworked blocks of coal north and south of the main haulage road, the panel to the north turning out particularly well in good-quality coal 14 ft. thick.

Development of a small area held by the Taupiri Coal-mines, Ltd., and lying to the east was undertaken by arrangement. A strip of good-quality coal 14 ft. thick has been proved for a distance of 4 chains east of the boundary. Beyond this the coal-seam appears to be poorer in quality, and this will probably limit extension of workings to the east.

The Oldham electric lamps formerly used in the South Mine have been replaced by Edison lamps of the latest type, and extensive improvements and repairs to the screens have been carried out.

Glen Afton No. 1 Colliery.—Extraction of pillars in the northern half of K1 panel was completed early in the year, and work on the southern half was commenced from the barrier separating the panel from K2. By September this portion of the panel was half worked out, and the men were withdrawn to other sections of the mine following the fatalities on 24th September, the panel being temporarily sealed off.

E section headings were extended, and development of E1, E2, and E3 panels continued. A number of the men from K1 section were transferred to these sections.

An additional outlet was made from this section by crossing the fault to the north by a stone drive connecting with K section main haulage road near K3 section. This haulage road is in turn connected with the MacDonald Mine. This connection allows of the use of some of the MacDonald Mine air to ventilate one of the E panel sections.

Development of L section was recommenced by driving a stone dip in a direction slightly north of east from a point 19 chains inbye from the K haulage. The drive crosses a 70 ft. downthrow fault, and at a distance of 5 chains from the L haulage is close to the seam. Eleven feet of coal has been proved ahead of this drive by boring from the surface.

Fatalities at Glen Afton Mine.—On Sunday, 24th September, the long immunity from serious accident which this colliery has enjoyed was broken by a disaster involving the death of eleven men, due to carbon-monoxide poisoning The deceased men were Christopher Blackburn, mine-manager; William Brown, under-manager; William Wilcox, underviewer; Richard Ireland, deputy; Walter Cole, deputy; Jack Marshall, acting-deputy; William Bell, electrician; Raymond Turley, electrician; William Peden, miner; George Hunter, shiftman; James Clark, shiftman.

As every one in the mine was killed, and this included the mine-manager, both underviewers, and three deputies, besides both the mine electricians, direct evidence as to the happening was unobtainable.

It appears that, following the report of an electrical fault in the mine which showed on the Huntly substation's instruments at approximately 2.30 p.m. on Saturday, 23rd September, and which had been traced by Waikato Central Power Board employees to the mine-mouth, it was decided by the management that the electricians, Messrs. Turley and Bell, would enter the mine to test for the "short" on the 24th at 8 a.m. They did so in the company of the examining deputies on duty, Messrs. R. Ireland and W. G. Cole, the mine fan not being started. Mr. Blackburn, the mine-manager, went into the mine about an hour later, probably to see how the testing was progressing, and by telephone message from inside the mine at about 9.30 a.m. asked for the engineer to start the fan. This was done at once. A message from Mr. W. G. Cole was also received with the same request, and a further request from Mr. Blackburn, who also asked that five experienced shiftmen be sent into the mine. Four of these, Messrs. Clark, Hunter, Marshall, and Peden entered the mine, and were followed by Messrs. W. Wilcox and W. Brown, who went in separately. As no further message was received, Mr. Thomas, the engineer, became alarmed, entered the mine with a companion, and found the body of Mr. W. Brown in the travelling-way near J hill. Mr. Thomas and his companion had to return, as they were affected, but gave the alarm.

Rescue parties worked all night and the following day in restoring ventilation and isolating a fire which was found in the main return, and the bodies of eight of the men were recovered. The bodies of R. Ireland, Turley, and Bell were found on Tuesday, 26th September, by a party who traversed the main return.

A Royal Commission inquired into the cause of the fatalities, sittings being held at Huntly from 27th November to 6th December and on 22nd and 23rd January.

Attempts were made on 28th to 30th December and on 19th January to reach the seat of the fire in the main return, with partial success, and permanent stoppings were erected in the main return, 1½ chains from the shaft through the J fault on the outbye side and near the J intake on the inbye side. It is thought that a fire which was shown to have occurred in the main return at the foot of this shaft during the morning of Saturday, 23rd September, and which was not reported, was the cause of the carbon-monoxide gas which filled the workings. The fire was thought to have been extinguished at the time, but may have burnt up again later. The electrical fault indicated at Huntly on the Saturday could have been accounted for by evidence of a heavy "short" in the cable, which was enclosed in 3 in. water-pipe conduit, near E section, but it is possible that another one occurred in the section of the main return now enclosed by stoppings.

Glen Afton No. 2 Colliery.—No. 4 Section: The main headings have been extended 16 chains from the entrance in continuation of the line of B haulage. The seam is 23 ft. thick with a 6 in. parting of black clay at 16 ft., and a splint band varying in thickness in the lower part of the seam has somewhat hindered progress.

Machine-cut panels are being developed to the north-west and south-east of the main drive. A fault has been encountered in the north-west development drive at 7 chains from the main drive, and is probably a continuation of the fault bounding B3 left panel to the north-west.

The north-east end of B haulage, which was narrow, has been widened to 10 ft. by 7 ft. in the clear and well timbered with square sets for a distance of 2½ chains, and preparations are being made to extend B endless-rope haulage to No. 4 section, cutting out two winches.

In A section a heading is being extended in a westerly direction to develop an area of unworked coal proved by bores to be 15 ft. thick.

Pillaring in B1 right panel of B section was completed in July, and in B2 left was well advanced by the end of the year.

E section headings were advanced to 35 chains from the main drive, and development is continuing in E2 left and E3 right panels, while pillaring is proceeding in E1 left. In E2 right the second working consists of splitting the pillars only, because of surface swamp. In E1 right panel, pillaring was completed in June.

Pillaring in F section was completed during the year, while the second working of G section was commenced in July after completion of development.

Graham Colliery.—Pillaring was continued throughout the year, the pillars worked being roadside pillars and the unworked coal lying between the main haulage road and the outcrop to the north. No difficulties occurred due to heating or other causes.

Waikato Extended Colliery.—Work on the area adjacent to the old Waikato Mine workings ceased in June owing to the long haulage. A sealed-off section of pillars left in the first working in Roose's area to the west of the main road was entered and reroaded, three stoppings being erected to prevent heating of fallen ground farther to the west. Pillaring proceeded here until early in November, no trouble being caused by heating, but a slight crush due to old roads in the lower seam then developed and the area had again to be sealed off. The seam was 20 ft. thick and of good quality, and close on 1,000 tons of coal was recovered from the area while being worked. Since November work has been confined to extraction of pillars from the outcrop in the Taupiri lease.

Huntly Brickworks.—Five men were steadily employed working a deposit of fireclay, the material being used by the company for manufacture of fire and building bricks at Huntly. The height of face worked has been reduced from 50 ft. to 25 ft. by forming a new working-floor on top of a seam of inferior material which divides the deposit, and the endless-rope haulage has been extended to the new face by forming a ramp.

Taupiri East Coal-mine.—Workings driven to the south-west in the Crown lease area under Lake Kimihia crossed a 5 ft. downthrow fault in September. The seam thinned considerably and the floor commenced to rise to the south-west, and workings in this direction were stopped owing to the danger of an inrush of water. The Crown lease was determined in December, and since then an area of pillars to the east of the main haulage road, and belonging to the Auckland University Council, has been worked. The seam is 20 ft. to 25 ft. thick and of excellent quality.

Whatawhata Campbell Colliery.—Splitting of pillars was continued to the rise on the south side of the main dip, three miners being employed. As prospecting to the south and west had shown no coal of marketable quality, and as no further available pillars remained, work in this section ceased late in the year. The surface haulage was extended 10 chains to the south-west from the old mine-mouth, and two prospecting headings are being driven to the rise in a southerly direction to test an unworked block of coal lying to the west of Fox's old workings. The seam so far is 6 ft. thick with light cover and rises at a grade of 1 in 5. A small 3 ft. upthrow has been crossed near the face of the headings, which have been driven 80 ft.

Glen Afton Potteries Opencast Mine.—Opencast faces were worked for coal and fireclay, the whole output being used in the pottery-works adjoining the pit. The coal-seam worked is 6 ft. thick and the fireclay face 15 ft.

Dally's Coal-mine.—A small amount of coal for local requirements has been produced from a prospecting drive in an outcrop to the south of the valley traversed by the Kihi Road, in the Hauturu district. The seam is 6 ft. 6 in. thick and of good clean quality for the district, and the floor rises slightly in the direction of the drive, which is slightly east of south. The roof is sandstone and reasonably good.

Renown Colliery.—Development to the east in Tapp's area has been continued, No. 3 south headings having been advanced to a point 31 chains beyond No. 3 east level. No. 4 west levels and No. 4 east levels have been driven 11½ chains and 9½ chains from No. 1 south respectively, and panels off these levels are being actively developed. The coal-seam in No. 3 south headings and No. 4 east levels has maintained its thickness of 15 ft., but in No. 4 east levels has thinned to 10 ft.

Development in No. 1 west level off No. 2 north headings is being rapidly pushed ahead, and is now greatly assisted by a new auxiliary haulage which has recently been installed. No. 1 west level has been driven to a point 13½ chains off No. 2 north.

Pillar-extraction is being continued in No. 1 panel west of No. 1 south level, and also in No. 2 east panel off No. 3 south-heading, and the barrier pillars in this area are also being withdrawn.

The surface haulage to the screens has been improved by considerable attention to the road-bed and the haulage from the mine to the surface by the recent installation of a new motor to increase the rope speed from 1·8 miles to 2·4 miles per hour. The screening plant itself has been improved to deal with an output of 800 tons per day, and is giving satisfactory results.

Preparations are being made for a projected new mine entrance to the south of the present workings. Boring in this locality is giving very satisfactory results, an average thickness of 15 ft. of coal being proved.

Wilton Colliery.—The amount of workable coal remaining in pillars in Katavich's leasehold at the end of 1939 was some 5,000 tons, and extraction of these pillars is proceeding.

An endless-rope haulage was extended to the mouth of the No. 2 mine, which has been developed in Holme's Estate. The main headings were advanced 15 chains in good-quality coal 8 ft. thick.

During the year trial surveys were made for a haulage road to open up the proved coal area to the south-east of the No. 1 mine, and towards the end of the year a contract was let for the earth-works on the selected line, which will join the present rope-road 20 chains from the screens. The new extension will be 65 chains long, and construction of bridges on the line has been commenced.

Taranaki District.

Old Stockman Coal-mine.—The greater part of the small output produced has been got from extension of the No. 1 drive workings. The main drive has not been advanced beyond 9 chains, its position in 1938, but headings have advanced 3·5 chains. No. 2 drive has been extended 2 chains during the year. The seam is brown coal 4 ft. 6 in. in average thickness, with a band of fireclay varying from 2 in. to 22 in. between coal and roof. The roof is hard sandstone with vertical backs, which tend to make it treacherous, and close attention to timbering is required. Four men are employed in addition to the manager, and the coal is taken by river launch to Mokau, a distance of twenty-seven miles.

Egmont Tatu Colliery.—Since the cessation of production in August, 1938, no further work has been done at the mine with the exception of some attention to repairs and maintenance carried out by two men. Some small falls have occurred in the main drive, and owing to the boiler being out of action the water has been kept down as far as possible by siphon.

Mangapehi Coal-mine.—Extension of three headings was continued in a seam of clean coal 14 ft. to 16 ft. thick and dipping north at an average grade of 1 in 4.

Following a flattening of the seam, troubled country was struck in May in the main dip at a distance of 2⅛ chains from the freehold boundary. A definite fault was passed through practically at right angles to the dip, and the seam beyond this thinned to 4 ft. and was much disturbed.

Driving was persisted in for 60 ft. in broken country, bores in the roof and floor at the face proving the existence of a 2 ft. and a 5 ft. seam respectively. A further bore was put down in the floor 115 ft. back from the face without result. The dip is at present standing, and the driving of the wayleave levels and headings to the east is being proceeded with, a small output being maintained from these coal places. The eighteenth level east encounters a thinning of the seam 100 ft. east of the main dip, with a deterioration of the quality of the coal, and it appears likely that this is connected with the troubled country met in the main drive.

Huntly School of Mines.

A good deal of support was given during the year by students, some forty attending the classes held at Huntly, Glen Massey, and Pukemiro Junction. It was evident from the good results obtained by the candidates from the School at the annual mining examinations that the teaching was of a high standard. Mr. J. R. Watson, Director of the School, resigned in November to take the position of manager of the Pukemiro Colliery, and his place will be taken for 1940 by Mr. Gomersall, who has had considerable teaching and other technical mining experience in England and Australia.

Fatal Accidents.

On 2nd June John Thomas Cooper, trucker employed at the Wilton Colliery, was killed when a bar became dislodged and fell on him while he was pushing a skip. Death was due to laceration of the brain and fracture of the spinal cord.

On 24th September eleven men met their death in the Glen Afton Colliery, due to carbon-monoxide poisoning.

Serious Non-fatal Accidents.

On 3rd February a miner named John Joseph Speirs, who was employed at the Old Stockman Colliery, Mokau, suffered a fracture of the pelvis and a fracture of the right ankle due to a fall of roof.

On 2nd October V. McNamara, a trucker employed at the Rotowaro Colliery, completely severed his left forefinger above the second joint while he was making a wooden sprag.

On 27th November Robert Tukere, trucker employed at the Wilton Colliery, received two fractures of the ribs, injuries to the left shoulder, and severe cuts on the leg when the truck with which he was working ran into him.

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

On 13th February a slight smell of "firestink" was discovered coming from the pillar waste in Hill 60 section, Rotowaro No. 1 Mine. The part affected was isolated by stoppings.

On 21st April signs of heating in the goaf near to places worked by Kinson and mate, New Haulage section, Rotowaro No. 1 Mine, were discovered. A permanent stopping was erected.

On 29th May the Sunday examining deputy discovered that a fire from the open waste was encroaching on to a small pillar in the 6 Box Jig section, Rotowaro No. 1 Mine. The area was flooded and the fire suppressed.

On 12th June "firestink" was observed to be coming from the pillar waste adjacent to Bell and Jones' place, Wilkie's dip, Rotowaro No. 3 Mine. Permanent stoppings were erected to seal off the area.

On 18th July a slight trace of heating was discovered when the active workings in the pillar section between No. 2 and No. 3 south headings, Renown Colliery, pierced the old workings. The heating was effectively isolated by means of stoppings.

On 13th September the back-shift deputy found that a small quantity of smoke was coming from a stopping which had been erected previously to seal off a part in the New Haulage section, Rotowaro No. 1 Mine. On investigation it was found that the 4½ in. brick stopping had broken, due to crush on the adjoining stump. A brick stopping was erected to seal off the area.

On 10th October the occurrence of a small quantity of firedamp was reported in the Renown Colliery when an old bord of the closed-off section between No. 2 and No. 3 was holed into during pillaring of the barrier to the south of No. 3 south headings. The men were immediately withdrawn from the section, the gas cleared, and electric safety-lamps installed.

On 23rd October a strong smell of "firestink" was present in Taylor's Jig section, Rotowaro No. 3 Mine, due to a pillar fall. Permanent stoppings were erected and the area was sealed off.

On 30th October a slight heating occurred in the Straight Heading section (pillar) of the Pukemiro North Mine. The place was sealed off, and the underviewer and deputy reported it to be safe.

On 27th November smoke was found to be issuing from the old workings at the lower end of No. 4 section, Kamo Mine, immediately on the return side of the working-places. The section was sealed and flooded.

On 1st December a fire was reported to be burning at an old shaft at the East Side section, Rotowaro No. 1 Mine. The fire was suppressed, and the shaft was filled with clay.

PROSECUTIONS UNDER THE COAL-MINES ACT, 1925.

A trucker was prosecuted on charges of smoking and having in his possession a cigarette, contrary to section 98 of the Coal-mines Act. He was convicted and fined £5, Court costs 10s., on one charge, and convicted on the other

WEST COAST INSPECTION DISTRICT (W. PARSONAGE AND J. MCARTHUR, INSPECTORS OF COAL-MINES).

In accordance with section 42 of the Coal-mines Act, 1925, we have the honour to submit our annual report on the operations of the coal-mines in the West Coast Inspection District: —

GREYMOUTH DISTRICT.

Liverpool State Colliery, Rewanui.—Morgan Seam: The major portion of operations in the Morgan seam were confined to pillar-extraction in Nos. 1 and 2 banks west and Nos. 1, 2, and 3 banks east. Development work was carried out by the extension of No. 3 bank west in a northerly direction and levels off the heading in a westerly direction, also by the driving of a pair of dip headings from the Main East Level; these have been driven a distance of 6 chains, and, together with cut-throughs, a total of 26 chains has been driven. A 15 horse-power compressed-air-operated "Korfmann" coal-cutter has been used in the development of the dip, with satisfactory results.

A large number of concrete stoppings have been built during the year outside of the pillar areas in order to allow expeditious sealing should an outbreak of fire occur.

Kimbell and Anderson Seams: Development work in the Kimbell west dip is still in progress. Four headings are being driven to the rise in a westerly direction and four levels in a south-easterly direction. The seam varies in thickness from 8 ft. to 14 ft., while the gradient to the rise is approximately 1 in 2.

In the Anderson dip development work is chiefly confined to the extension of No. 2 dip. This has been driven 10 chains. The seam is 18 ft. in thickness and the coal somewhat friable, while the gradient has varied from 1 in $1\frac{3}{4}$ to 1 in 2, but at the face the gradient is 1 in $1\frac{1}{2}$.

The main Anderson dip is being widened, and other alterations made preparatory to the installation of an endless-rope haulage system.

Pillar-extraction is taking place in the Anderson west level, while no further development work has been done beyond the fault encountered in the Anderson east level.

James State Colliery, Rapahoe.—Operations in this mine during the year consisted of both pillar-extraction and development work. Pillar-extraction has taken place in Cannel Creek section and what is known as the New Dip section, while development work was confined to the driving of headings in a north-westerly direction and levels south and north off the headings in the New Dip section. Development work in this section is confined to a small area between two known faults.

Strongman State Colliery.—The stone tunnel under construction in 1938 at this colliery tapped the upper seam (the No. 1) early in February, and, with the completion of the stone tunnel forming the return airway, coal-production commenced. The coal won from development work was transported by means of an auxiliary haulage system to the James Colliery main haulage, thence to the bins at Rapahoe. On the 3rd September the main endless-rope haulage system traversing from the mine through the James Mine to the bins at Rapahoe was installed. This haulage rope is operated by an electrically-operated haulage machine situated in the main tunnel which tapped the seam. During the year a most modern screening plant and all-steel storage bins were erected at Rapahoe.

To the end of the year development work has been confined to the No. 1 seam. The main headings coursing in an easterly direction have been advanced 9 chains, the first 5 chains being approximately level, while, due to a change in the lay of the measures, the gradient of the last 4 chains is 1 in 5 to the rise. Development work has also been done both in a northerly and a southerly direction. The headings to the north are rising at a gradient of 1 in 5. No. 1 south heading is approximately level. These abrupt changes in the lay of the measures interfere somewhat with a definite plan of development work. The seam varies in thickness from 12 ft. to 23 ft., while the coal is of excellent quality. The coal roof necessitates the use of bars of good quality and strength.

Blackball Coal-mines Proprietary, Ltd., Blackball.—The two stone tunnels, which were under construction during the greater portion of 1938, from the surface to intersect the coal-seam left behind in the old mine adjacent to No. 2 dip workings tapped the seam during the year. Work in the seam has, as yet, been confined to the construction of a large sump near the foot of the main stone tunnel. No. 1 rubber-belt conveyor has been installed, and is transporting the output from a bin near the mine portal to the screening plant.

A commencement has been made to instal rubber-belt conveyors in the main tunnel, and it is expected that all conveyors will be installed early in the coming year. When the installation is complete, the coal will be transported by means of conveyors from the working-face to the screening plant.

Blackball Creek Coal Co., Ltd., Blackball.—The output from this mine during the year has been won from the extraction of small pillars of top seam coal in Nos. 3 and 4 sections and a little development work in No. 5 section. During the year operations in the latter section ceased and the section was abandoned. This action was due to the soft nature of the coal, together with the loss of coal during transport by water flume.

Briandale Collieries, Ltd., Ten-mile.—The output for the year from this mine was won from development work and pillar-extraction. The two main levels were advanced 6 chains and then encountered trouble, the seam thinning to 2 ft. 9 in. Headings driven to the rise of the main levels encountered a fault 3 chains to the rise of the levels. This fault was penetrated near the mine entrance, but after driving 2 chains a further fault was discovered.

Wallsend Colliery (Brunner Collieries, Ltd.).—The output from this mine has been won from development work in the Rope-road Extension section and to the east side of the slant dip and the splitting of pillars in Nos. 1 and 2 rise panels. The Rope-road Extension headings have been advanced to a point 38 chains beyond the head of the No. 1 slant dip, from which the "A" rise panel has been formed and a commencement made to open up the "B" rise panel. A commencement has also been made to drive No. 2 slant dip parallel with and 24 chains inbye of No. 1 slant dip.

Development work in No. 1 slant dip has been restricted, due to the flooding of twelve working-places when a breakdown to the main pump occurred.

The coal in all sections is of good quality and of good thickness, but the development places in "B" rise panel have encountered a stone band in the seam. This stone band has increased in thickness to such an extent as to render its removal with the coal unprofitable; therefore, only the portion of the seam, 5 ft. to 6 ft., on top of the stone band is now being worked.

Dobson Colliery (Grey Valley Collieries, Ltd.).—All the output from this mine has been won from development work in the dip workings.

No. 3 West Level: This level has been driven 30 chains and has reached the south-western boundary of the lease. Therefore, development work is confined to No. 2 panel to the dip of the main level. To improve the haulage of coal from this panel, permission was given to the manager to construct an intermediate level to enable him to transport the coal by gravity in lieu of dip haulage. The level has been driven for some time, but it has not yet been taken advantage of.

No. 4 West Level: This level has been driven a distance of 21 chains measured from No. 1 dip; it has been driven on a straight course regardless of the contour of the seam. Consequently, dips and inclines of heavy gradient have resulted, which makes development to the rise of the No. 4 west somewhat difficult and interferes with the installation of an endless-rope haulage system. Development work to the rise of the level is proceeding under difficulties, due to the contour of the level, and a number of dips have been driven with the object of developing panels of work.

The coal at the dip of No. 4 west level can be more profitably operated to the rise from No. 5 west level, and the manager is now driving No. 5 west level on three shifts for this purpose.

No. 4 East Level: Very little development work has been done in this level during the year. The slant dip, off this level, which was advanced 7 chains in 1938 has been advanced a further 2½ chains. At the face a stone intrusion was encountered, and driving has been abandoned for some time.

Dips: Nos. 1 and 2 main dips have been advanced to a point in line with No. 5 west level. The latter level was commenced off No. 3 dip, and at the end of the year a commencement had been made to construct a connection between No. 3 dip and No. 1 dip in line with No. 5 west level.

The main endless-rope haulage in No. 1 dip traversing from the head to No. 4 west level has operated quite successfully. With a view to possible extension of the haulage system to No. 5 west level, a new 150 horse-power electrically-operated machine has been installed at the head of the dip.

Paparoa Colliery (Paparoa Coal Co., Ltd.), Roa.—At this mine two seams have been operated during the whole year—viz., No. 1 seam in the aerial section, and No. 2 seam in the west level section—while during the latter portion of the year No. 3 seam has been operated. The latter seam overlies a portion of No. 2 seam in the west level section, and it is essential that this should be operated before pillars are extracted from No. 2 seam immediately underneath No. 3 seam, otherwise No. 3 seam will be lost.

Aerial Section: All the output from this section was won from development work. The main dip was advanced 7 chains during the year, making a total distance of 22 chains. No. 1 level, off the dip, was driven 10 chains, and a panel of work of 7 acres has been completed. Levels are now being driven off the dip below No. 1 level for the purpose of opening out other panels. The seam is 15 ft. in thickness and the coal of good quality. Safety-lamps were introduced in the section on the 27th September, 1938, due to the finding of a small quantity of CH_4 in a working-place, and are still in use. The introduction of safety-lamps was quite justified as CH_4 has been detected on numerous occasions during the past year. Flameproof motors and starters have been installed on the pumps to replace open-type ones.

West Level Section: Seventy-five per cent. of the output was won from pillar-extraction and the remainder from a little development work. No development work has yet been done in the stone tunnel which tapped the seam on a lower level in this section in 1937.

No. 3 Seam: Acting under instructions from the Inspector of Coal-mines, the manager has commenced to develop No. 3 seam in the west level section: access is gained by means of a surface tram-line and self-acting incline, and the coal is delivered to the main west level jig joining with the coal won from the No. 2 seam. The seam is 10 ft. in thickness with a 10 in. dirt band near the centre.

United Brunner Mines, Ltd., Brunner.—No coal-mining operations have taken place on the coal lease held by this company. During the year one borehole was sunk near the head of the surface-inclined tramway. Difficulties were experienced during boring operations in that a number of cavities were encountered, which necessitated the use of cementation in order to proceed with the sinking. The hole was sunk to a depth of 114 ft., and, as the seam was not tapped, boring was then adandoned. No further boring or prospecting has since been done.

Co-operative Mines in Grey District.

Spark and Party's Mine, Rewanui. The output was from development work. Three levels, together with cut-throughs, are being driven, from which panels of work will be developed.

The coal-seam is 25 ft. in thickness and of good quality. Operations during the year have been somewhat restricted, due to difficulties with water. An electrically-operated pump has now been installed.

Old Runanga Mine (O'Brien and Party).—Two seams are operated at this mine, Nos. 1 and 2, the former being the uppermost. The output for the year was won from both development work and pillar-extraction.

No. 1 Seam: Operations during the year were confined to extraction of pillars from No. 1 panel and development work in No. 2 panel. The main level was also advanced a few chains, but work therein has now been abandoned owing to the presence of stone bands in the seam and the coal thinning to such an extent as to render profitable work impossible.

No. 2 Seam: Pillar-extraction has taken place in No. 1 panel, and further prospecting in the main level has resulted in this being further advanced. As the seam has thickened to 6 ft. and the coal is of good quality, there is a possibility of this level being advanced many chains beyond the 28 chains already driven. Electric safety-lamps are used in both seams.

Goldlight Colliery (Williams and Party).—Operations in this mine have been confined to pillar-extraction. During the latter part of the year the mine was fully exhausted, and prospecting was resorted to with a view to locating the seam through the fault encountered south of the mine workings. This prospecting was still in progress at the end of the year.

Moody Creek Mine (Simpson and Party).—The output from this mine was won from development work and a little pillar-extraction. Owing to the presence of a number of "rolls" and "faults" in the mine, development work has been somewhat difficult. However, the party has persevered, and development work is proceeding to the dip in good-quality coal.

New Point Elizabeth Mine (Guy and Party), Dunollie.—Most of the output for the year was won from pillar-extraction, all development work having been completed during the early part of the year. No further development can be done in the present area, but pillar-extraction will give the mine a few year's operation.

Fiery Cross Mine (Currie and Party), Dunollie.—The output from the mine was won from pillar-extraction, and only a few pillars remain to be extracted. A little development work is being done in a barrier of coal 2 chains wide lying between Baddeley and Party's old mine and Currie and Party's present workings. To attack this, a level drive has been commenced from the outcrop.

Roof and floor conditions in the mine are bad, and extra care is required where pillars are being extracted.

Bend Creek Mine (Baddeley and Party), Dunollie.—In addition to operating the old mine, this party has operated on a new lease adjacent to the surface tram-line leading to the former mine.

Old Mine: The output from this mine has been obtained from pillar-extraction. The mine is almost exhausted, and operations therein will cease early in the coming year.

New Lease: During the first half of the year coal-production commenced on the new lease, but after driving short distances in several directions the seam thinned to an unworkable thickness and finally a fault was encountered. Operations on this lease have been abandoned.

Castlepoint Mine (Duggan and Party), Dunollie.—The output from this mine was won from pillar-extraction and a little development work to the rise of the main level 35 chains inbye of the mine entrance. Early in the coming year all development work will be completed. Pillar-extraction has ceased in the crosscut section at a point to the rise of the main level giving ample support and protection to the main return airway.

Hilltop Mine (Armstrong and Party), Ten-mile.—From the beginning of the year and until the 10th April pillar-extraction was taking place. On the morning of the 11th April an old fire in the inbye old workings revived and prevented further coal-production. There was very little coal to be extracted, so stoppings were erected at the mine entrances to seal off the fire. Operations were then commenced in another seam on the same area underlying the one previously worked. A dip is being developed in this seam which is 7 ft. in thickness and the coal is of good quality. A second outlet has been made, and a "Blackman" fan of the streamline type has been installed.

Hunter and Party's Mine (late Brady's), Ten-mile.—The output from this mine was won from development work and a little pillar-extraction. The development work was confined to a small area east of the dip, adjacent to the fault which has prevented further development to the dip, and, in No. 3 level, is coursing in a south-westerly direction. Pillar-extraction was limited to five pillars adjacent to the dip face, and at the end of the year four of these pillars were extracted.

In No. 3 level troubled country has been encountered, and unless continuous prospecting is carried out in this level at an early date with a view to locating the seam the present output will not be maintained. Some prospecting has been done on an outcrop situated near the storage bins, but not sufficient to indicate whether or not a workable seam will be found. During the year the V.I.R. cables installed in pipes were replaced by armoured cables.

Kay and Party's Mine, Ten-mile.—The output from this mine was won from development work. The main dip has been further advanced and levels driven off it both in easterly and westerly directions.

Hunter and Party's Mine, Dunollie.—The output from this mine was won from development work and pillar-extraction in workings to the dip of the main level. The seam is thinning as places are advanced to the dip, and at the present time the seam is 3 ft. 3 in. in thickness. Good roof conditions prevail and the coal is of good quality.

Schultz Creek Mine (Marshall and Party), Twelve-mile. Most of the output from this mine has been won from pillar-extraction on the outbye side of the downthrow fault encountered in the main level. During the second part of the year under review a stone tunnel was constructed and the seam, 3 ft. 9 in. in thickness, was tapped on the downthrow side, and a portion of the output was won from development work in this area. Unfortunately, after driving 2 chains in coal, an upthrow fault was encountered. The distance of the throw of this fault has not yet been proved.

Dennehy's Mine, Twelve-mile. This mine did not operate during the year.

Cain's Mine, Rapahoe.—The output from this mine was won from pillar-extraction in the old portion of the mine and development work in the new area. Two headings are being driven partly in stone and partly in coal to reach the area adjacent to the No. 1 west area of the James Mine, where workable coal is known to exist. A little development work has been done in an area west of the headings referred to and adjacent to the Bellvue Mine workings.

An electrically-operated compressor has been installed at the surface to provide power for a rock-drill.

Bellbird Mine (Fauth and Party), Ten-mile.—The whole of the output from this mine was won from pillar-extraction. During the coming year the party intends to develop No. 6 level, and when this meets the upthrow fault which was encountered in No. 5 level prospecting will be done with a view to proving the extent of the displacement. On the 5th May an ignition of CH_4 occurred. Safety-lamps were at once introduced and are still in use.

Bellvue Mine (Hadcroft and Party), Rapahoe.—The output from this mine was won from pillar-extraction. The mine is almost exhausted, and a surface tram-line has been constructed to operate a small area adjacent to the old workings of the Jubilee Mine.

Jubilee Mine (Pinn and Party), Rapahoe.—At the commencement of the year this party were extracting pillars in an area adjacent to the Bellvue Mine and from an old area adjacent to the bins and main highway. These areas have been fully exhausted, and development work has commenced in an area one mile from the Greymouth–Westport Highway. A main and tail haulage system operating on 24 chains of surface tram-line has been constructed, also two self-acting inclines and 27 chains of surface tram-line on a gradient of 1 in 30 to connect the area with the main highway. Development work already done in the seam is not very encouraging. The seam has thinned, and a large quantity of brushing in stone is required to get sufficient height for the transit of trucks.

Cliffside Mine (Moore and Party), Nine-mile.—The output for the year was won from development work in No. 1 section. The development work has been confined to the area on the upthrow side of the fault encountered in the main level in 1938. The difficulty of handling the coal from the developed area somewhat retards output, and much better results would be obtained if the party constructed a low-level stone tunnel to tap the seam near a borehole put down by the Mines Department and which proved the existence of a good workable seam.

Smith and Party's Mine, Dunollie.—The output won during the year was obtained from pillar-extraction. No development work has been done during the year.

Brachead Mine (Boote and Party), Dunollie.—The output during the year was obtained from development work to the dip of the main level. The main dip has been driven 14 chains in good-quality coal, and at the face the thickness of the seam is 7 ft. 6 in. Levels have also been driven east and west off the dip.

Reefton District.

Archer's Mines, Capleston.—Top Mine: All pillars to the rise of the adit level have been extracted and development work has been continued to the dip. During the year a steam-operated compressor was installed to provide power for a rock-drill which is to be used in penetrating the stone "roll" encountered in the dip. The seam operated is the No. 1 and the coal is of good quality.

Bottom Mine: Operations in this mine are confined to pillar-extraction, all development work in the present seam having been completed. Mr. Archer intends to construct a cross-measure drive from the seam to tap the No. 2 seam.

Doran's Section: This section is situated to the south of the Top Mine. A stone tunnel has been constructed 36 ft. in length and tapped the No. 1 seam. Two levels and cut-throughs have been driven, and preparations are being made to drive to the dip.

Coghlan's Mine, Capleston. The No. 2 seam is worked at this mine, and the output won during the year has been obtained from both development work and pillar-extraction. The main and back levels have encountered very soft and dirty coal; consequently, prospects regarding future development work are not encouraging. However, a cross-measure drive has been constructed from the No. 2 seam and tapped the No. 1 seam. This seam at present is 4 ft. in thickness and the coal of fair quality. Development of this seam is proceeding.

Low-level Mine, Coghlan's Freehold, Capleston.—This mine is situated a few chains to the dip of Coghlan's Mine. A stone tunnel 300 ft. long has been constructed, and tapped No. 2 seam at a point approximately 2 chains below Coghlan's Mine main level. The seam is 8 ft. to 10 ft. in thickness and the coal of fair quality.

Waitahu Mine (A. D. Williams), Reefton.—During the year two parties have operated small mines on the property known as Top Mine and McKinley's Mine. The output from both mines has been won from development work. In the Top Mine, two seams, separated by 3 ft. of stone, are worked simultaneously, the stone being stowed in the bords. The overall height is 11 ft. and the coal is of good quality.

In McKinlay's Mine, two levels have been advanced 12 chains. The seam at the face is 6 ft. in thickness and the coal of fair quality.

Venture Mine (Old Birchwood Mine), Reefton. The lease on which this mine was operated has been cancelled by re-entry.

Morrisvale Collieries, Reefton.—Perfection Mine: This mine has remained closed during the year.

Surprise Mine: The mine is still full of water and has remained closed during the year.

Pyramid Mine: Practically all development work in the present area is completed, and the major portion of the output won during the year was obtained from pillar-extraction. A commencement was made to drive a stone tunnel to tap the seam at a lower level, but was abandoned.

Burke's Creek Collieries, Ltd., Reefton.—The major portion of the output won during the year was obtained from pillar-extraction in the No. 2 main level, inbye of No. 3 panel, and from No. 3 panel. A little development work was done by extending No. 3 panel, also in the slant dip situated on No. 2 level 4 chains inbye of the main dip. The dip referred to has not yet been connected with the main dip; this is necessary to provide haulage facilities. The coal-seam is 12 ft. in thickness and the quality variable.

During the year a small change and bath house was erected for the convenience of the employees.

Peerless Mine (Williams and Party), (Burke's Creek Lease), Reefton.—The output won during the year was obtained from pillar-extraction. No further development is possible in this mine, but the mine has still a few years' life in the extraction of pillars.

Burnwell Coal Co. (D. Hamill), Reefton.—The mine was previously owned by D. Hamill, but during the year a company was formed. New storage bins were erected and a serious attempt made to properly develop the mine. No. 4 seam, which is from 30 ft. to 40 ft. in thickness, is being worked and the coal is of fair quality. The main level has now been driven 28 chains.

Terrace Mine (Old Times Street Mine), Reefton.—During the year operations recommenced on coal lease No. 3979, on which the Times Street Mine operated, and the mine has been renamed the Terrace Mine. A stone tunnel 170 ft. in length has been constructed and tapped No. 4 seam at a point approximately 2½ chains to the dip of the Burnwell Mine. Four men are employed on development work, and the coal in all faces is of good quality. A commencement has been made to construct a cross-measure drive from the seam for the purpose of tapping No. 3 seam.

Phœnix and Venus (N. Collins), Murray Creek.—These mines have not operated during the year.

Defiance Mine (McClatchie and Co., Ltd., Christchurch), Murray Creek.—The output won during the year was obtained from development work north of the old mine workings and from pillar-extraction in the Waterfall section. The seam in the development area is at present 6 ft. in thickness, but the coal is of poor quality. It is, however, the intention of the manager to continue the development work.

Clele Mine (Alborn and Party), Merrijigs.—The output won during the year was obtained from development work and pillar-extraction in No. 2 mine. Difficulties have continued in development work, due to the faulted nature of the country.

White Rose Mine (H. and S. Griggs, late W. Osborn), Merrijigs.—A little development work has been done at this mine, and 105 tons of coal were produced.

BULLER DISTRICT.

Mitchell's Mine, Charleston.—Operations at this mine recommenced during the year. The mine is worked opencast, but owing to access not being obtainable from the lowest point the full thickness of the seam cannot be worked unless expensive pumping operations are resorted to. Arrangements are being made to allow access to this lease at a much lower level.

Bowater and Bryan's Mine, Charleston.—This mine is worked by the opencast method, but here again only the top portion of a 30 ft. seam is worked. Arrangements are in hand to construct a road which will give access to a much lower point and thus allow almost the maximum thickness of the seam to be worked.

Warne's Mine, Charleston.—This mine is operated by the opencast method. The mine works very intermittently, and only 7 tons of coal were produced during the year.

Powell's Mine, Charleston.—This mine is worked opencast, but only on a small scale. No definite method has been adopted to work the full thickness of the seam, although there is a tunnel tail-race between 30 ft. and 40 ft. down from the surface near the lease which may be used for drainage. No further production will take place until the tail-race referred to is put to use.

Price's Freehold, Brighton.—This mine was closed during the whole of the year.

Brighton Coal-mines, Ltd., Brighton.—During the year 443 tons of coal were won and disposed of locally. Repairs have been effected to the flume from the mine to the bins on Seal Island, and although coal has been delivered to the bins no shipment of coal has taken place during the year.

Rocklands Mine (J. P. Burley), Buller Gorge.—The total output of coal won from this mine was obtained from pillar-extraction. No further development work is possible in the present mine, but some prospecting has been done on another portion of the lease south-west of the present workings, but sufficient has not been done to enable a decision to be made regarding the opening of the area.

Glencrag Mine (Forsyth and Bateson), Buller Gorge.—The output for the year was won from development work. No pillars have yet been extracted from this mine. The road from the main highway to the mine entrance has been completed, and new bins and hand screening plant erected near the mine entrance.

Coal Creek Mine (McGuire and Party), Seddonville.—The output from this mine during the year was obtained from filling loose and fallen coal in the main level, which has not been used for a few years, and from development to the rise of the main level.

Glasgow Mine (Steele and Party), Seddonville.—This mine remained closed, and the coal lease was surrendered during the year.

Cardiff Coal Co., Ltd., Mokihinui.—This mine remained closed during the year.

Hydro Coal-mines, Ltd., Seddonville.—The output won during the year was obtained from pillar-extraction in the inside area and development work in an area east of the main drive 20 chains inbye of the mine entrance. Two headings to the rise have been driven in this area; from these headings places have been driven east and west, and at present have proved an area at least 8 chains in width. The cave area, which was tapped by a stone tunnel 3 chains in length and coursing westerly from the main drive, has been found to be of very little use. The whole area was affected with blackdamp, and the small pillars therein were so much crushed and roof-broken as to render operations unsafe. The workmen were withdrawn, and the manager instructed to seal off the area to prevent blackdamp entering the intake airway leading to the section now operating.

Charming Creek (Westport Coal Co., Ltd.), Ngakawau.—Practically all the output won during the year was obtained from development work. The main north headings were advanced a further 8 chains; at this point the measures tilted to the east and west of the heading, making it impossible to win coal in these directions in the absence of power for haulage and pumping. Consequently, operations in the main headings were suspended for a time. Development work in No. 2 west panel also reached a point where similar conditions prevailed, and operations in this panel also ceased. Development work was then commenced in No. 2 panel east, which is 12 chains outbye of No. 2 west panel; the seam in this panel is 20 ft. in thickness and the coal of good quality.

Westport Main Mine (Westport-Granity Coal-mines, Ltd.), Granity.—This company has ceased operations and the coal lease held by them cancelled by re-entry.

Westport-Cascade Mine, Cascade Creek.—At this mine four separate sections of the coal have been operated during the year, and the output won was obtained from both development work and pillar-extraction.

O'Brien's Section: During the second half of the year this section was totally exhausted.

Moynihan's Section: All development work in this section is completed, and operations are confined to pillar-extraction.

Top Mine: Operations are now confined to pillar-extraction.

Durkin's South Section: Development work still continues in this section, and no pillars have yet been extracted. The section is adjacent to the Westport Coal Co.'s boundary, and by agreement between the companies the Cascade Company is allowed to operate a portion of the first-named company's lease.

Westport Coal Co., Ltd., Denniston Mines.—Ironbridge Mine: Ten pairs of miners are employed in this mine, where six small sections are operated. All coal won during the year was obtained from pillar-extraction.

Coalbrookdale Mine: This mine consists of two main sections—namely, Whareatea and Whareatea Extended. Almost all coal won was obtained from pillar-extraction, very little development work having been done during the year.

In the Waterloo section of the Whareatea portion of the mine preparations are being made to drive four main headings in coal to tap the new lease known as the Plateau area.

Towards the end of 1938 a commencement was made to re-open Forsyth's section in the Whareatea Extended portion of the mine, but as yet no development work has been done, operations having been confined to pillar-extraction in No. 1 panel. However, boring operations are now in progress with a view to ascertaining the possibilities of the area beyond the main headings in Forsyth's section.

Cascade Mine: Operations in this mine are confined to pillar-extraction. During the year a commencement was made to construct a new change and bath house near the power-house at Denniston for the convenience of persons employed at the Coalbrookdale Mine. This will be completed early in 1940. A large Babcock and Wilcox boiler is being installed. The boiler has a heating surface of 4,780 square feet, is capable of evaporating 20,000 lb. of water per hour, while the steam pressure is 250 lb. per square inch, and is fitted with automatic feed, chain-grate stokers, Green's modern economizer, and superheaters.

Westport Coal Co., Ltd., Millerton Mine.—Two areas have been operated during the year at this mine.

Mine Creek Area: The output from this area was won from the partial extraction of pillars in the third and fifth west sections and the driving of places in bottom coal 12 ft. in thickness and of good quality left behind in the first workings and underlying an area of pillars about 3 acres in extent.

Mangatina Area: Operations in this area are confined to working small areas of coal on the eastern side of the haulage road and the bottom coal left behind in the first workings.

Old Dip Area: During the year a commencement was made to repair the main haulage road in this area, preparatory to the extraction of pillars in the Settlement section.

Westport-Stockton Coal Co., Ltd., Ngakawau.—The major portion of the output was won from development work in the new east section, and the remainder from pillar-extraction in No. 2 west dip section, McCabe's dip section, and "J" dip. In the new east dip some places were driven to the outcrop and disclosed that a lower seam was being worked, separated from the main seam by 24 ft. of shale and sandstone. Arrangements were then made to operate

the upper or main seam, which contains a better-quality coal. Pillar-extraction has been completed in "J" dip and McCabe's dip to a point to allow support to the haulage roads. With a view to prospecting an 8 acre block to the north of McCabe's dip, another dip is being driven in good-quality coal. During the year one and a half miles of the locomotive-track was relaid with new 60 lb.-to-the-yard rails, and Mumm's Bridge over the Mangatina River was reconditioned.

Watson's Mine, Karamea.—This small mine produced 53 tons of coal during the year, which was used for domestic purposes and lime-burning in the Karamea district.

Nelson District.

Puponga Mine, Puponga.—Coal-production from this mine during the year was confined to pillar-extraction. The area at present being operated has a probable further life of from twelve to eighteen months, but during the latter half of the period the output will be restricted. Therefore, if this company is to function successfully after a further nine months operations, it is necessary that another area should be developed or the old mine dewatered.

With a view to proving the existence of the seam on the north-east side of the downthrow fault encountered in the present workings, together with its accessibility, boring has been resorted to from the surface, but present results are not encouraging. Data so far obtained indicates that a dip stone tunnel of a gradient unsuitable for haulage purposes will be required to tap the seam.

Mount Burnett Mine, Collingwood.—This mine closed at the end of 1938 and was not reopened during the year.

North Cape Syndicate, Onekaka.—Operations at this mine recommenced during the year on freehold property. The coal won was principally from small outcrop pillars left behind by the old North Cape Coal Co. some years ago. Near the end of the year operations ceased, but the syndicate has intentions of prospecting a thin seam of coal on the property which has not yet been worked.

Motupipi Mine (Winter's), Takaka.—This is a small opencast mine situated on the sea-beach (mud-flat) at Motupipi. The seam is overlaid with 3 ft. of sand and mud and the coal is of good quality. The area is almost worked out and will in all probability close during the coming year.

Abbotsford Mine (Irvine's), Takaka.—This mine did not operate during the year.

Owen Colliery, Owen River, Murchison.—This mine is operated under the double-stall method. Operations during the year were confined to the driving of Nos. 2 and 3 stalls east and No. 4 stall west off No. 1 dip, also Nos. 1, 2, and 3 stalls west off No. 2 dip. The coal in the west stalls is of good quality, but in the east stalls it is fairly soft. Although the coal is good to the west, prospects do not look very bright as the stone in the seam is thickening and the coal thinning in the same proportion. A section of the seam is as follows: Top coal, 6 in.; stone, 2 ft. 7 in.; bottom coal, 1 ft. 10 in.

O'Rourke's Mine, Murchison.—Early in the year this mine was reopened by a party of miners. After operating a few months and producing 250 tons of coal the party ceased work on account of financial loss.

Wynndale Mine, Murchison.—Early in the year the No. 1 level was advanced 1 chain and encountered troubled country; this completed all development work, and pillar-extraction commenced. All pillars have been extracted from Nos. 3 and 4 levels, and pillar-extraction now continues in Nos. 1 and 2 levels. The seam is almost vertical and is 6 ft. in thickness.

Clarke Mine (S. Hartshorne), Baton.—During the major portion of the year operations were confined to development work to the dip. However, troubled country was encountered and further development work could not be economically carried on; therefore, pillar-extraction commenced.

Broxburn Mine (Broxburn Coal Co.), Baton.—This mine remained closed during the year and has been finally abandoned.

Westhaven Mine.—This mine commenced operations on freehold property during the year.

Schools of Mines.

During the year interest in the Schools of Mines in the West Coast District was maintained. Classes under the jurisdiction of the Director of the Reefton School were held at Reefton, Waiuta, Blackball, and Brunner, and under the Director of the Westport School at Westport, Granity, Stockton, and Denniston, while the classes at the Runanga School were conducted by advanced local students and Mr. W. Wicks, B.Sc., a Runanga resident who is on the staff of the Greymouth Technical High School.

Rescue-station.

Early in the year the rescue-station at Dobson was completed and equipped with modern Proto self-contained breathing-apparatus, other equipment necessary for the training of persons in mine rescue work, and a rescue-van for the transport of trained brigades. Mr. F. Duffy was appointed superintendent of the station, and commenced duty on the 20th March, 1939. After unpacking and checking all equipment and assembling same, Mr. Duffy equipped the smoke-chamber with all material required to make a representation of underground conditions.

On the 17th May, 1939, the first trainees, a brigade of five from the Dobson Mine, commenced a course of training in rescue work. This brigade was followed by others from the various mines in the district, and at the end of the year there were seven fully trained brigades and one partially trained brigade in the Grey district.

On the 31st October the rescue-station was officially opened by the Hon. Minister of Mines.

Fatal Accidents.

Five fatal accidents occurred at the mines during the year, as follows:—

On 13th June, 1939, Michael Leonard Daily, miner, Ironbridge Mine, Denniston Colliery, received a fractured spine and fractured leg when struck by a fall of roof stone. On the 13th July Daily succumbed to his injuries.

On the 16th August, 1939, William Patrick Kennedy, miner, Liverpool Colliery, was killed. There were no witnesses to the accident, and it is surmised that, in attempting to avoid a small fall of coal, he swung his head in an arc, striking a prop, causing a fractured neck.

On 14th November, 1939, Joseph Hopkinson, deputy, Millerton Colliery, was caught by a fall of debris in Old Dip Mine, and killed instantly. With a party of three others, Hopkinson was engaged in driving through loose ground to connect with the Old Dip Mine haulage road.

On 14th November, 1939, Robert Brownlie, shiftman, Millerton Colliery, was caught in the same fall as Hopkinson and killed instantly.

On 12th December, 1939, Guido Pavan, miner, Strongman State Mine, was struck by roof stone and coal and received a compound fracture of the right leg. The leg was amputated the following day. On the 17th December Pavan died at the Grey Hospital as the result of injuries received.

Serious Non-fatal Accidents.

Thirteen serious non-fatal accidents occurred during the year, as follows:—

On 29th January, 1939, Joseph W. Smith, mine-manager, Old Runanga Co-operative Mine, received a fractured left tibia below the knee, fractures of all ribs on the left side, and bruises to left arm and body. While examining the roof in a roadway which had not been used for some time he struck the coal at the corner of a pillar without knowing that the coal was loose, and it fell, causing the injuries mentioned.

On 17th January, 1939, Charles Taylor, miner, Owen Colliery, received a fractured leg when struck by a derailed truck on the main dip haulage road.

On 10th February, 1939, M. Hall, shiftman, Wallsend Colliery, received a simple fracture of the left tibia below the knee. While brushing down the roof a large stone fell towards him. In an attempt to step away, Hall slipped on the smooth floor, and his legs were pinned by the falling stone.

On 2nd March, 1939, Albert Jones, miner, Millerton Colliery, received three fractured ribs on the right side, severe crushing of chest, and bruises to right shoulder and both legs by a fall of top coal.

On 22nd March, 1939, Reginald Barlow, miner, Liverpool Colliery, received severe scalp wounds and depressed fracture of skull when struck by a fall of top coal.

On 1st June, 1939, Jarvin Nicholls, miner, Coalbrookdale Mine, Denniston Colliery, received fractured spine in Wiseman's dip section. Nicholls was filling coal from underneath a loose slab of stone supported on sprags; the stone slid, striking Nicholls.

On 3rd July, 1939, George Geddes and Joseph Mason, flume supervisors, Cascade Creek Mine, were injured when inspecting the flume. Where the flume crosses a subsidiary creek, boulders broke away from the creek wall and crashed into the flume understructure just as Geddes and Mason were walking across. Both men were precipitated to the bed of the creek. Geddes suffered a simple fracture of the left thigh bone and bruises to head, body, and left leg. Mason received an impacted fracture of right heel bone and bruises to face, body, and lower part of legs.

On 8th August, 1939, George Keown, shot-firer, Strongman Mine, sustained a fractured bone in the left forearm when he fell from a heap of mine preps on which he was standing.

On 24th August, 1939, J. McLaren, miner, Liverpool Mine, received a slight fracture of the spine. When working on a couch he slipped, rolled off the couch, receiving the injury mentioned.

On 12th September, 1939, W. J. Weston, trucker, Liverpool Mine, received fractured ribs when struck by a truck. Weston was lifting a derailed empty truck on a self-acting incline; due to the brake not being properly applied, the truck moved, striking Weston.

On 29th September, 1939, H. Fitzsimmons, miner, Stockton Mine, was struck by a fall of coal and received four fractured left ribs and a simple fracture of the pelvis, left side.

On 4th December, 1939, A. Coutts, miner, Dobson Mine, suffered a dislocation of the shoulder blade (left). Several pieces of stone fell from the roof and, striking Coutts, knocked him against the coal rib.

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

Bellbird Mine (Fauth and Party).—On 31st May, 1939, at about 9 a.m., the mine-manager received moderately severe burns to the hands, arms, face, and chest caused by an ignition of gas while working at the coal-face. From statements taken by workmen who were present at the time of the ignition it was ascertained that the ignition occurred after the manager had returned to the surface and made his written report; also, that the fan had been started at approximately 7.15 a.m. As this constituted a breach of Regulation 181 (2) of the Coal-mines Act, 1925, in that the fan had not been started two hours previous to men entering the mine, legal proceedings were taken against the manager some months later. According to a workman's statement, the type of lamp used by the manager was a carbide lamp. Written instructions were given that only locked safety-lamps must be used in future, and this instruction has been carried out. Naked lights had been used at this mine since operations commenced approximately eleven years ago, and gas had never been reported prior to the ignition.

Wallsend Mine. On 6th June, 1939, a fall of top coal in the rise air-course of No. 1 panel caused a blockage adjacent to the place where gas feeders gave trouble some months previously. As repairs could not be affected and the gas cleared before 8 a.m., the mine was idled for the day.

Dobson Mine.—On 12th July, 1939, the mine-manager reported an accumulation of approximately 800 cubic feet of CH_4 in Muir's Rise old workings. A number of heavy falls of roof had occurred in this section. It was suggested to the manager that he carry air on brattice a distance of approximately 5 chains from his return airway, thence down the incline to the accumulation. The manager later advised that he had erected the brattice as suggested and the accumulation was reduced to 600 cubic feet, and on the next day he further advised that all the gas had been removed. In the manager's report of the 12th July, 1939, he also referred to a second accumulation of gas in Muir's level of approximately 800 cubic feet. This accumulation was cleared by allowing air through the door, it having collected behind a stopping provided with a door.

Liverpool State Mine.—The mine-manager reported on 2nd August, 1939, that an accumulation of 50,000 cubic feet of CH_4 had occurred in the Kimbell west dip section. The examining-deputy, who detected the accumulation, found that the air current was short-circuited as a result of a ventilation door being left open. Another door was constructed, and the manager advised that by the construction of an overcast in the near future the doors would be eliminated.

Millerton Mine.—On 5th October, 1939, the mine-manager reported, through spontaneous combustion, an outbreak of fire in panel 1, fifth west section, Mine Creek Mine. The heated material was filled into trucks and the area sealed off.

Prosecutions under the Coal-mines Act, 1925.

Three informations were laid during the year and convictions recorded in all cases.

On 23rd August, 1939, a miner was convicted with costs for having matches in his possession while in the mine, being a breach of section 98 (1) of the Coal-mines Act, 1925.

On 13th November, 1939, for a breach of Regulation 181 (2) of the Coal-mines Act, 1925, a mine-manager was convicted, with costs 11s., for failure to start and run the fan continuously in the mine for at least two hours before workmen entered the mine.

On 13th November, 1939, a shot-firer was convicted and fined 5s. for failure to render harmless the coal-dust in a working place by stonedusting or watering previous to firing a shot in the working-place as required by Regulation 226 (*g*) (ii) of the Coal-mines Regulations 1939.

SOUTHERN INSPECTION DISTRICT. (J. Hadcroft, Inspector of Coal-mines.)

In accordance with the Coal-mines Act, 1925, I have the honour to submit the following report on the mining activities in the Southern Inspection District for the year ended 31st December, 1939:—

Canterbury Mines.

Bonanza Mine.—The total output from this mine has been won from pillar-extraction in the No. 3 and No. 5 south-west levels.

Clearview Mine.—Development work has been continued in the main levels from the bottom of the dip. The working-places are being driven 6 ft. high and 6 ft. wide. The coal-seam is 10 ft. 6 in. thick.

Lucknow Clay-mine.—This mine has been worked only intermittently by two miners who are working back and splitting the pillars.

Klondyke Mine.—The main dip has been driven in the coal to a distance of 14 chains in an easterly direction. The grade will average 1 in 2½. Development has been carried on in the three north-east levels and the two south-west levels. The north-east levels have been advanced to a distance of 13 chains from the dip, and the south-west levels 6 chains from the dip. During the year a two-stage electric pump has been installed which is driven by a 20 horse-power motor, the electric power being generated at the mine.

Yukon Mine.—Some development work was done in a 2 ft. 9 in. seam of coal, and the few pillars made have been worked out. The mine is now closed.

Homebush Clay-mine.—Clay has been produced intermittently from this opencast during the year.

Homebush Coal-mine.—No coal produced during 1939.

Sheffield Clay-mine.—Two places are being worked, one on each side of the dip, the places being 6 ft. high and 6 ft. wide.

Malvern Mine. Development has been carried on in a north-easterly direction, the bottom level being driven 12 chains from the main dip. A section of the coal-seam is as follows: Top coal, 3 ft.; fireclay, 2 ft.; bottom coal, 5 ft. Work is being done in the lower seam only.

Sandown Mine.—The old mine was stopped temporarily owing to the main levels striking trouble, and a new mine started in what appears to be the same seam, about half a mile to the north of the old mine. A level drive picked up the coal-seam, which proved to be 8 ft. thick and dipping 60°.

Shrenton Mine. The crosscut dip was continued a distance of 11 chains from the surface. Development is being carried on in a northerly direction. The bottom level has been driven 7 chains from the crosscut dip.

Sunnydale Clay-mine. Only a small amount of clay has been won from this mine.

Blackburn Mine. Pillar-extraction was stopped early in the year, and development work has been carried out in the area on the north-west side of the fault. The main level in the new area has been driven a distance of 5 chains and the main heading 4 chains.

Mount Somers Mines. The greater part of the output has been won from pillar-extraction. A prospecting dip was started 600 ft. from the mine entrance, with the object of proving the possibility of picking up the coal-seam with a dip drive from the surface.

Brockley Anthracite-mine. This is an almost vertical seam 3 ft. thick, the strike being north-east - south-west. The seam is being worked from a level stone drive 1¼ chains in length. The north-east level has been driven 4 chains and is still being extended.

Woodbank Mine. A dip drive in a south-easterly direction and at a grade of 1 in 3 cut the coal-seam at a distance of 1 chain. The seam is 20 ft. in thickness and all work is development.

North Otago Mines.

Airedale Mine.—The greater portion of the output was won from pillar-extraction. Some prospecting is being done in the crosscut dip section.

St. Andrews Mine.—Pillar-extraction has been carried out in the dip section, and some development work has been done in the rise section in a south-westerly direction.

Ngapara Mine. No development work has been done during the year, the output having been won from pillar-extraction.

Shag Point Mine (McLean's).—All the available coal in the old mine was taken out and the mine closed down. A stone drive has been started in a south-westerly direction which is expected to intercept the seam at a distance of 540 ft. from the surface.

Shag Point Mine (McLaren's). The main dip has been driven to the lease boundary, and levels to the north and south have been driven. The coal is 7 ft. thick and of good quality.

Willetts' Mine.—All the coal has been won from splitting and robbing the pillars.

Rockvale Mine. There has been no development at this mine, all the output having been won from pillar-extraction.

Central Otago Mines.

Shepherds Creek Mine.—Pillar-work on the north side of the main dip was completed about the middle of the year. Since that time a little development work has been done on the south side of main dip.

Cairnmuir Mine.—This mine was closed down and the plant withdrawn.

Nevis Crossing Mine. No coal mined during the year.

Nevis Opencast Mine.—This opencast pit has been worked chiefly to supply the Nevis Dredge, which is steam driven.

Otarehua Pit.—This pit is worked opencast; the thickness of coal being worked is from 16 ft. to 18 ft., and the stripping from 4 ft. to 5 ft.

Blackstone Hill Pit. No coal has been mined during the year.

Idaburn Pit.—This pit has worked reasonably well during the year. The coal is 20 ft. in thickness and the stripping 9 ft.

Coal Creek Mine.—Work has been continued in this opencast mine. The stripping is sluiced off the coal and kept well back from the workings.

Parfit's Mine.—Only a small amount of coal mined in the first half-year.

South Otago District.

New Fernhill Mine.—The coal from this mine has all been won from developing-places. The main level to the north-east has been continued to a distance of 11 chains from the main dip, and the development to the south-west is in an area of coal which was left between the present mine and the old Fernhill Mine.

Jubilee Mine.—The crosscut dip has been driven to a distance of 23 chains from the mine entrance, and developing-places are being driven on both sides of the dip. With the exception of a little pillar-extraction at the beginning of the year, all the coal has been won from solid places which are worked single and being driven from 6 ft. to 7 ft. wide.

Hodson's Mine. All the coal has been won from pillar-extraction. There are only a few pillars remaining, and all available coal will be taken out in a few months' time.

McColl's Mine.—All the available coal has been extracted, and the mine was closed down during November.

Fairfield Mine. There has been no development at this mine, all the coal having been won from splitting and extracting pillars.

Willowbank Mine. The development of the south crosscut dip section was completed early in the year. Since that time all the coal produced has been from the extraction of pillars. A new fan has been installed, which has greatly improved the ventilation.

East Taieri Mine. Development is being carried on in the area of coal to the dip of the old mine workings. The coal is of good quality and 14 ft. thick. Further development looks promising.

Burnwell Mine. A little prospecting has been done by driving on this area, with very poor results.

Eskvale Mine. A little development was done at the beginning of the year. The area proved being very small, pillar-extraction was started, and the greater portion of the output was won from pillar-extraction.

Elliotvale Mine. Development in the east side of the main dip was carried on to a distance of 4 chains when the seam which was split by a fireclay band 18 in. thick, became inferior in quality. Development was stopped and pillar-extraction commenced.

Kai Point Mine. A small amount of development has been done from the outcrop 20 chains to the west of old mine, which was closed down in December, 1938.

Benhar Mine.—The main dip is still being developed in an easterly direction. The total length is nearly 1,400 ft. Levels are being worked to the north and south.

Taratu Mine.—No mining operations have been carried on during the year, the only work being done was to keep the mine in order and free of water. The mine has now been abandoned. The plant was withdrawn during December, 1939.

Lakeside Mine. The coal from this mine was won from pillar-extraction. The company closed down after August, and the mine was worked for a short time since on a co-operative basis. It is again closed.

Wangaloa Mine.—All the coal has been won from development. This development has been on the south-west side of the main dip, the workings extending into freehold property in this direction.

Kaitangata Mine. The greater part of the output has been won from pillar-extraction in the east and west sections of the main seam. The seam generally has been about 20 ft. in thickness, and in one place proved to be 30 ft. thick. The percentage of extraction has been very high. The main development work has been carried out in the Samson seam to the north of the main seam. The coal-seam in this area is on a grade of 1 in 2, and is being worked from a crosscut dip in a south-west direction at a grade of 1 in 3. This development has proved that a large area of coal lies directly under the main haulage tunnel. A prospecting drive has been driven at a point one mile and a half to the south of the present mine. After being driven 1,250 ft. at a grade of 1 in 2, the drive struck a seam of coal 8 ft. thick. This drive may be used as a return air-course in future development.

Southland Mines.

Hakatere Mine. This mine closed down on 31st March, 1939.

Waimumu Mine.—Opencast operations are still being carried on.

Otikerama Mine. The total output has been won from pillar-extraction. All pillars on the south-west side of the dip have been worked out, and there are only a few pillars left on the north-east side.

Croydon Pit.—This pit is still being worked opencast. The coal being worked is 20 ft. thick, and the stripping 7 ft. thick.

Mataura Lignite Mine (Beattie Coster). The old pit was worked out in the first half of the year and a new one started. In the new pit the coal-seam and the overburden are of about equal thickness.

Green's Mine.—Pillar-extraction in the dip section was stopped early in the year, and since then some development has been done to the south-west, approximately 12 chains from the main dip.

Boghead Mine.—The main dip was driven in a westerly direction, and all the coal has been won from the development of the north and south levels.

Glendee Mine.—All the output has been won from developing the main level and companion level. The main level face is now in 20 chains from the mine entrance.

Ota Creek Pit.—A small amount of coal has been won from this opencast.

Ruby Pit. This pit is opencast, the coal being 30 ft. thick and the stripping 7 ft. thick.

Coster's Pit. Opencast workings are still being carried on.

Kea Pit. These workings are opencast. The coal is 12 ft. thick and the stripping 8 ft.

Mataura Paper-mills.—This pit was started early in the year and the stripping was done by a Ruston-Bucyrus digger. Coal-production started in May and a good output has been maintained. The digger is now used for mining and filling the coal.

Argyle Pit.—A small amount of coal has been won from this opencast.

Diamond Lignite Pit.—This opencast pit is being worked to the south-west. The coal is 30 ft. thick and the stripping from 10 ft. to 12 ft.

Waimeamea Pit. A small amount of opencast is still being carried on.

Pinchester Creek Mine.—Most of the year has been spent on prospecting without satisfactory results.

Lynwood Pit.—A small amount of coal has been won from this opencast pit.

Star Mine. The old mine was worked out and closed down, and a new mine started in the area to the east of the old mine workings. A dip drive in a southerly direction picked up the coal-seam, which is of good quality, and development has been carried out to 10 chains from the dip in an easterly direction.

Birchwood Mine. The output is being won partly from pillars and partly development. Pillar-extraction is being carried out in the No. 3 east section, and development in the No. 4 east and No. 3 west sections. Some prospecting is being done on the fault in the No. 3 west rise section, and the results look fairly promising.

Black Diamond Mine.—The whole of the output from this mine is from pillar-extraction from the No. 5 north side level section.

Black Lion Mine.—The greater portion of the output has been won from pillar-extraction in the north-east section. In the area to the west of the main heading some developing work has been done. The prospects in this section appear to warrant further work being done.

Mossbank Mine.—Development was being carried out in an area of coal to the east of the old No. 3 Mine; at the beginning of June one of the places connected with the old Mossbank opencast and the mine became flooded. No coal has been produced since then. New Drives, Mossbank Coal Co.: These two drives, which were to open up a new mine, did not strike the coal as anticipated, and were stopped after being driven: Main drive, 949 ft.; return drive, 756 ft. Further prospecting by boring is being done in this area.

Wairaki Mine. The development work in the No. 3 east dip was completed, and this area is now being pillared with the exception of a small block where the pillars are only being split. Stone Dip Section: An area off No. 3 east level is being developed in good-quality coal. In No. 2 east section pillaring was completed to the barrier line on the south side of the Ohai Nightcaps Road. Prospecting: Five boreholes have been put down on Mill's lease, and good results were obtained in four of these bores. This area will in all probability be developed by a new mine.

Linton No. 1 Mine.—Development work is being carried out in the No. 7 section of the mine and on the inbye side of No. 8 section. In the No. 7 section the dip headings proceeding north have reached the fault-line, and preparations are being made for the extraction of pillars. A small area of coal (Adam and Eve's dip) which was worked some time ago and stopped has been reopened. Some prospecting has been done in this area with encouraging results. *Linton No. 2 Mine:* Only a very limited quantity of coal remains to be extracted, and this mine should be worked out during the current year. Prospecting and Development: Some prospecting has been done by boring in the area lying to the east of No. 1 Mine, the results being fairly satisfactory. A new stone drive was started to open up the area which had been bored, and it was found that in some workings intersected by the drive a fault had been met. The continuation of the main drive has been suspended meantime, pending the further proving of this fault line.

Beaumont Syndicate. A dip drive at a grade of 1 in 3 in a south-west direction picked up the coal-seam at 4 chain from the surface. The coal is of good quality, 20 ft. in thickness, but split by fireclay varying in thickness from 9 in. to 3 ft. A bore 3 chains west of the drive proved top coal 9 ft., clay 4 ft., bottom coal 12 ft. The workings will be in the lower seam.

Tiltapua Pit. This opencast was worked for the first part of the year, and then closed down. The coal was 12 ft. thick and the stripping 7 ft. thick.

Hedgehope Pit.—This opencast pit was worked only the first half of the year and then closed.

School of Mines.

The mining classes at the Ohai School have been carried on during the year, although there was a serious reduction in the number of pupils during the latter half of the year.

Fatal Accidents.

I have to report that there were no fatal accidents during the year ended 31st December, 1939.

Serious Non-fatal Accidents.

On the 30th January M. McKinney, Kaitangata, sustained a fracture of a small bone in his leg through being struck by a rake of empty boxes while crossing the Dip Road.

On the 20th March R. Lunn, Kaitangata, suffered a fractured pelvis and internal injuries. While Lunn, standing with his back to the pillar side, was fixing the cap piece, a slab of coal weighing approximately 5 cwt. fell from the pillar side off a greasy back which could not be seen, struck him, and knocked him down over the rails on the roadway.

On the 23rd March A. Smith, Glentunnel, sustained a broken right leg below the knee. He was employed mining fireclay from an opencut about 15 ft. wide when a piece of clay weighing approximately 2 cwt. rolled off the side, striking him on the leg.

On the 5th July Oliver Bee, employed as a trucker in the Black Lion Mine, sustained a fracture of the hip bone and a fractured rib. He turned a full box from a side road on to the jig head without having put in the stop-block when a second full box knocked the first box over the brow. While trying to hold the first box from running away, he was caught between the two boxes.

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

Elliotvale Mine.—9th March, 1939: A fire burnt around a brick stopping in a sealed area 20 ft. west of the main drive. A 12 ft. sand stopping was erected against the brick stopping, and the area sealed off and made safe.

Airedale Mine.—On the 5th May an underground fire was discovered (probably started in dry dust by a match or cigarette). A stopping was built at the mine entrance, and was broken on 6th June. Subsequently a portion of the mine had to be again sealed through heating.

Linton Mine.—The No. 1 section had to be sealed off on the 26th August through heating in the E portion of No. 1 panel. The next day a violent explosion occurred in the sealed-off area, blowing out the stoppings. The section was again sealed with concrete stoppings. With the exception of the No. 1 panel, the No. 1 section has since been reopened.

Benhar Mine.—18th December, 1939: On this day signs of heating were detected in old workings where pillars had been stripped. Immediate steps were taken to erect brick and concrete stoppings and the area effectively sealed off.

Prosecutions under the Coal-mines Act, 1925.

A mine-manager (being the underviewer of the mine) was charged with failure to remain underground until the day's work was finished and all workmen were out of the mine. He was convicted and fined £2 10s. and costs.

On the 31st May a miner was charged with firing two shots in the mine without authority or qualification, contrary to Regulation 226 (*a*) of the Coal-mines Act, 1925. The defendant was convicted and fined £1 and costs.

A company charged with failure to furnish a half-yearly coal output return, as required by section 31 of the Coal-mines Act, 1925, was convicted and fined £1 and costs.

ANNEXURE B.

STATISTICS OF WORKINGS IN COAL-MINES, 1939.

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 Stone Drive (if any) to reach Coal-seam.	Total Output for 1939.	Total Output to 31st December, 1938.	Total Output to 31st December, 1939.	Number of Persons ordinarily employed.			Means of Ventilation.
															Above.	Below.	Total.	
NORTHERN INSPECTION DISTRICT																		
Waikato District.												Tons.	Tons.	Tons.				
Rotowaro, Rotowaro	Crown lease and freehold	J. Smith (1st C.) ..	Taupiri Coal-mines, Ltd., Auckland	22	Brown ..	2	7′ to 15′	All ..	Bord and pillar ..	D. 1,600′ ..		176,020	2,621,693	2,797,713	66	238	304	Fans (3).
Pukemiro, Pukemiro	Freehold ..	J. R. Watson (1st C.)	Pukemiro Collieries, Ltd, Auckland	24	,, ..	1	4′ to 18′	4′ to 14′ ..	Ditto	..		110,987	2,704,766	2,815,753	49	176	225	Fans (2).
Wilton, Glen Massey	,, ..	F. Andrews (1st C.)	Wilton Collieries, Ltd., Auckland	9	,, ..	1	7′ to 12′	5′ to 9′ ..	,, ...	..		89,930	649,636	739,566	36	131	167	,,
Waikato Extended, Huntly West	,, ..	J. Honey (C.) ..	Roose Shipping Co., Mercer ..	23	,, ..	1	16′ ..	14′ ..	,, ...	..		2,299	113,318	115,617	1	3	4	Natural.
Glen Afton No. 1, Glen Afton ..	Crown lease and freehold	F. Lockington (1st C.)	Glen Afton Collieries, Ltd., Auckland	19	,, ..	1	4′ to 16′	9′ ..	,, ...	..		72,388	1,851,593	1,923,981	30	124	164	Fan (1).
MacDonald, Waikokowai ..	Crown lease ..	,,	Ditto	9	,, ..	1	6′ to 20′	9′ to 14′ ..	,, ...	..		139,380	1,002,834	1,142,214	55	206	261	,,
Taupiri East, Kimihia	,, ..	P. T. Peattie (2nd C.)	Holland and party, Huntly ..	18	,, ..	1	10′ to 15′	12′ ..	,, ...	..		3,355	33,335	36,690	2	4	6	Natural.
Wharawhata Campbell, Whatawhata	,, ..	A. Penman (1st C.)	Whatawhata Campbell Coal Co., Ltd., Hamilton	18	,, ..	1	12′ ..	8′ ..	,, ...	..		4,512	73,739	78,251	5	3	8	,,
Renown, Renown	Freehold ..	T. Geddes (1st C.) ..	Renown Collieries, Ltd., Auckland	12	,, ..	2	15′ ..	7′ to 9′ ..	,, ...	..		121,164	980,519	1,101,683	49	192	241	Fan (1).
Graham, Glen Afton	,, ..	J. Tweedie (2nd C.)	Graham Coal Co., Glen Afton ..	16	,, ..	1	3′ to 6′	4′ ..	,, ...	..		3,878	138,308	142,186	1	6	7	,,
Glen "A" Potteries, Glen Afton	,, ..	J. Howie (P.) ..	Taranaki Brick and Land Co., Ltd., New Plymouth	3½	,, ..	1	5′ to 12′	All ..	Opencast ..	..		250	1,176	1,426	1	..	1	Natural.
Daily's, Oparau	Crown lease ..	J. N. Robson ..	C. Y. Daily, Oparau, Te Awamutu	2½	,, ..	1	6′ 6″ ..	5′ ..	,, ...	..		22	77	99	1	1	2	,,
Taranaki District.																		
Old Stockman, Mokau	Freehold ..	H. Jones (D.) ..	Chambers Bros., Havelock ..	19	Brown ..	1	4′ 6″ ..	All ..	Bord and pillar ..	..		1,012	9,469	10,481	1	2	3	Natural.
Mangapehi, Mangapehi	Crown lease ..	J. Gillick (1st C.) ..	Mangapehi Coal-mining Co., Ltd., Mangapehi	5½	,, ..	1	14′ ..	7′ ..	Ditto	..		6,479	22,360	28,839	3	8	11	Fan (1).
Hikurangi District.																		
Waro, Hikurangi	Freehold ..	C. Hunter (1st C.) ..	Waro Coal-mines, Ltd., Auckland	5	Sub-bituminous	1	4′ to 8′	All ..	Bord and pillar ..	D. 1,000′ ..		10,788	39,507	50,295	21	47	68	Fan (1).
Ruatangata, Kamo	,, ..	G. Cross (2nd C.) ..	Kamo Potteries, Ltd., Whangarei	19	Ditto ..	2	6′ ..	5′ 6″ ..	Ditto	..		3,112	52,503	55,615	1	7	8	Natural.
Fearnley's, Waro	,, ..	J. Speirs (D.) ..	Speirs and party, Hikurangi ..	10	,, ..	1	1′ to 4′	All ..	,, ...	..		191	18,022	18,213	..	2	2	,,
New Kamo, Kamo	Crown lease and freehold	J. Makinson (1st C.)	Kamo Collieries, Ltd., Whangarei	5½	,, ..	1	18′ ..	7′ ..	,, ...	D. 450′ ..		44,738	98,920	143,658	27	66	93	Fans (2).
Tauranga Block, Hikurangi ..	Freehold ..	H. Tipton (2nd C.) ..	J. Jones, Hikurangi	5½	,, ..	1	2′ 6″ ..	All ..	,, ...	..		2,328	5,108	7,436	..	5	5	Natural.
Whareora, Hikurangi	,, ..	J. Pollock (D.) ..	Glen Nell Coal Co-operative Party, Hikurangi	9	,, ..	1	5′ ..	5′ ..	,, ...	..		316	5,943	6,259	..	2	2	,,
Avoca, Tangowahine	,, ..	S. G. Foot (C.) ..	S. G. Foot, Hikurangi	10½	,, ..	1	8′ ..	All ..	Opencast ..	..		556	9,298	9,854	3	..	3	,,
Outputs of collieries, included in previous statements, at which operations have been abandoned or suspended												..	12,405,924	12,405,924	..	..	..	..

STATISTICS OF WORKINGS IN COAL-MINES, 1939—*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 Stone Drive (if any) to reach Coal-seam.	Total Output for 1939.	Total Output to 31st December, 1938.	Total Output to 31st December, 1939.	Number of Persons ordinarily employed. Above.	Below.	Total.	Means of Ventilation.
									WEST COAST INSPECTION DISTRICT.			Tons.	Tons.	Tons.				
Nelson District.																		
Motupipi, Motupipi	Crown lease	D. Winter (P.)	J. and D. Winter, Motupipi	12	Lignite	1	4′	Full	Opencast			51	1,530	1,581	2	..	2	Open.
Clarke, Baton	,,	S. Hartshorne (P.)	S. Hartshorne, Tapawera	8½	Bituminous	2	2′ and 6′	,,	Bord and pillar			530	2,900	3,430	..	2	2	Natural.
O'Rourke's, Murchison	Crown lease and freehold	O. J. Gilroy (P.)	A. O'Rourke, Murchison	19	Lignite	1	1½′	,,	Ditto			250	3,871	4,121	..	4	4	,,
Wynndale, Murchison	Crown lease	A. McIntoch (D.)	G. and A. H. Wynn, Murchison	7	Sub-bituminous	1	6′	,,	,,		1 ch.	2,707	16,188	18,985	2	4	6	Fan.
Westhaven, Collingwood	Freehold	G. Wynn (D.)	Geo. Wynn, Mangarakau	1	Ditto	1	10′	5′ 9″	,,		1 ch.	1,090	..	1,090	..	4	4	Natural.
Puponga, Puponga	Crown lease	A. J. McHardy (2nd C.)	Puponga Coal-mines, Ltd., Puponga	36	,,	1	5′ to 6½′	Full	,,		1 ch.	7,823	397,681	405,504	3	8	11	Fan.
North Cape, Onekaka	Freehold	A. Thompson (1st C.)	North Cape Coal Syndicate, Onekaka	1½	,,	1	5′	,,				246	44	290	..	2	2	Natural.
Owen, Owen River	Crown lease	W. Hawthorn (D.)	Owen Collieries, Ltd., Nelson	10	,,	1	4′ to 6′	,,	Double stall		4 ch.	4,224	28,283	32,507	2	6	8	Fan.
Buller District.																		
Allan's, Charleston	Crown lease	T. D. Allan	T. D. Allan, Charleston	7	Lignite	1	42′	10′	Opencast			10	47	57	1	..	1	Open.
Bowater and Bryan's, Charleston	,,	F. M. Mitchell (P.)	Bowater and Bryan, Westport	9½	,,	1	30′	8′	,,			305	2,182	2,487	1	..	1	,,
Brighton, Fox River	,,	Andrew Hunter (P.)	Brighton Coal-mines, Ltd., Brighton	7	,,	1	12′ to 16′	8′	Bord and pillar			443	2,264	2,707	..	4	4	Natural.
Cascade, Cascade Creek	,,	W. Brown (1st C.)	Cascade-Westport Coal Co., Ltd., Westport	13	Bituminous	1	30′	8′	Ditto			20,749	187,227	207,976	11	9	20	,,
Charming Creek, Ngakawau	,,	R. J. Wearn (1st C.)	Charming Creek-Westport Coal Co., Ltd., Westport	12	,,	1	8′ to 20′	10′	,,		20 ch.	30,316	153,054	183,370	20	33	53	Fan.
Coal Creek, Seddonville	,,	T. Quinn (D.)	Coal Creek Mining Party, Seddonville	22	,,	1	16′	8′	,,			3,333	103,038	106,371	1	4	5	Natural.
Hydro, Seddonville	,,	R. Mulholland (D.)	Hydro Coal-mines, Ltd., Westport	¼	,,	1	15′	8′	,,		23 ch.	8,034	22,745	30,779	1	7	8	Fan.
Dove's, Seddonville	,,	J. T. Dove (D.)	J. T. Dove, Seddonville	9	,,	1	20′	8′	,,			10	119,626	119,636	..	1	1	Natural.
Mitchell's, Charleston	,,	F. M. Mitchell (P.)	F. T. Mitchell, Charleston	14	Lignite	1	30′	8′	Opencast			139	659	798	1	..	1	Open.
Powell's, Charleston	,,	J. H. Powell	J. H. Powell, Charleston	11	,,	1	30′	7′	,,			93	499	592	1	..	1	,,
Warne's, Charleston	,,	G. N. Warne (P.)	G. N. Warne, Charleston	14	,,	1	5′ to 8′	6′	,,			7	129	136	1	..	1	,,
Rocklands, Buller Gorge	,,	N. B. Paine (P.)	J. P. Burley, Buller Gorge	37	Brown	1	27′	8′	Bord and pillar			1,523	13,415	14,938	1	3	4	Natural.
Glencrag, Buller Gorge	,,	N. Forsyth (2nd C.)	Forsyth and Bateson, Westport	16	,,	1	20′ to 40′	9′	Ditto			917	5,362	6,279	..	2	2	,,
Denniston, Denniston	,,	A. Openshaw and J. Adamson (1st C.)	Westport Coal Co., Ltd., Dunedin	59	Bituminous	7	3′ to 30′	Full	,,			168,109	11,003,694	11,171,803	113	279	392	Fans.
Millerton, Granity	,,	O. J. Davis (1st C.)	,,	48	,,	1	4′ to 40′	12′	,,		78 ch.	79,429	8,536,038	8,615,467	36	93	129	Fan.
Westport-Stockton, Ngakawau	,,	T. McGhie (1st C.)	Westport-Stockton Coal Co., Ltd., Christchurch	31	,,	3	4′ to 20′	10′	,,			140,310	3,706,356	3,846,666	81	173	254	,,
Watson's, Karamea	,,	A. J. Watson	A. J. and H. Watson, Karamea	3	Lignite	1	10′	Full	,,			53	111	164	2	..	2	Natural.
Reefton District.																		
Archer's, Capleston	Crown lease and freehold	F. W. Archer (2nd C.)	F. W. Archer, Reefton	44	Brown	2	9′ and 12′	8′ to 11′	Bord and pillar		400′	5,140	83,832	88,972	2	10	12	Natural.
Burke's Creek, Burke's Creek	Crown lease	C. D. Buist (1st C.)	Burke's Creek Collieries, Ltd., Wellington	38	,,	1	8′ to 12′	9′	Ditto			22,418	312,877	335,295	11	29	40	Fan.
Clele, Merrijigs	,,	R. V. Alborn (2nd C.)	V. W. Alborn and party, Reefton	53	,,	1	5′	Full	,,		40′	5,775	82,000	87,775	3	9	12	Natural.
Coghlan's, Capleston	Crown lease and freehold	E. Cohen (C.)	John Coghlan, Reefton	42	,,	1	10′ to 12′	8½′	,,		12 ch.	2,891	36,833	39,724	1	6	7	,,
Defiance, Murray Creek	Crown lease	G. Turner (2nd C.)	McClatchie and Co., Ltd., Christchurch	11	,,	1	6′	Full	,,			3,991	13,798	17,789	5	8	13	,,
Morrisvale, Reefton	,,	C. D. Curtis (2nd C.)	W. J. Morris, Reefton	27	,,	1	10′ to 14′	10′	,,		1 ch.	7,650	159,099	166,749	2	10	12	,,
Burnwell, Reefton	,,	D. Hamill (D.)	Burnwell Coal Co., Ltd., Reefton	11	,,	1	30′	9′	,,		1½ ch.	1,826	5,066	6,892	1	7	8	,,
Waitahu, Reefton	,,	A. D. Williams (1st C.)	A. D. Williams, Reefton	30	,,	2	6′ and 12′	Full	,,			5,641	17,647	23,288	3	8	11	Fan.
White Rose, Merrijigs	,,	H. Griggs (P.)	H. and S. Griggs, Reefton	16	,,	1	4′		,,			105	1,171	1,276	..	2	2	Natural.
Terrace, Reefton	,,	J. Findlay (D.)	J. Findlay and A. Hallaran, Reefton	12	,,	1	14′	9″	,,			534	7,337	7,871	..	4	4	,,

Grey District.																				
Baddeley's, Bend Creek ..	State reserve	R. Barker (U.) ..	Baddeley and party, Runanga ..	19	Sub-bituminous	1	7′ ..	Full ..	Bord and pillar	.. ..		6,758	73,082	79,840	2	5	7	Fan.
Bellbird, Ten-mile	,,	F. Fauth (D.) ..	Fauth and party, Greymouth ..	12	Ditto ..	1	10′ ..	,, ..	Ditto ..	.. ..		2,253	36,188	38,441	1	3		,,
Bellvue, Rapahoe	,,	H. Hadcroft (U.) ..	Bellvue Mines, Ltd., Greymouth	13	,, ..	1	6′ ..	,, ..	,, ..	.. ..		6,731	76,893	83,624	1	8	9	,,
Blackball, Blackball	Freehold ..	J. G. Quinn (1st C.)	Blackball Coal-mines Pty., Ltd., Christchurch	48	Bituminous	2	17′ ..	8′ ..	,, ..	.. 12 ch.	..	4,213	4,136,135	4,140,348	30	50	80	,,
Blackball Creek, Blackball ..	,, ..	,,	Blackball Creek Coal Co., Ltd., Blackball	8½	,,	2	17′ ..	15′ ..	,, ..	.. ..		12,507	120,343	132,850	7	21	28	,,
Hunter's, Ten-mile	State reserve	J. M. Williams (2nd C.)	Hunter and party, Greymouth ..	7	Sub-bituminous	1	7′ ..	Full ..	,, ..	.. ..		5,482	15,965	21,447	2	7	9	,,
Braehead, Dunollie	,,	G. H. Gaskell (2nd C.)	Boote and party, Dunollie ..	19	Ditto ..	1	5′ to 9′	,, ..	,, ..	.. 14½ ch.	..	9,644	114,822	124,466	3	13	16	,,
Briandale, Ten-mile	Crown lease ..	T. Howard (1st C.)	Briandale Collieries, Ltd., Christchurch	13	,, ..	1	8′ ..	6′ ..	,, ..	.. 1½ ch.	..	2,923	84,416	87,339	3	6	9	,,
Wallsend, Brunnerton	Crown lease and freehold	G. Smith (1st C.) ..	Brunner Collieries, Ltd., Wellington	16	Bituminous	1	18′ ..	8′ to 10′ ..	,, ..	2 650′ each	..	53,999	720,003	774,002	29	108	137	,,
Cain's, Rapahoe	State reserve	S. Hewison (2nd C.)	E. Cain, Rapahoe	15	Sub-bituminous	1	5′ ..	Full ..	,, ..	.. ..		1,425	13,994	15,419	1	3	4	,,
Castlepoint, Dunollie	,,	J. Neilson (1st C.) ..	Castlepoint Co-operative party, Greymouth	13	Ditto ..	1	4½′ ..	,, ..	,, ..	.. ..		7,051	86,263	93,314	1	12	13	,,
Dobson, Dobson	Crown lease ..	H. Brady (1st C.) ..	Grey Valley Collieries, Ltd., Christchurch	17	Bituminous	1	9′ to 16′	9′ ..	,, ..	.. 18 ch.	..	71,677	888,868	960,545	29	155	184	,,
Fiery Cross, Dunollie	State reserve	J. Sharp (U.) ..	Currie and party, Greymouth ..	11	Sub-bituminous	1	6′ ..	Full ..	,, ..	.. ..		5,574	48,670	54,244	2	7	9	,,
Goldlight, Rewanui	,,	R. Ewen (U.) ..	Williams and party, Runanga ..	12	Ditto ..	1	7′ ..	,, ..	,, ..	.. 4 ch.	..	5,439	85,647	91,086	1	6	7	,,
Hilltop, Ten-mile	,,	R. J. Armstrong (D.)	Armstrong and party, Runanga	9	,, .	1	6′ ..	,, ..	,, ..	.. ..		3,416	65,382	68,798	1	4	5	,,
Kaye's, Ten-mile	,,	W. Hughes (D.) ..	Kaye and party, Dunollie ..	5	,, ..	1	10′ ..	,, ..	,, ..	.. ..		4,937	11,162	16,099	2	5	7	,,
Hunter's, Rewanui	,,	A. Hill (D.) ..	Hunter and Party, Greymouth ..	19	,, ..	1	3½′ ..	,, ..	,, ..	.. ..		5,326	96,708	102,034	1	7	8	,,
Jubilee, Rapahoe	,,	J. Strang (U.) ..	Jubilee Co-operative party, Runanga	12	,, ..	1	5′ ..	,, ..	,, ..	.. ..		916	36,165	37,081	2	6	8	Natural.
Moody Creek, Dunollie ..	,,	J. J. Queen (2nd C.)	Moody Creek Co-operative party, Runanga	17	,, ..	1	7′ to 9′	,, ..	,, ..	.. ..		6,111	79,717	85,828	3	10	13	Fan.
Cliffside, Nine-mile	,,	J. Gourlay (D.) ..	Moore and party, Greymouth ..	4½	,, ..	1	13′ ..	9′ ..	,, ..	.. ..		3,894	13,173	17,067	3	5	8	Natural.
New Point Elizabeth, Dunollie ..	,,	J. Dymond (2nd C.)	New Point Elizabeth Co-operative party, Greymouth	13	,, ..	1	10′ to 20′	Full ..	,, ..	.. ..		9,152	96,459	105,611	2	12	14	Fan.
Old Runanga, Rewanui ..	,,	J. W. Smith (2nd C.)	Old Runanga Co-operative party, Runanga	13	,, ..	2	4′ and 5½′	,, ..	,, ..	.. ..		9,046	74,918	83,964	4	12	16	,,
Paparoa, Roa	Crown lease ..	A. O'Donnel (1st C.)	Paparoa Coal Co., Ltd., Wellington	31	Semi-bituminous	2	{ 8′ to 12′ / 8′ to 25′	,, ..	,, ..	.. 48½ ch. / .. 15 ch.	}	41,052	888,665	929,717	18	39	57	Fans.
Schultz Creek, Twelve-mile ..	,, ..	D. Cameron (D.) ..	Marshall and party, Twelve-mile	15	Sub-bituminous	1	2½′ ..	,, ..	,, ..	.. ..		1,147	38,616	39,763	1	3	4	Natural.
Smith's, Dunollie	State reserve	A. Ferguson (2nd C.)	Smith and party, Runanga ..	19	Ditto ..	1	4′ ..	,, ..	,, ..	.. ..		6,710	97,081	103,791	2	10	12	Fan.
James, Rapahoe	,,	P. M. Outhwaite (1st C.)	New Zealand Government, Wellington	17	,, ..	1	4′ to 8′	,, ..	,, ..	.. 15 ch.	..	30,607	545,501	576,108	7	30	37	,,
Strongman, Nine-mile	,,	Ditto	Ditto	1	.. ..	1	20′ ..	9′ ..	,, ..	.. 29 ch.	..	29,786	..	29,786	40	106	155	,,
Liverpool, Rewanui	,,	A. Smith (1st C.) ..	,, ...	27	Bituminous	3	8′ to 34′	Full ..	,, ..	.. 36 ch.	..	157,372	3,089,233	3,246,605	86	257	343	,,
Spark's, Rewanui	,,	J. Unwin (D.) ..	Spark and party, Runanga ..	17	,,	1	24′ ..	8′ ..	,, ..	.. 4 ch.	..	1,432	47,953	49,385	2	3	5	,,
Output of collieries, included in previous statements, at which operations have been abandoned or suspended ..			.. ..	..		..	.. ..	..	..	.. ..		..	8,124,581	8,124,581	..	..	..	..
SOUTHERN INSPECTION DISTRICT.																				
Canterbury.																				
Clearview, Glenroy	Freehold ..	P. Leeming (D.) ..	Clearview Coal Co., Ltd., Glenroy	20	Lignite ..	1	10½′ ..	6′ ..	Bord and pillar	.. D. 90′	..	2,297	32,999	35,296	1	4	5	Natural.
Klondyke, Bush Gully	,, ..	M. Fowler (2nd C.)	Klondyke Collieries Ltd., Coalgate	11	,, ..	1	20′ to 30′	8′ ..	Ditto ..	.. D. 75′	..	10,389	44,891	55,280	3	13	16	Fan.
Bonanza, Sheffield	,, ..	Ed. Charles (2nd C.)	A. Charles, Coalgate	8½	,, ..	1	7′ ..	All ..	,, ..	.. D. 1 ch.	..	1,746	11,763	13,509	1	4	5	,,
Tripps, Mount Somers	,, ..	M. Menaglio (P.) ..	Mount Somers Mines, Ltd., Christchurch	73	,, ..	2	7′ and 22′	,, ..	,, ..	.. D. 150′	..	2,704	105,600	108,304	1	5	6	Natural.
Blackburn, Mount Somers ..	Crown lease ..	R. R. Beckley (D.)	Blackburn Coal Co., Ltd., Ashburton	10	,, ..	2	15′ and 7′ 6″	8′ and all..	,, ..	.. D. 60′	..	3,129	22,156	25,285	1	4	5	,,
Woodbank, Albury	.. ..	J. H. Smellie (D.) ..	J. H. Smellie, Albury	15	,, ..	1	27′ ..	10′ ..	,, ..	.. D. 4½ ch.	..	346	9,988	10,334	1	2	3	,,
Steventon, Whitecliffs ..	Freehold ..	H. J. Robb (D.) ..	H. J. Robb, Whitecliffs ..	10½	,, ..	2	6′ to 7′ ..	5′ to 6′ ..	,, ..	.. D. 1 ch.	..	3,351	22,778	26,129	2	6	8	Fan.
Yukon, Coalgate	,, ..	A. J. Clark (D.) ..	S. Smith and E. G. Watson, Coalgate	24	,, ..	1	2′ 9″ ..	All ..	,, ..	.. D. 3¾ ch.	..	171	967	1,138	..	2	2	Natural.
Brockley Anthracite, Canterbury	,, ..	E. W. Broad (D.) ..	Brockley Anthracite Collieries, Ltd., Christchurch	1	Altered lignite	1	3′ ..	,, ..	,, ..	.. D. 1½ ch.	..	299	..	299	1	2	3	,,
Malvern, Sheffield	,, ..	P. Hart (P.) ..	A. Taylor, Waddington, Sheffield	2	Lignite ..	1	6′ ..	,, ..	,, ..	.. D. 4½ ch.	..	830	788	1,618	1	2	3	,,
Sandown, Sheffield	,, ..	D. McQueen (D.) ..	D. McQueen, Sheffield	3	,, ..	1	6′ ..	5′ ..	,, ..	.. D. 150′	..	369	1,446	1,815	1	2	3	,,
North Otago.																				
Airedale, Papakaio	Crown lease ..	E. Roberts (U.) ..	Airedale Coal Co., Ltd., Oamaru..	13	Lignite ..	1	6′ 6″ ..	6′ ..	Bord and pillar	.. D. 330′	..	2,711	41,864	44,575	1	5	6	Fan.
St. Andrews, Papakaio ..	Freehold ..	J. H. Nimmo (D.) ..	J. H. Nimmo, Peebles	60	,, ..	1	5′ 6″ to 7′	6′ ..	Ditto ..	.. D. 231′	..	1,488	84,841	86,329	1	2	3	,,

STATISTICS OF WORKINGS IN COAL-MINES, 1939—*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 Stone Drive (if any) to reach Coal-seam.	Total Output for 1939.	Total Output to 31st December, 1938.	Total Output to 31st December, 1939.	Number of Persons ordinarily employed.			Means of Ventilation.
															Above.	Below.	Total.	
SOUTHERN INSPECTION DISTRICT—*continued.*																		
												Tons.	Tons.	Tons.				
North Otago—continued.																		
Willetts, Airedale	Crown lease and freehold	R. McVie (D.)	G. H. Willetts, Airedale	7	Lignite	1	10′	6′	Bord and pillar	D. 40′	1,015	6,980	7,995	1	2	3	Natural
Ngapara, Ngapara	Freehold	A. Nimmo (2nd C.)	W. Nimmo, Ngapara	61	,,	1	25′	8′ to 10′	Ditto	D. 50′	1,758	51,719	53,477	1	2	3	Fan.
Shag Point (Old), Shag Point	Crown lease	W. McLaren (D.)	W. McLaren, Shag Point	25	Brown	1	6′	All	,, ,,	D. 120′	2,152	438,070	440,222	3	4	7	Natural.
Shag Point (New), Shag Point	Freehold	A. K. McLean (U.)	A. K. McLean, Shag Point	31	,,	1	3′	,,	,, ,,	D. 50′	846	340,841	341,687	1	2	3	Fan.
Rockvale, Herbert	,,	D. R. Gaudion (D.)	W. Marshall, Herbert	5	Lignite	1	8′	6′	,, ,,	D. 9 ch.	773	1,370	2,149	..	2	2	Natural.
Central Otago.																		
Idaburn, Oturehua	Freehold	R. Barber (D.)	R. Barber, Oturehua	69	Lignite	1	35′	28′	Opencast	..	..	844	62,373	63,217	2	..	2	..
Oturehua, Oturehua	Crown lease	A. Brown (P.)	J. R. and A. Becker, Oturehua	45	,,	1	12′	All	,,	..	..	91	8,694	8,785	2	..	2	..
Parfit's, Upper Idaburn	,,	I. J. Parfit (P.)	I. J. Parfit, Naseby	12	,,	1	10′	,,	,,	..	..	10	1,370	1,380	1	..	1	..
McPherson's, Coal Creek Flat	,,	N. J. Harliwich (P.)	N. J. Harliwich, Coal Creek Flat	69	,,	1	14′	,,	,,	..	..	1,115	113,680	114,795	2	..	2	..
Shepherd's Creek, Bannockburn	,,	J. Hodson (2nd C.)	J. Hodson, Bannockburn	62	,,	1	20′	10′ to 12′	Bord and pillar	D. 100′	2,056	141,201	143,257	1	3	4	Fan.
Fache's, Nevis	,,	R. Ritchie (P.)	Trustees Estate of S. C. Fache, State Forest Service, Ranfurly	6	,,	1	60′	12′	Opencast	..	..	389	2,092	2,481	2	..	2	..
South Otago.																		
Jubilee, Saddle Hill	Crown lease and freehold	F. Barclay (2nd C.)	Jubilee Coal Co., Ltd., Dunedin	42	Lignite	1	6′ to 9′	5′ to 6′	Bord and pillar	D. 200′	9,817	634,191	644,008	5	15	20	Fan.
New Fernhill, Abbotsford	Freehold	M. Hewitson (1st C.)	New Fernhill Coal Co., Ltd., Dunedin	7	,,	1	6′ to 14′	6′	Ditto	D. 300′	3,956	23,131	27,087	1	6	7	..
Fairfield, Fairfield	,,	J. G. Barclay (U.)	Fairfield Coal Co., Ltd., Dunedin	7	,,	1	7′	6′	,, ,,	D. 650′	2,988	15,880	18,868	1	6	7	..
Brighton, Brighton	Crown lease and freehold	N. McColl (P.)	N. McColl, Brighton	24	,,	1	5′	All	,, ,,	D. 150′	108	12,717	12,825	..	2	2	..
East Taieri, East Taieri	Freehold	W. Hewitson (1st C.)	J. Dunery and A. Birley, East Taieri	20	,,	1	15′	6′	,, ,,	D. 9 chs.	758	49,252	50,010	2	4	6	..
Willowbank, East Taieri	,,	N. Smith (D.)	G. Scurr and Co., Ltd., Mosgiel	19	,,	2	8′ and 8′	6′ and 6′	,, ,,	D. 200′	6,328	80,278	86,606	2	6	8	..
Taratu, Lovell's Flat	,,	W. Sneddon (D.)	Sir P. R. Sargood, Dunedin	38	,,	1	8′ to 25′	14′	,, ,,	D. 400′	149	792,804	792,953	2	..	2	..
Elliotvale, Milton	,,	M. Welch (U.)	Elliotvale Collieries, Ltd., Dunedin	10	,,	1	20′	8′	,, ,,	D. 40′	3,630	34,389	38,019	2	7	9	..
Eskvale, Milton	,,	J. J. Cooper (D.)	A. J. Birley, Waronui, Milton	9	,,	1	8′	All	,, ,,	..	2,313	16,695	19,008	1	3	4	Natural.
Benhar, Stirling	Crown lease and freehold	J. Walls (2nd C.)	McSkimming and Son, Ltd., Benhar	76	,,	3	14′	10′	,, ,,	D. 1,260′	6,538	340,953	347,491	1	6	7	Fan.
Lakeside, Kaitangata	Freehold	J. W. Fenton (U.)	Lakeside Collieries (Kaitangata), Ltd., Dunedin	29	,,	1	20′	7′	,, ,,	D. 200′	517	20,638	21,155	1	2	3	,,
Kaitangata, Kaitangata	Crown lease and freehold	F. Carson (1st C.)	Kaitangata Coal Co., Ltd., Kaitangata	63	Brown	2	20′ and 8′	All	,, ,,	D. 858′	133,786	5,695,835	5,829,621	80	220	300	..
Wangaloa, Kaitangata	Ditto	J. Prescott (D.)	J. Prescott, Kaitangata	17	Lignite	1	16′	7′	,, ,,	D. 5½ ch.	2,105	16,267	18,372	1	3	4	Natural.
Kai Point, Kaitangata	Freehold	S. Newburn (2nd C.)	S. Newburn, Kaitangata	12	Brown	1	25′	10′	,, ,,	D. 30′	342	8,963	9,305	1	1	2	,,
Hodson's, Fairfield	Crown lease and freehold	J. L. Baird (D.)	Hodsons Coal Co., Green Island	8	Lignite	1	6′	5′	,, ,,	D. 99′	4,053	31,339	35,392	2	6	8	Fan.
Southland.																		
Green's, Gore	Freehold	W. J. Barclay (D.)	W. J. Barclay, Gore	51	Lignite	1	20′	10′	Bord and pillar	D. 210′	2,885	407,326	410,211	1	2	3	Fan.
Croydon, Gore	,,	C. McGregor (P.)	C. McGregor, Gore	24	,,	1	30′	All	Opencast	..	2,576	33,526	36,102	2	..	2	..
Otikerama, Otikerama	,,	F. Kubala (P.)	J. Hoffman, Gore	50	,,	1	20′	12′	Bord and pillar	..	3,401	64,322	67,723	1	3	4	Natural.
Waimumu, Waimumu	,,	J. S. Wilks (P.)	Waimumu Coal Co., Ltd., Gore	11	,,	1	30′	25′	Opencast	..	5,873	30,225	36,098	2	..	2	..
Glenlee, Waikaka	,,	J. G. Burgess (P.)	F. W. Edge, Waikaka	46	,,	1	14′ 6″	9′	Bord and pillar	..	1,204	42,457	43,661	..	1	1	Fan.
Argyle, Waikaia	Crown lease	T. Woodward (P.)	T. Woodward, Waikaia	48	,,	1	11′	9′	Opencast	..	229	13,867	14,096	1	..	1	..
Boghead, Mataura	Freehold	J. Dee (P.)	C. E. Rowe, Mataura	34	,,	1	22′	10′	Bord and pillar	..	4,855	127,207	132,062	1	3	4	Fan.
Mataura Lignite, Mataura	,,	J. Pearson (D.)	Beattie Coster and Co., Ltd., Mataura	63	,,	1	15′	All	Opencast	..	3,727	411,212	414,939	4	..	4	..
Ota Creek, Wyndham	Crown lease	E. Genge (P.)	E. Genge, Wyndham	59	,,	1	8′	,,	,,	..	340	34,381	34,721	1	..	1	..

Diamond Lignite, Asher's Siding	Crown lease	A. McMillan (P.)	S. McMillan, Invercargill	37	Lignite	1	36′	All	Opencast			1,117	44,632	45,749	1	..	1	..
Lynwood, Te Anau	,,	E. C. Govan (P.)	E. C. Govan, Te Anau	25	,,	1	8′	,,	,,			26	4,082	4,108	1	..	1	..
Black Diamond, Nightcaps	,,	R. McDonald (2nd C.)	Black Diamond Coal Co., Ltd., Nightcaps	24	Brown	1	25′	,,	Bord and pillar			14,355	278,117	292,472	5	9	14	Fan.
Birchwood, Ohai	,,	J. Lewis (1st C)	Birchwood Coal Co., Ltd., Dunedin	16	,,	1	9′ to 25′	6′ to 8′	Ditto	D. 1,100′		30,610	221,992	252,602	15	56	71	,,
Black Lion, Ohai	,,	E. Mason (2nd C.)	Black Lion Coal Co., Ltd., Benhar	18	,,	1	18′	15′	,,	D. 264′		17,034	195,813	212,847	5	15	20	,,
Mossbank, Ohai	,,	Jas. McLelland (1st C.)	Mossbank Coal Co., Ltd., Invercargill	25	,,	2	8′ and 15′	12′	,,	400′		5,422	640,389	645,811	1	2	3	,,
Wairaki, Ohai	,,	T. Young (1st C.)	Wairaki Coal Co., Ltd., Invercargill	26	,,	1	7′ to 22′	All	,,			44,271	527,493	571,764	16	62	78	,,
Linton, Ohai	,,	Job Hughes (1st C.)	Linton Coal Co., Ltd., Invercargill	24	,,	1	30′ to 40′	,,	,,									
Linton, Ohai	Freehold	,,	,,	9½	,,	1	30′ to 40′	,,	,,			107,713	1,431,744	1,539,457	40	130	170	,,
Star, Ohai	,,	G. Gilbert (1st C.)	Star Coal Co., Ltd., Ohai	8	,,	1	20′	8′	,,									
Waimeamea, Orepuki	Crown lease	J. L. Hennessey (P.)	J. L. Hennessey, Orepuki	34	Lignite	4	15′	13′	Opencast		100′	13,327	60,945	74,272	10	23	33	,,
Raby, Gore	Freehold	J. Miller (P.)	J. E. Miller, Gore	6	,,	1	25′	All	,,			167	38,272	38,439	2	..	2	..
Beaumont Coal Syndicate, Nightcaps	,,	J. R. Ford (D.)	Beaumont Coal Syndicate, Nightcaps	½	Brown	1	20′	4′	Bord and pillar	D. 1½ ch.		3,586	12,064	15,650	1	..	1	..
Titapua, Mataura	,,	A. W. Coster (P.)	P. Larking, Mataura	5	Lignite	1	8′ to 10′	All	Opencast			18	..	18	..	3	3	Natural.
Coster's, Edendale	,,	D. A. Coster (P.)	D. A. Coster, Mataura	3¼	,,	1	11′	,,	,,			2,066	22,131	24,197	5	..	5	..
Kea, Mataura	,,	T. Gaudion (P.)	P. Larking, Mataura	3¼	,,	1	15′	,,	,,			1,435	2,534	3,969	2	..	2	..
Hakatere, Waimumu	,,	J. Buchols (D.)	Hakatere Coal Co., Ltd., Gore	5	,,	1	18′	10′	Bord and pillar			8,414	23,658	32,072	6	..	6	..
Mataura Paper-mills, Mataura	,,	A. W. Coster (P.)	New Zealand Paper-mills, Ltd., Dunedin	1	,,	2	4′ and 25′	8′ and 22′	Opencast			452	5,405	5,857	1	1	2	Natural.
Hedgehope, Mataura	,,	F. W. Burton (P.)	P. Larking, Mataura	1	,,	1	20′	All	,,			11,341	..	11,341	4	..	4	..
Output of collieries, included in previous statements, at which operations are abandoned or suspended												1,875	..	1,875	4	..	4	..
												..	8,513,905	8,513,905	..	..	..	..
Totals, Southern District, South Island												506,592	22,509,502	23,016,094	265	665	930	..
Totals, West Coast District, South Island												1,033,342	44,833,206	45,866,548	603	1,644	2,247	..
Totals, Northern District, North Island												802,705	22,888,048	23,640,753	352	1,233	1,585	..
Grand totals												2,342,639	90,180,756	92,523,395	1,220	3,542	4,762	..
Output of collieries prior to 1890, not included in above statement												..	..	296,653	..	..	..	..
Shale exported, 1914												..	..	21	..	..	..	..
														92,820,069				

APPENDIX C.

REPORT OF BOARDS OF EXAMINERS.

Geological Survey Office,
Wellington, 30th April, 1940.

SIR,—

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 1939.

Coal-mines Act.—The annual examinations of candidates for mine-managers' certificates under the Coal-mines Act, 1925, were held at Huntly, Reefton, Westport, Greymouth, and Dunedin on the 17th October and two following days. In addition, two candidates were examined at Westport for mine-surveyors' certificates.

Examinations for candidates who desired to obtain underviewers' and firemen-deputies' certificates were held at Dunedin on the 10th and 11th October; at Huntly on the 7th, 8th, and 9th November; at Greymouth on the 22nd and 23rd November; and at Westport on the 28th and 29th November.

Two special examinations were held at Greymouth during the year, one for a candidate who held a partial pass for underviewer's certificate, and the other for a candidate who held a partial pass for a fireman-deputy's certificate.

The total number of candidates sitting the various examinations under the Coal-mines Act was eighty-seven, an increase of three as compared with the previous year.

Sixty-seven gas-testing certificates were issued to candidates during 1939, while twenty-eight candidates whose certificates were more than five years old were re-examined in gas-testing and their certificates endorsed to that effect.

Pursuant to section 6 of the Coal-mines Amendment Act, 1937, five underviewers' and twenty-four firemen-deputies' certificates were endorsed by the Inspectors of Mines.

One mine-surveyor's certificate without examination was, in accordance with the regulations under the Coal-mines Act, 1925, granted to an applicant who possessed the necessary qualifications.

Mining Act.—Examinations for mine-managers' certificates under the Mining Act, 1926, were held at Waihi, Reefton, and Dunedin on the 17th October, 1939, and two following days. In addition, four candidates (two at Waihi and two at Reefton) were examined for battery superintendents' certificates, while an examination for dredgemasters' certificates was held at Greymouth on the 21st November.

The total number of candidates sitting the several examinations was twenty-two, an increase of five as compared with the previous year.

One dredgemaster's Class B certificate (by exchange) was granted to an applicant on production of an equivalent certificate issued after examination by a recognized authority outside of New Zealand.

General.—Pursuant to the provisions of the Petroleum Act, 1937, four service permits were granted during the year.

A number of certified copies of certificates lost or destroyed were, on application, granted by both Boards, which also dealt with a considerable number of matters arising out of applications for and issue of certificates, none of which calls for special mention.

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	16	2	4	2	..
Oral examination	5				
(*b*) Second class—					
Written examination	4	2	..	2	..
Oral examination	3				
Underviewer's certificate	28	8	5	8	..
Fireman-deputy's certificate	37	40*	9	40	..
Mine-surveyor's certificate—					
Written examination	2	..	..	..	..
Oral examination	..				
2. *Mining Act, 1926*—					
Mine-manager's certificate—					
(*a*) First class—					
Written examination	6	2†	1	2	..
Oral examination	1				
(*b*) Second class—					
Written examination	..	..	..	..	..
Oral examination	..				
Battery superintendent's certificate—					
Written examination	4	2	1	2	..
Oral examination ‡	3				
Dredgemaster's certificate—					
Class A	2	..	..	..	..
Class B	10	7	..	7	..
Class B (by exchange)	1	1	..	..	1

* Includes thirteen candidates who last year were credited with partial passes pending the production of certain certificates. † Both candidates had previously passed the written examination. ‡ Includes one candidate who had previously passed the written examination.

A list of the certificates issued since my last report is appended.

COAL-MINES ACT, 1925.

First-class Mine-manager's Certificates.

Issued after Examination.—Hill, William Edward, Kaitangata; Stirling, Hugh Macfarlane, Huntly South.

Second-class Mine-managers' Certificates.

Issued after Examination. Etheredge, James Eckley, Reefton; Glendenning, Thomas, Runanga.

Mine-surveyor's Certificate.

Issued without Examination.—Hutchinson, Henry, Greymouth.

Underviewers' Certificates.

Issued after Examination. Eyeington, Stanley Robert, Runanga; Keown, George Joseph Kennedy, Runanga; McCaig, William, Glen Massey; McClure, Arthur, Blackball; Millar, George Herbert, Reefton; Shanks, William, Tatu, Ohura; Taylor, Arnold, Waddington, Sheffield; Turton, John Dean, Huntly.

Firemen-deputies' Certificates.

Issued after Examination.—Bateman, John Charles, Blackball; Bell, Donald, Runanga; Bennett, Alfred William Edward, Glen Massey; Bloxham, Nathaniel, Kaitangata; Boyd, James, Huntly; Boyd, John, Seddonville; Briggs, John, Rotowaro; Campbell, David Cormie, Cobden, Greymouth; Menzies, George Campbell, Huntly; Chivers, Marshall, Huntly; Cowan, John, Dobson; Craig, George, Runanga; Currie, William, Pukemiro; Dingwall, William, Rotowaro; Dodds, Thomas Rodney, Green Island; Dunn, John Laurence, Rotowaro; Dunn, Ronald Joseph, Renown; Fleming, William, Waimangaroa; Forrest, Thomas Davie, Ngaruawahia; Gair, John George, Glen Massey; Glendenning, Adam, Dobson, Brunnerton; Gorman, Thomas, Glen Massey; Gregory, James, Glen Massey; Harlock, Arthur Charles, Huntly; Hart, Paul, Waddington, Sheffield; Hodgson, William, Runanga; Hunter, James, Huntly; McCallum, John Kirk, Rotowaro; McCulloch, Andrew, Stirling; McIntosh, Alexander, Murchison; McIntosh, Andrew, Brunnerton; Maughan, Percy, Greymouth; Millar, George Herbert, Reefton; Morris, William George, Whatawhata; Russell, Samuel, Kimihia, Huntly; Seddon, Thomas, Pukemiro; Smith, William Wilson, Huntly; Turton, John Dean, Huntly; Wilson, William, Waikokowai; Wynn, George, Murchison.

MINING ACT, 1926.

First-class Mine-managers' Certificates.

Issued after Examination.—Birchall, Kenneth Albert, Waihi; Craig, John Harold, Karangahake.

Battery Superintendents' Certificates.

Issued after Examination. Acland, Thomas Saint Hill, Waikino; Hogg, Alexander Bain, Waiuta.

Dredgemasters' Class B Certificates.

Issued after Examination. Archer, Hector David, Hokitika; Christensen, William Saunders, Hokitika; Garmonsway, Leo, Barrytown; Hallinan, Mervyn, Greymouth; Hartshorne, John Edward Summerfield, Blackball; Hawkins, William, Blackball; Webb, Brian William, Arahura.

Issued on Production of Certificate from Recognized Authority outside of the Dominion.—Skelly, George William, Blackball.

PETROLEUM ACT, 1937.

Service Permit.

La Mar, Hobart Lora, Gisborne.

Service Permits (by Exchange).

Brown, Nathaniel Isaiah Wilhelm, Ngaruawahia; Launder, Robert Henry, New Plymouth; Pedersen, Krysfeldt Einar, Gisborne.

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

The Under-Secretary, Mines Department, Wellington.

Approximate Cost of Paper.—Preparation, not given; printing (835 copies), £120.

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